R 400.20608
Source: 1983 AACS.

R 400.20609
Source: 1983 AACS.

R 400.20610
Source: 1983 AACS.

R 400.20611
Source: 1983 AACS.

R 400.20612
Source: 1983 AACS.

R 400.20613
Source: 1983 AACS.

R 400.20614
Source: 1983 AACS.

R 400.20615
Source: 1983 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF WORKERS' DISABILITY COMPENSATION

GENERAL RULES

PART 1. RECORDS

R 408.31 Report of injury; claim for compensation, additional reports; weekly rate of compensation.
Rule 1. (1) An employer shall report immediately, to the bureau, on form 100, all injuries, including diseases, which arise out of and in the course of the employment, or on which a claim is made, and result in any of the following:
(a) Disability extending beyond 7 consecutive days, not including the date of injury.
(b) Death.
(c) Specific losses.
(2) Any report of injury filed with the bureau by an employer that fails to meet the requirements of subrule (1) of this rule shall not be maintained as a record of the bureau unless filed with a form 107.
(3) An employer shall give a copy of the report of injury (form 100) to the injured employee immediately and in the case of death, to the dependent. Form 100 shall indicate compliance with this requirement. A delay in reporting shall not occur because of this requirement. In case of death, an employer shall also immediately file an additional report on form 106.
(4) An employee shall make a claim for compensation to the bureau on form 117.
The bureau shall mail a copy of form 117 to the employer.
(5) After an employee has given an employer the name of the physician with whom he or she intends to seek treatment and has commenced treatment with the physician under section 315 of the act, the employee shall obtain and promptly furnish a report to the employer, insurance company, or self-insurers' security fund. The report shall set forth the history obtained, the diagnosis, the prognosis, and other information reasonably necessary to properly evaluate the injury, the disability, and the necessity for further rehabilitation or treatment. Thereafter, at reasonable intervals of not more than 60 days, an employee shall obtain and furnish a current medical report, paid for by the carrier, containing the same information, together with an itemized statement of charges for services rendered to date.
A self-insured employer, insurance company, or self-insurers' security fund is not required to make payment to the physician until the reports and itemized charges have been furnished to it.

Medical fees shall not exceed fees considered usual and reasonable for the services performed in accordance with the health care service rules.

(6) For a case that requires the payment of compensation, a carrier, the second injury fund, the self-insurers' security fund, and the silicosis, dust disease and logging industry compensation fund, shall file all of the following reports, notices, or statements as required by the bureau:

(a) Form 701 on the day after the first payment of compensation. The carrier or fund shall furnish a copy of form 701 to the employee.

(b) Form 701 on the day after the stopping of payment of compensation showing the amount of compensation paid in every case. Subject to R 408.40, when compensation is stopped on the basis that the employee has recovered from disability or that the employee is able to return to work, but has not done so, the medical report supporting this position shall be attached to form 701, or filed within 30 days thereafter. When a supplemental form 701 is filed, only that amount not previously reported shall be shown. In a case that requires the filing of form 701, the carrier and the funds shall, in writing, advise the injured employee whose benefits have stopped of the reasons for the action taken at the same time by furnishing a copy of the form 701 to the employee.

(c) The director may require a report showing the amount of compensation actually paid in cases where payment of compensation has not been previously stopped as of December 31 by the filing of form 701, for that calendar year, regardless of the length of time the case was open. If during the calendar year a form 701 had been previously filed, then only the payments made during the calendar year after the filing of form 701 shall be reported. The report shall be furnished to the bureau at a time and in a manner as the director may reasonably require.

(d) Immediate notification to the bureau of any change in the rate of compensation. The notice shall state the reason on form 701.The carrier or fund shall send a copy to the employee.

(e) A statement of the attending physician in every specific loss. The statement shall identify the date and extent of the loss.

History: 1979 AC; 1980 AACS; 1984 AACS; 1998-2000 AACS.

R 408.31a Computation of weeks and days.

Rule 1a. In computing periods of disability and of compensation, a week shall be computed as 7 days and a day as 1/7 of a week, without regard to Sundays, holidays, and working days.

History: 1998-2000 AACS.

R 408.32 Compensation supplement fund; "maximum benefit" defined.

Rule 2. (1) A carrier, second injury fund, or self-insurers' security fund shall claim reimbursement from the compensation supplement fund for payments made in accordance with section 352 of the act. A carrier, second injury fund, or self-insurers' security fund, shall make a claim on bureau form 114, application for reimbursement.

(2) A carrier, second injury fund, or self-insurers' security fund shall make an initial application for reimbursement not later than 3 months after the end of the quarter for which the right to reimbursement first accrues.

The right to reimbursement first accrues on the first day of the quarter following any quarter for which supplemental benefits are first paid or ordered to be paid.

(3) A carrier, second injury fund, or self-insurers' security fund may make subsequent application for reimbursement quarterly, but not later than 1 year after the closing date of the quarter for which reimbursement is being requested.

(4) A carrier, second injury fund, or self-insurers' security fund shall submit a separate form 114 for each quarter for which reimbursement is requested. A quarter, as used in this rule, is based on a calendar year as identified by the bureau on an annual basis.

(5) Upon a proper showing of a claim for reimbursement, the compensation supplement fund shall make payment within a reasonable time after the receipt of the claim. The compensation supplement fund shall normally make reimbursement within 3 months after the receipt of form 114, unless a dispute arises.

(6) For the purpose of these rules, "maximum benefit" means the statutory maximum for the year of injury upon which benefits are based; 2/3 of the employee's average weekly wage on the date of injury; the minimum compensation rate in effect on the date of injury; or a maximum compensation rate established by bureau order. If an employee, or his or her dependents, is receiving maximum benefits as defined in this subrule, there will be a presumption that benefits are being paid under section 351 or 321 of the act.

(7) A compensation supplement shall not be paid for any of the following received by an eligible employee or dependent:

(a) Benefits received for any period of disability before January 1, 1982.

(b) Benefits received under an agreement to redeem the liability of the carrier.

(c) A lump sum payment for remarriage under section 335 of the act.

(d) Interest paid on benefits awarded by a magistrate.

(e) Partial compensation paid under section 361(1) of the act.

(8) In a case involving a lump sum advance payment, supplemental benefits shall not be part of the advance payment, but shall continue to be paid weekly.

(9) In a case involving the carrier's right to subrogation in a third-party recovery, the amount of supplemental benefits shall be based on the weekly compensation rate that the employee would have been receiving on January 1, 1982.

(10) If compensation supplement benefits have been paid and if the employee is later found to be entitled to total and permanent disability benefits, then the second injury fund shall reimburse the compensation supplement fund for the appropriate amount of benefits paid by the compensation supplement fund, and the second injury fund shall reimburse the carrier for the balance of benefits that would have otherwise been paid by the compensation supplement fund.

(11) If the second injury fund is paying differential benefits directly to the injured employee and if the amount of differential benefits increases, then the second injury fund either shall reimburse the compensation supplement fund for any overpayment of monies that the compensation supplement fund has already reimbursed the carrier or shall reimburse the carrier directly in cases where the compensation supplement fund has not yet reimbursed the carrier.

(12) If a case is on appeal over the issue of whether the injured employee is totally and permanently disabled and if the claimant is receiving 70% of the amount of differential benefits that would be owed if total and permanent disability is found to apply, the amount of supplement that is due may be reduced or offset by the 70% amount that is being paid.

(13) If the compensation supplement fund has reimbursed a carrier for the supplemental benefits paid, and if it is later found that the amount reimbursed included an overpayment, then the compensation supplement fund shall be entitled to recoupment of the overpayment from the carrier. The carrier is entitled to recoup the overpayment from the employee.

(14) Section 357 of the act shall not be applied when the amount of supplemental benefit, as provided for in section 352 of the act, is calculated for eligible employees whose date of personal injury is before July 1, 1968.

(15) After the supplemental benefit has been computed in accordance with section 352(1) of the act, based on the weekly compensation rate that the employee or dependent of a deceased employee is receiving or is entitled to receive on January 1, 1982, had the employee been receiving benefits at that time, the supplemental benefit shall not be reduced or increased by changes to the weekly compensation rate that occur after January 1, 1982, except as provided in section 352 and in this rule.

History: 1979 AC; 1980 AACS; 1984 AACS; 1986 AACS; 1998-2000 AACS.

R 408.32a Medical benefits; reimbursement application.

Rule 2a. (1) To be reimbursed for payments made in accordance with the provisions of section 862(2) of the act, medical benefits shall have been required by the terms of an award and shall have been paid in accordance with section 315 of the act and the rules promulgated under section 315.

In providing benefits as required by section 862(2) of the act, a carrier shall require that the employee and the provider comply with the requirements of section 315 of the act and the rules promulgated under section 315.

(2) Reimbursement shall apply only to cases for which an initial application for mediation or hearing is filed after March 31, 1986, under section 847 of the act. Claims shall be made on forms provided by the bureau and sent to the bureau of workers' disability compensation. If other insurance coverage is or was available to cover medical benefits paid under section 862(2) of the act, then the bureau will not make reimbursement.

(3) Applications for reimbursement from the bureau shall be made not less than 30 days after the benefit amount is reduced or rescinded by a final determination. An application for reimbursement shall be made not later than 1 year after a final determination is entered that reduces or rescinds benefits.

(4) Reimbursement from the bureau shall be consistent with benefits awarded in the magistrate's decision. Reimbursement will only be made for medical benefits that were provided between the bureau's mailing

date of the magistrate's award and the mailing date of the final determination of the appeal or for a shorter period as specified in the award. A copy of the magistrate's order and all subsequent appellate decisions shall accompany each request for reimbursement.

(5) A copy of the medical bills, proof of payment, and a medical report with sufficient documentation to demonstrate that the medical services provided fall within the provision of the magistrate's decision shall accompany each request for reimbursement. Proof of payment shall include certification from the carrier that it has paid the medical bills or, if requested by the bureau, shall include a receipt from the provider which shows that payment has been made.

(6) Reimbursement shall not be paid if the claim was redeemed before the final determination or if the carrier has not provided proper documentation.

(7) The bureau shall not pay interest on reimbursable amounts.

(8) If the bureau determines that all or part of the request for reimbursement is not proper, then the bureau shall notify the carrier in writing. If the carrier disputes the determination, then it may file an application for mediation or hearing.

History: 1989 AACS; 1998-2000 AACS.

R 408.33 Disputed claims; late payment penalty.

Rule 3. (1) On or before the fourteenth day after the employer has notice or knowledge of an alleged injury or death, a carrier and the self-insurers' security fund shall notify the bureau, on form 107, if the right of the injured or dependent to compensation is disputed. If compensation thereafter is paid, report it on form 701. A copy of form 107, notice of dispute, shall be mailed or given to the injured employee.

(2) The following subdivisions govern the administration and enforcement of the penalty provisions under section 801 of the act:

(a) Under section 801(1) of the act, compensation shall be paid promptly and directly to the person entitled to compensation. Weekly benefits become due and payable on the fourteenth day after the employer has notice or knowledge of the disability or death. On that date, all compensation which has accrued shall be paid. If benefits are not paid within 30 days of becoming due and payable, then the carrier shall pay to the employee $50.00 per day for each day after 30 days that the benefits remain unpaid, not to exceed $1,500.00.

(b) If a case is in litigation and the defendant agrees to pay benefits on a voluntary basis, then the magistrate shall specify the weekly compensation rate, the period of time for which accrued benefits have become due, and which medical bills shall be paid by the carrier as a result of the injury or disability. If the benefits agreed to are not paid within 30 days of the date the agreement is formalized by the magistrate, then the carrier shall pay to the employee $50.00 per day for each day after 30 days that the benefits remain unpaid, not to exceed $1,500.00.

(c) Medical bills become due and payable on the day the carrier receives the bill. If there is a dispute resulting in a delay in paying the medical bills, then the carrier shall advise the employee and doctor of the reasons for the delay in writing. If there is no dispute and the bill remains unpaid after 30 days, then the carrier shall pay to the employee $50.00 for each day after 30 days that the bill remains unpaid, not to exceed $1,500.00.

(d) The travel allowance for medical examination, treatment, or rehabilitation is provided in R 408.45. The employee shall be notified, in writing, of any dispute resulting in a delay in paying travel allowance payments. If the expenses are not paid within 30 days of the date of the carrier's notification, and if the expenses are not disputed, then the carrier shall pay the employee $50.00 for each day after 30 days that the expenses remain unpaid, not to exceed $1,500.00.

(e) Under section 801(4) of the act, an employer may be liable for all or a portion of the penalty provided in section 801(2) of the act. If there is a dispute between an employer and insurance carrier as to who is liable for the payment of the penalty, the carrier shall be liable for paying the penalties, but may be entitled to reimbursement from the employer.

(f) Any employee who may be entitled to penalty payments under section 801 of the act and who has not received the payments may apply by notifying the bureau in writing. A copy of the request shall be forwarded to the carrier. In all cases, the bureau of workers' disability compensation shall respond within a reasonable period of time and shall act, as it deems appropriate, to resolve any disputes involving the penalty provisions of section 801 of the act. If a dispute continues beyond a determination by the bureau or if the director believes there is a question of compliance with the act, then the dispute may be set for a hearing under R 408.35. A party to a dispute may request a formal hearing before a magistrate.

(g) A carrier shall pay any penalty amounts due an injured employee as a result of the penalty provisions

specified in section 801 of the act in a separate check. Penalty amounts are not a part of the basic benefits to which an employee is entitled for the purpose of loss or assessment.

(h) Benefits, allowances, or bills are presumed paid within 30 days if a check is mailed within 27 days of becoming due and payable under these rules.

History: 1979 AC; 1980 AACS; 1998-2000 AACS.

PART 2. HEARINGS

R 408.34 Petitions for hearing; small disputes.

Rule 4. (1) In cases of dispute coming under the jurisdiction of the bureau, any party may petition the bureau for relief. The complaining party shall file his or her petition (form 104A, 104B, or 104C) with the bureau at its Lansing office. The bureau shall then serve the adverse party with a copy of the petition and, at the same time, notify the parties of the time and place of the initial hearing. The adverse party shall file his or her answer to the petition with the bureau within 15 days after service and serve a copy of the answer on the complaining party.

(2) In any case where the compensable disability of an injured employee is undisputed and involves 1 or more disputed injury dates during the course of employment with 1 or more employers, or during the course of employment with 1 employer who is insured by 1 or more insurance carriers, the bureau may direct compensation benefits to be paid at the maximum rate, as determined in section 351 of the act, with no dependents as provided in the schedule of benefits on the earliest or initial date of injury alleged. The self-insured employer or insurance carrier that has the risk on the earliest or initial date of injury shall make the payments. Payments shall continue through the mailing date of the decision of the magistrate and shall be adjusted in accordance with the decision unless an appeal is taken. If an appeal is taken section 862 of the act shall apply. The magistrate shall order reimbursement where appropriate.

(3) In apportionment cases that are tried involving a date of injury before January 1, 1981, the primary action is between the last employer and the injured employee. All other joined employers may appear, cross-examine witnesses, give evidence, and defend on the issue of liability. In setting trial dates for such cases, only the convenience of the plaintiff and the last employer, or their attorney, shall be considered.

(4) After attempting to resolve the dispute without bureau involvement, either party may request the director to schedule a conference or the director, on his or her own motion, may schedule a conference to resolve small disputes. Parties involved in such disputes shall attend the conference.

History: 1979 AC; 1984 AACS; 1998-2000 AACS.

R 408.35 Bureau compliance hearings.

Rule 5. (1) If the director believes that there has not been compliance with the act, then the director may, on his or her own motion, give notice to the parties and schedule a hearing for the purpose of determining compliance. The notice shall contain a statement of the matter to be considered.

(2) If a matter that is alleged to be grounds for a hearing in accordance with this rule is brought to the attention of the bureau, then the director or his or her authorized representative shall review the evidence of noncompliance with the act that is presented and, after making inquiries or investigations that he or she deems appropriate, determine if a hearing in accordance with this rule is necessary. The parties involved shall be notified within 30 days of a receipt of the request as to the time and date of hearing or the reasons for denial.

(3) The bureau shall schedule a hearing within a reasonable time, subject to the availability and schedules of hearing personnel and the parties involved.

A request for a hearing under this rule shall, at a minimum, contain sufficient information to warrant investigation or inquiry into a matter. The request for hearing shall include, but is not limited to, all of the following information:

(a) Facts and law involved in the alleged failure to comply, including names, dates, amounts, or other pertinent information.

(b) A description of the redress or other specific action requested with specific references to sections of the act allegedly not complied with.

(4) The director shall issue an order on the hearing in which compliance may be ordered.

(5) Any order of the director under this rule may be appealed to the board of magistrates within 15 days after the order is mailed to the parties. If the order is not appealed within 15 days after mailing, then the order of the director is final. The board of magistrates shall conduct a hearing on the appeal within 60 days of the date

of appeal to the board of magistrates.
History: 1979 AC; 1984 AACS; 1998-2000 AACS.

R 408.36 Service of papers.
Rule 6. Service of all petitions, papers, notices, and orders shall be in accordance with the following:
(a) Service of all original petitions for hearing under R 408.34(1) shall be by the bureau on each named party to the case at the time service is made.
(b) Service of any subsequent petitions or motions filed on a pending contested case which may alter the parties to a case shall be by the bureau. The bureau shall serve all new parties but may serve only the attorney for each previously named party. Parties not represented by legal counsel shall be served directly. The bureau may request the necessary papers, notices, and postage to be provided by the moving party.
(c) Service of any subsequent petitions or motions filed on a pending contested case which do not alter the parties to a case may be made by the moving party upon the adverse party. The moving party shall only be required to serve the attorney for each previously named party. Any party not represented by legal counsel shall be served directly. The original petition or motion and proof of service shall be filed with the bureau.
(d) Notices mailed by the bureau after service of the original petition for hearing shall be served upon the attorney for each named party. Any party not represented by legal counsel shall be served directly. If the notice requests or requires the appearance or action of a specific party, that party shall also be served.
(e) Decisions or orders issued by the bureau shall be mailed to all parties or may be served personally on the date of hearing. All mailed decisions shall be served from the Lansing office or from such other bureau offices as designated by the director. Upon mailing or personal service, the original order and copies shall show a mailed date or acknowledgement of personal service on their face, from which date the appropriate appeal period shall run. The mailed or personal service date shall be considered the filed date for the order.
(f) Service of all other papers, unless otherwise directed by law, may be made by mail by the moving party upon the adverse party and proof of such mailing shall be prima facie evidence of such service. Proof of such service shall be filed with the bureau.
(g) Service of all papers under this rule upon employers whose liability under the act is not insured according to the records of the bureau, or who have not been granted the privilege of self-insurance, shall be by certified mail with a return receipt requested. Filing of the return receipt shall be prima facie proof of service.
History: 1979 AC; 1984 AACS.

R 408.37 Rescinded.
History: 1979 AC; 1998-2000 AACS.

R 408.38 Application for advance payment of compensation.
Rule 8. An applicant shall submit an application for advance payment of compensation on form 108. If the carrier, second injury fund, self-insurers' security fund, or silicosis and dust disease fund refuses to approve the application, then the matter shall be set for hearing to determine whether the application should be approved. A carrier, second injury fund, self- insurers' security fund, or silicosis and dust disease fund shall not approve, and a magistrate shall not order an advance payment of compensation to a minor dependent until a legal guardian has been appointed.
History: 1979 AC; 1998-2000 AACS.

R 408.39 Redemptions.
Rule 9. An agreement to redeem the liability of the carrier, second injury fund, self-insurers' security fund, or silicosis and dust disease fund shall be submitted on form 556, agreement to redeem liability. The agreement shall be accompanied by a report, approved by the employee, from a licensed physician stating, in detail, the findings of a recent examination.
History: 1979 AC; 1998-2000 AACS.

R 408.40 Stoppage, reduction, or suspension of compensation.
Rule 10. (1) If compensation is being paid under an order or award of the magistrate or workers' compensation appellate commission, then compensation shall not be discontinued or reduced without a further order or award, except as provided in subrules (3) and (4) of this rule and sections 301(5)(b) and 361(1) of the

act. A petition to stop compensation shall include both of the following:

(a) Proof of payment of compensation to within 15 days of the date of the filing of a petition to stop compensation.

(b) An affidavit stating that the employee has returned to gainful employment and substantially describing the nature of the employment, or a signed statement from a physician stating that the employee is able to return to employment.

(2) The bureau shall schedule a hearing within 30 days of receiving a petition to stop compensation, and an order shall be entered under R 408.36.

(3) If a letter that carries a compensation check is returned by the United States post office unopened, and if a diligent search has been made for the party to whom compensation payment is due under the terms of an order or award, then the party liable for payment may suspend payment upon filing an affidavit that the check was returned and a diligent search was made to locate the party. The suspension shall not prejudice the reinstatement of suspended payments.

(4) Upon filing of the report required by R 408.31(6)(d) and notification to an employee, compensation benefits may be reduced in accordance with the act for changes in dependency and age 65 reductions.

History: 1979 AC; 1980 AACS; 1998-2000 AACS.

R 408.40a Rescinded.

History: 1979 AC; 1998-2000 AACS.

Editor's note: Former R 408.40a, pertaining to pre-trial procedure, was rescinded by 1954 ACS 65. For history of the rescinded rule, see 1970-71 AACS.

R 408.40b Appearances at mediation conferences.

Rule 10b. (1) In a contested case, in a hearing district designated by the director, the parties or their attorneys shall appear personally before the bureau at a mediation conference at a date and place scheduled by the director.

Failure of the petitioner or his or her attorney to appear in a timely manner and participate in a mediation conference may result in the application for mediation or hearing being deemed to have been voluntarily withdrawn under section 205 of the act. Failure of the defendant or its attorney to appear in a timely manner and participate in a mediation conference may subject the defendant to being charged immediately under R 408.35 for noncompliance with the act. A party that fails to appear and participate in a scheduled mediation conference shall obtain the dates for any future mediation conferences or hearings scheduled.

(2) The bureau may require any information from the parties that may be necessary to monitor the progress of the case, assist in the voluntary exchange of information between parties, and facilitate the scheduling of cases.

(3) If the parties agree to compromise the dispute by voluntary payment, the terms of such payment shall be specified on the voluntary payment form signed by both parties and the mediator. If the benefits agreed to are not paid within 30 days of the date the agreement is personally served or mailed by the mediator, then the carrier shall pay to the employee penalties in accordance with section 418.801 of the act.

History: 1979 AC; 1984 AACS; 1998-2000 AACS.

R 408.40c Rescinded.

History: 1979 AC; 1998-2000 AACS.

R 408.40d Rescinded.

History: 1979 AC; 1984 AACS; 1998-2000 AACS.

R 408.40e Rescinded.

History: 1979 AC; 1998-2000 AACS.

R 408.40f Rescinded.

History: 1979 AC; 1998-2000 AACS.

R 408.40g Rescinded.

History: 1979 AC; 1984 AACS; 1998-2000 AACS.

R 408.40h Rescinded.
History: 1980 AACS; 1998-2000 AACS.

PART 3. INSURANCE

R 408.41 Notice of insurance.
Rule 11. Every notice of issuance of a workers' disability compensation insurance policy shall be reported to the bureau on form 400, insurer's notice of issuance of policy. If the employer is a partnership, the notice shall state the names and addresses of all the partners. If the employer is doing business under an assumed name, the notice shall state the assumed name and each Michigan location covered. If the employer is a corporation doing business through a number of divisions, the notice shall state the names of all the divisions of the corporation. The bureau shall be notified when any insurance company receives a change of address of an insured.
History: 1979 AC; 1980 AACS.

R 408.41a Termination of insurance.
Rule 11a. A notice of termination of the liability of an insurance company on a policy covering the risk of an employer under the act shall be reported to the bureau on form 401, notice of termination of liability.
A copy of the notice shall be mailed to the employer. If the employer is a partnership, the notice shall state the names and addresses of all the partners. If the employer is doing business under an assumed name, the notice shall state the assumed name and the names of all parties doing business under the assumed name. If the employer is a corporation doing business under a number of divisions, the notice shall state the names of all the divisions of the corporation. If a business changes names notice shall be given stating both the new and former names. Notice of termination of a policy which has expired shall not be reported when the insurance carrier has accepted responsibility under a further or renewal policy, except for an assured's name change.
History: 1980 AACS.

R 408.41b Notice of election to be excluded as employees under act.
Rule 11b. A notice of election to be excluded under section 161(4) of the act shall be reported to the bureau on form 337, notice of exclusion. The employer shall have the notice notarized. If the employer is a partnership or corporation, then the notice shall state the names of all the partners or corporate officers. If the employer is doing business under an assumed name, then the notice shall state the assumed name and each Michigan location covered. The employer shall certify that the employees signing the exclusion comprise all of the employees of the employer. The employer shall further certify that all employees are eligible to be excluded under section 161(2) or (3) of the act. Each employee shall furnish his or her social security number and certify that the employee voluntarily signed the election to be excluded. The employer shall furnish its federal identification number. The employer shall furnish each employee with a copy of the completed exclusion form before filing the form with the bureau. The exclusion shall become effective upon receipt of the notice of exclusion by the bureau.
History: 1987 AACS; 1998-2000 AACS.

R 408.41c Notice of election to terminate exclusion as employees under act.
Rule 11c. Every notice of election to terminate an exclusion from coverage previously filed under section 161(4) of the act shall be reported to the bureau on form 338, notice to terminate exclusion. The employer shall have the notice notarized. The notice shall state the reason for terminating the exclusion. The notice to terminate exclusion shall certify that all employees and the employer signing the notice to terminate exclusion have received a copy of the completed notice to terminate exclusion before filing the notice with the bureau. The employer shall furnish its federal identification number. The termination of exclusion shall become effective not later than 20 days after the notice to terminate exclusion is received by the bureau. If a carrier is providing coverage at the time the notice to terminate exclusion is filed, or assumes coverage during the 20-day period, then the notice to terminate exclusion shall become effective on the date the carrier assumes coverage.
History: 1987 AACS; 1998-2000 AACS.

R 408.42 Application for specific risk insurance policy to cover specified construction site.

Rule 12. An applicant may make written application to the bureau of workers' disability compensation for permission to obtain a specific risk insurance policy to cover all employers on a specified construction site where the cost of construction will be more than $65,000,000.00 and the contemplated completion period will be 5 years or less. The application shall give sufficient detail to specify the location of the proposed construction site, a breakdown of the total cost, and the contemplated completion period for the construction. After considering the application and all supportive data, the bureau shall either grant approval or advise the owner of the requirements to be met before approval is granted. The applicant shall be given 30 days from the receipt of the bureau's notice in which to comply with the requirements of the bureau. The approval for a specific risk policy is not effective until the bureau has received proof that all requirements of the bureau for issuance of a specific risk policy to cover a specified construction site have been met. The applicant, at the discretion of the director, may be granted additional time to meet the requirements for approval of a specific risk policy. A request for an extension of time shall be made in writing within the 30-day compliance period. If the bureau does not receive proof that all requirements for the approval of a specific risk policy for a specified construction site have been met within the time prescribed, then the application shall be considered withdrawn.

History: 1979 AC; 1980 AACS; 1998-2000 AACS.

R 408.42a Notice of insurance; specified construction site insurance policy.

Rule 12a. If an insurance policy is issued to cover a specified construction site where the cost of the construction will be more than $65,000,000.00 and the contemplated completion period will be 5 years or less, then the insurers shall notify the bureau on a form 400a, insurer's notice of issuance of specific risk policy, of the date upon which the employer became subject to the specific insurance policy. If the employer is a partnership, then the notice shall state the names and addresses of all the partners. If the employer is doing business under an assumed name, then the notice shall state the assumed name and the names of the parties doing business under the assumed name. If the employer is a corporation doing business through a number of divisions, then the notice shall state the name of the employer and the divisions that are covered under the specific risk policy. The specific risk carrier shall notify the bureau when the specific risk carrier receives a change of address for the employer.

History: 1980 AACS; 1998-2000 AACS.

R 408.42b Termination of insurance; specified construction site insurance policy.

Rule 12b. A notice of termination for coverage of an employer under an insurance policy covering the specified construction where the cost of construction will be more than $65,000,000.00 and the contemplated completion period will be 5 years or less, shall be reported to the bureau on form 401a, notice of termination of liability for employer under specific risk policy.

The insurer shall mail a copy of the notice to the employer. If the employer is a partnership, then the notice shall state the names and addresses of all the partners. If the employer is doing business under an assumed name, then the notice shall state the assumed name and the names of all parties doing business under the assumed name. If the employer is a corporation doing business under a number of divisions, then the notice shall state the name of the employer and the divisions of the corporation covered by the termination. If the business changes names, then notice shall be given stating both the new and former names. Notice of termination of a policy which has expired shall not be reported when the specific risk carrier has accepted responsibility under a further or renewal policy, except for an assured's name change. The termination notice shall be filed with the bureau of workers' disability compensation at Lansing, Michigan, not less than 20 days before the effective date of any termination or cancellation of the policy with respect to the employer. The notice shall give the date of termination or cancellation of the contract or policy with respect to the employer. Termination or cancellation of the specific risk policy takes effect, with respect to the employees of the insured employer, 20 days after notice of a proposed termination or cancellation is received by the bureau of workers' disability compensation.

History: 1980 AACS; 1998-2000 AACS.

R 408.43 Employer self-insured application; combinable entities.

Rule 13. (1) An employer who applies for the authority to become an individual self-insurer shall apply to the bureau on form 402.

(2) The initial and annual renewal application shall contain answers to all questions, shall include all requested supporting information, as directed, and shall be sworn to by an authorized representative of the employer

whose signature is notarized.

(3) Separate legal entities may be self-insured under a single authority if they are majority-owned by the self-insured entity submitting the application or if the same person or group of persons owns a majority interest in each entity on a single application. "Majority interest" of a corporation means ownership of a majority of the voting stock or authority to appoint a majority of directors, if there is no voting stock. "Majority interest" of a partnership means majority partnership interest by the same person or group of persons. "Majority interest" in a limited liability company means majority member ownership by the same person or group of persons.

History: 1979 AC; 1980 AACS; 1984 AACS; 1998-2000 AACS.

R 408.43a Employer individual self-insurer; surety bond or letter of credit; consideration of employer in business less than 5 years; excess liability Insurance; required guaranties; claims service companies; self-administered claims.

Rule 13a. (1) A nonpublic self-insurer may be required to furnish a surety bond or letter of credit. The bureau will establish the amount of security at the time of initial application. The bureau shall review the adequacy of security periodically. The bureau shall prescribe the format and language of the bond or letter of credit. The bureau shall accept surety bonds only from a surety writer authorized to transact security bond business in Michigan. A surety bond shall provide for 60 days' notice of cancellation to the bureau. Letters of credit are administered under R 408.43q.

(2) An employer that is in business less than 5 years shall not be considered for self-insured authority unless its workers' disability compensation liability will be guarantied by a parent corporation or combinable affiliated entity that has been in

business not less than 5 years and that would qualify for self-insured authority in Michigan.

(3) The bureau shall require specific excess liability insurance, with policy limit and retention acceptable to the bureau, for every self-insured employer, unless the bureau, at its discretion, waives the requirement. The bureau may require aggregate excess liability insurance as a condition of approval for a self-insured employer. Specific and aggregate excess liability insurance policies are accepted under R 408.43k.

(4) Parent corporations shall guaranty all liability incurred by their self- insured subsidiaries under the workers' disability compensation act, unless the bureau, at its discretion, waives the requirement. The bureau shall prescribe the form and substance of the guaranties. The bureau may require employers, combinable under a single self-insured authority, to execute workers' disability compensation payment guaranties as a condition for approval of the self-insured authority. The bureau shall prescribe the form and substance of the guaranties.

(5) A self-insurer approved under section 418.611(1)(a) of the act shall contract with a claims service company approved by the bureau under R 408.43m.The bureau may approve a self-insurer to self-administer claims if the employer has all necessary systems, processes, and reporting capabilities and can demonstrate it has employed competent claims personnel with Michigan workers' compensation adjusting experience.

History: 1980 AACS; 1998-2000 AACS; 2007 AACS.

R 408.43b Employer individual self-insurer; compliance with bureau requirements; notice; additional time; certification; renewal application.

Rule 13b. (1) If the agency approves an initial application of an employer to be an individual self-insurer, then the approval shall be in writing. The approval letter shall contain the excess liability insurance terms, bond, letter of credit, and guaranties required by the agency as a condition of the self-insured authority. The employer has 30 days from the receipt of the agency's notice in which to comply with the requirements of the agency. The self-insured authority shall not become effective until the agency has received proof that all requirements of the agency for self- insured authority have been met.

(2) The employer may, at the discretion of the agency, be granted additional time to meet the requirements for the self-insured authority. An employer shall make a request for an extension of time in writing within the 30-day compliance period. If the agency does not receive proof that all requirements for the self-insured authority have been met within the time prescribed, then the application shall be considered withdrawn.

(3) The agency will issue a letter certifying self-insured authority to the employer when the employer meets the requirements of the agency. The self-insured authority for all approved employers expires on the designated renewal date, which shall not be more than 12 months from the effective date of the authority. A self-insured employer shall submit a renewal application (form 402R) and requested documents, including a current

financial statement and loss information, to the agency 30 days before the expiration of the self-insured authority. Upon receipt of a renewal application, the authority shall be extended until denied or approved for an additional 12 months.

History: 1980 AACS; 1998-2000 AACS; 2013 AACS.

R 408.43c Financial, loss experience and liability exposure analysis; notice of denial or termination.

Rule 13c. (1) The bureau may decline to approve an application for, or may terminate the self-insured authority if an employer is unable to demonstrate a position of reasonable solvency and the ability to pay benefits as prescribed in the act. The bureau analysis of each nonpublic employer application shall include a review of the employer's financial position and operating results.

Standard financial ratio analysis and comparison to similar industry statistical data will be considered in the financial position analysis. Other information relevant to the applicant's financial ability, including but not limited to the following, will be considered:

(a) The historical operating results.

(b) Evaluation of financial trends.

(c) Banking relations.

(d) Contingent liabilities.

(e) Pending litigation.

(f) Corporate guaranties.

(g) Management team continuity and experience.

(h) General and specific industry economic conditions.

(i) Legal structure.

The bureau's analysis of the employer's loss experience and liability exposure shall include but is not limited to the following:

(a) Claims for not less than 3 policy years broken down by paid, reserve, and total incurred amounts.

(b) Number of employees.

(c) Payroll code classifications.

(d) Excess liability insurance policy terms will be required and considered in the determination of financial ability.

(2) The bureau shall mail notice of a denial or termination of self-insured authority to the employer. The notice shall include the grounds for denial or termination. The employer may request a hearing in accordance with section 418.611(5) of the act and R 408.43n.

History: 1980 AACS; 1998-2000 AACS.

R 408.43d Group self-insurers; application.

Rule 13d. Application for group coverage, as contemplated in section 611 of the act for the express purpose of establishing a group self-insurers' fund, to be administered under the direction of an elected board of trustees and to provide workers' compensation coverage for a group of private employers in the same industry or for public employers of the same type of unit, shall be made to the bureau. The application shall be made on a form prescribed by the bureau and shall contain answers to all questions. Answers shall be given under oath.

History: 1980 AACS.

R 408.43e Group self-insurers; new and renewal application requirements.

Rule 13e. (1) A new application, as submitted by the initial board of trustees of the self-insurer's fund, shall be accompanied by all of the following:

(a) A copy of the approved bylaws of the proposed group self-insurers' fund.

(b) An original signed individual member application approved by the board of trustees for each member of the group applying for coverage in the fund.

(c) A current financial statement of each member of a private self-insurers' group that, taken collectively, shows both of the following:

(i) The combined net assets of all members applying for coverage on the inception date of the fund, which shall not be less than $1,000,000.00.

(ii) Working capital, which shall be in an amount that establishes the financial strength and liquidity of the business.

(d) A composite listing of the estimated standard premium to be developed by each member of the

group individually and in total as a group.

(e) Proof of payment by each member of not less than 25% of the estimated annual standard premium into a designated depository.

(f) An excess insurance policy which is issued by an authorized carrier in an amount acceptable to the bureau and which is in compliance with the requirements set forth in R 408.43k.

(g) A copy of a signed service agreement that designates an approved service company.

(h) A copy of the current contract or agreement between the trustees and the administrator if one is used.

(i) Proof of a fidelity policy in a form and amount acceptable to the bureau.

(j) If required, a surety bond written by an authorized carrier or other security in a form and amount acceptable to the bureau.

(k) In the case of a private employer's group, an indemnity agreement jointly and severally binding the group and each member of the group to comply with the provisions of the act. The indemnity agreement shall conform to an indemnity agreement as approved by the bureau.

(l) A breakdown of all rates by code classification that will be used by the group fund to develop final audited premium, including an exhibit that shows all administrative expenses as a percentage of estimated final audited premium and loss fund developed under the aggregate excess contract as a percentage of final audited premium.

(m) The trustees shall provide proof, satisfactory to the bureau, that the annual gross premiums of the fund will be not less than $500,000.00.

The premium collected from each member shall be based upon applying the appropriate manual rates per payroll code classification as approved by the bureau and the excess carrier. The premium collected from each participant in a group self-insurance program shall be adjusted by an experience modification formula approved by the bureau. The total premium collected from all participants shall be sufficient to fund the loss fund developed under the excess insurance contract and the

total administrative expenses of the group fund. A written excess insurance policy shall confirm that the rate structure proposed by the aggregate excess insurer will be used by the group fund to develop the loss fund under the aggregate excess contract. The loss fund shall be 75% of final audited premium or as approved by the bureau.

(n) Proof, satisfactory to the bureau, shall be provided to prove that the fund has, within its own organization, ample facilities and competent personnel to service its own program with respect to underwriting matters and loss control services or the fund shall contract with an approved service company to provide the services. An approved service company shall be used to handle claims adjusting and reporting of loss data to the bureau.

(2) Each group fund shall submit a renewal application to the bureau 30 days before the expiration of the self-insurance privilege, together with the terms of renewal for the excess insurance contract. Upon receipt of the renewal application, the self-insurance privilege shall be extended until it has been acted upon by the director. The application shall be accompanied by all of the following:

(a) Evidence of the financial ability of the group to meet its obligations under the act.

(b) Confirmation of an excess insurance policy which is issued by an authorized carrier in an amount acceptable to the bureau and which is in compliance with the requirements set forth in R 408.43k. With the approval of the director and after meeting all requirements the director imposes, a group self-insurance fund may use a letter of credit in place of aggregate excess insurance if the fund gives the bureau 6 months' notice of its intent to use a letter of credit.

(c) A copy of a signed service contract which designates an approved service company, which provides for claims administration and reporting of loss data to the bureau, and which may include underwriting and loss control services, unless approval has been granted to self-administer claims.

(d) Proof of a fidelity policy in a form and amount acceptable to the bureau.

(e) A breakdown of all rates by code classification that will be used by the group fund to develop final audited premium. If aggregate excess insurance is required by the bureau, the rates used by the fund to develop final audited premium shall be the rates used by the aggregate excess insurer and shall be included as an exhibit to the aggregate excess insurance policy. In addition, an exhibit that shows all administrative expenses as a dollar amount and a percentage of estimated final premium and the loss fund developed under the aggregate excess contract as a percentage of final audited premium shall be provided.

(f) A copy of the current contract or agreement between the trustees and the fund administrator, if one is used.

(g) Proof provided by the trustees that the premium collected from each member shall be based upon

applying the appropriate manual rates per payroll code classification as approved by the bureau and the excess insurance carrier or consulting actuary. Each member's premium shall be experience rated. The experience modification formula shall be approved by the bureau. The total premium collected from all participants shall be sufficient to fund all administrative expenses and the estimated loss fund developed under the excess insurance contract. The loss fund shall be 75% of final audited premium or as approved by the bureau. If a letter of credit is used in place of aggregate excess insurance, the fund shall collect sufficient premiums to fund the ninetieth percentile confidence level of losses, as calculated by a consulting actuary, and all administrative expenses. If a public employer group fund operates with specific excess insurance only, the fund shall collect sufficient premiums to fund the ninetieth percentile confidence level of losses, as calculated by a consulting actuary, and all administrative expenses of the fund.

(h) If the fund intends to provide underwriting and loss control services, the fund shall provide proof that the fund has ample facilities and competent personnel to service the programs.

(i) If the fund requests approval to self-administer claims, then all of the following:

(i) Proof that the fund has been in operation not less than 5 years.

(ii) Proof that the fund has annual collected premium of more than $10,000,000.00.

(iii) A written document in which the fund agrees to all of the following provisions:

(A) The fund will demonstrate that the estimated cost of self-administration of the claims program will be fully funded by premium collections.

(B) The fund will demonstrate that it has ample facilities and competent staff, including licensed adjusters with workers' compensation qualifications under chapter 12 of Act No. 218 of the Public Acts of 1956, as amending, being S500.1201 et seq. of the Michigan Compiled Laws, who will be handling the workers' compensation claims.

(C) That the claims-handling function will be subject to an annual independent audit of all established cases and operational processes. The independent auditor will meet guidelines established by the bureau.

(D) That annually, the fund administrator will provide a written assertion to the fund's independent certified public accountant that the fund's claim-paying function maintains an effective internal control structure over financial reporting as of the fund's fiscal year end. The fund's independent certified public accountant shall issue a report on the administrator's assertion in accordance with statements on standards for attestation engagements No. 2 (SSAE#2), as amended.

(E) The group fund will furnish loss data in a form acceptable to the bureau and the excess carrier.

(F) That failure to provide accurate and timely payment of claims or failure to meet the requirements of self-administered claims may result in termination of approval to self-administer claims.

(G) That the excess insurer will provide documentation of its approval of the group fund's self-administration of claims.

History: 1980 AACS; 1984 AACS; 1996 AACS; 1997 AACS.

R 408.43f Group self-insurance; same industry requirement; approval; review; certificate.

Rule 13f. (1) After considering an application for group self-insurance and all supportive data, the bureau shall either grant approval or advise the trustees of the self-insurers' group of the requirements to be met before approval is granted. In determining whether private employers are in the same industry, the bureau may use the standard industrial classification codes assigned to each employer applying for membership in the group. The bureau shall also consider all information available on the nature of the business of each private employer and may require the group fund to present additional evidence, either oral or written, to verify that all employers applying for membership in the group fund meet the statutory requirement of being in the same industry. The group shall be given 30 days from the receipt of the bureau's notice in which to comply with the requirements of the bureau. The self-insured authority shall not become effective until the bureau has received proof that all requirements of the bureau for self-insured approval have been met.

(2) The group may, at the discretion of the director, be granted additional time to meet the requirements for the self-insured program. A request for an extension of time shall be made in writing by the group within the 30-day compliance period. If the bureau does not receive proof that all requirements for the self-insured program have been met within the time prescribed, the application shall be considered withdrawn.

(3) On new and renewal applications, the bureau may require evidence that the proposed rate for each payroll classification is adequate to cover expected losses for that payroll classification and evidence that the experience rating formula will be actuarially sound. The bureau shall take all of the following factors into account before granting approval for a group self-insurance program:

(a) Past and anticipated losses.
(b) Proper reserves for reported and unreported losses.
(c) Past surplus and expected increase in benefit levels.
(d) Administrative costs.
The bureau may contract with a consulting actuary, at the expense of the group fund, to determine if the proposed group self-insurance program will be actuarially sound.
(4) Upon meeting the requirements of the bureau, the group shall receive a formal certificate approving its status as a self-insurer. The certificate shall expire 12 months after the effective date of approval.
History: 1980 AACS; 1984 AACS; 1996 AACS.

R 408.43g Group self-insurers' admission of new members; termination of individual members; notice; records.
Rule 13g. (1) After the inception date of the fund, prospective new members of the fund shall submit an application for membership to the board of trustees, or its designated representative, on a form approved by the bureau. The board of trustees or its designated representative may approve the application for membership pursuant to the bylaws of the group self-insurers' fund. The original signed application for membership shall then be filed with the bureau in Lansing. Membership shall take effect after approval by the bureau.
(2) After a group fund has completed 1 year of operation, application may be made to the director to authorize the group fund to accept new members without prior bureau approval. The application shall be submitted on forms provided by the bureau and shall define all businesses that will be accepted in the same industry within the group. The application shall define the financial standards that will be applied by the group in accepting new members.
(3) If approved, the group shall submit confirmation of membership to the bureau on form 650, group self-insurance fund notice of acceptance of membership, together with a copy of the individual membership application and the financial report provided by the member. If the employer is a partnership, the notice shall state the names and addresses of all the partners. If the employer is doing business under an assumed name, the notice shall state the assumed name and each Michigan location covered. If the employer is a corporation doing business through a number of divisions, the notice shall state the names of all the divisions of the corporation. The bureau shall be notified when any group fund receives a change of address of a member.
(4) Individual members may elect to terminate their participation in a group self-insurers' program or be subject to cancellation by the group pursuant to the bylaws of the group fund. However, termination or cancellation shall take place not less than 20 days after the bureau has received notice of the termination or cancellation from the group fund reported to the bureau on form 651, group self-insurance fund notice of termination of membership. If the employer is a partnership, the notice shall state the names and addresses of all the partners. If the employer is doing business under an assumed name, the notice shall state the assumed name and the names of all parties doing business under the assumed name. If the employer is a corporation doing business under a number of divisions, the notice shall state the names of all the divisions of the corporation. If a business changes names, notice shall be given stating both the new and former names.
(5) The chairman of the board of trustees or, at the chairman's designation, the administrator shall be responsible for maintaining all records of the fund. The fund shall maintain all of the following documents with respect to records:
(a) Forms 100, 101, 102, 701, and 107.
(b) Redemption papers.
(c) Excess workers' compensation policies.
(d) Spreadsheets containing premium audit summaries.
(e) Contracts with the group's claims service and administrator.
(f) A complete set of claim loss runs as of the end of each fiscal year.
(g) Certified audit reports.
(h) Minutes of trustee and annual meetings.
(i) Group renewal applications and related documents.
(j) Individual membership applications containing signed indemnity agreements.
The records shall be retained for not less than 30 years and the administrator or board of trustees shall know the location of the records at all times. All records of the fund are the property of the fund. If the

records are held by the funds service company, the records shall immediately be surrendered to the fund upon the fund's request.

History: 1980 AACS; 1984 AACS; 1996 AACS.

R 408.43h Group self-insurance; reports and filings.

Rule 13h. (1) The group shall make all reports and filings required of carriers by the act. In addition, the group fund shall comply with all of the following provisions:

(a) The financial position of the group fund shall be reported, by the trustees or their designated representative, on a quarterly basis for each open fund year. The report is due within 30 days after the quarter ends.

The format for the report may be prescribed by the bureau. A fund year shall be considered open as long as there are unsettled claims. The annual financial statements shall be audited by a certified public accountant and filed with the bureau within 180 days after the fund year ends. If a fund ceases to provide coverage on an ongoing basis, annual audited financial statements shall be provided to the bureau within 180 days of the end of the fund's fiscal year.

(b) The fund shall file summary loss data, in a manner prescribed by the bureau, on each fund year within 30 days after the evaluation date.

Losses shall be evaluated on a monthly basis or as required by the bureau.

(c) The fund shall file a copy of the minutes of all trustee meetings with the bureau within 30 days after the meeting.

(d) The fund shall provide reports or filings on payroll audits, investments, experience rating, or any other information concerning the group fund upon specific request of the bureau.

(e) An authorized representative of the fund shall sign All financial reports and minutes submitted.

(2) A fund that fails or refuses to file the reports specified in this rule within the time limits prescribed may be notified that its authority to be self-insured will be terminated. If a fund's authority is terminated, then the fund shall be notified of the grounds for termination.

The fund may request a hearing in accordance with R 408.43n.

History: 1980 AACS; 1984 AACS; 1996 AACS; 1997 AACS.

R 408.43i Group self-insurer's fund; board of trustees' power and duties; investment restrictions.

Rule 13i. To ensure the financial stability of each group self-insurers' fund, a board of trustees

of each fund shall be responsible for all operations of the fund. A board of trustees shall be a group of members elected by the membership of the fund for stated terms of office. The majority of the trustees shall be owners or employees of members of the self-insurers' fund, but a trustee shall not be an owner, officer, or employee of a service company. The board of trustees of each fund shall take all necessary precautions to safeguard the assets of the fund, including all of the following:

(a) Designate a trustee as administrator or, in the alternative, hire an employee or designate an individual to act as the group fund administrator. The trustees may delegate

to the administrator the duties they determine proper. The duties may include, but are not limited to, advising the board with regard to any of the following:

(i) Contracting with a service company.

(ii) Determining the premium charged.

(iii) Investing surplus monies, subject to the restrictions set forth in this rule.

(iv) Accepting applications for membership. However, the board of trustees remains the responsible party for the operation of the fund. The duties delegated to the administrator and all compensation to be paid to the administrator shall be reduced to writing, and a copy shall be provided to the agency with each annual group renewal application. The group fund administrator shall not be an owner, officer, or employee of a service company. The trustees shall purchase a fidelity policy covering the fund trustees, administrator, employees of the fund, and the service company in an amount sufficient to protect the assets of the fund. A copy of the fidelity policy will be provided to the agency with each annual renewal.

(b) Limit disbursements to payment and expenses of handling claims and administrative expenses necessary for operating the fund. The board of trustees shall also establish necessary accounts and accounting procedures for control and accurate financial reporting. Established accounting procedures shall provide accurate financial information for each open year individually with respect to revenue and expense until the year is closed out.

The board of trustees shall maintain, and be responsible for, all records and documents relating to the formation and ongoing operation of the group self-insurance fund. If the board of trustees does not maintain the records in a responsible manner and in accordance with these rules, then the self-insured approval of the fund may be terminated by the director.

(c) Audit the accounts and records of the fund annually or at any time required by the agency. Audits shall be made by certified public accountants or by authorized representatives of the agency. The agency reserves the right to prescribe the type of audits to be made and the uniform accounting system to be used by the self-insurers' fund to enable the agency to determine the solvency of the group self-insurers' fund. Copies of financial audits prepared by certified public accountants shall be filed with the agency in Lansing within 180 days after the close of the fund year. Claim reserve audits used in support of surplus distribution requests shall be performed by auditors who meet the requirements of the agency relating to independence, report content, and timing.

(d) Not extend credit to individual members for payment of premium.

(e) Apply a penalty rate in excess of the normal premium to any risk that has unfavorable loss experience, if the member and the agency are notified in writing before the effective date of the change in rates.

(f) Not utilize any of the monies collected as premiums for any purpose unrelated to workers' compensation. Further, the board of trustees shall not borrow any monies from the fund or in the name of the fund without advising the agency of the nature and purpose of the loan and obtaining agency approval. The board of trustees may, at its discretion, invest any surplus monies not needed for immediate cash needs, but the investments shall be limited to United States government bonds, United States treasury notes, United States government agency issues, United States government-sponsored enterprises, investment share accounts in any savings and loan association and credit unions that have their deposits insured by a

federal agency, and certificates of deposit issued by a duly chartered commercial bank. Deposits in savings and loan associations, credit unions, and commercial banks shall be limited to institutions in this state and shall not exceed the federally insured amount in any 1 account, except that the federally insured amount in any 1 account in a commercial bank may be exceeded if the account amount involved does not exceed either of the following factors:

(i) Five percent of the combination of surplus and undivided profits and reserves as currently reported for each bank in the state in the banking division annual report of the office of financial and insurance regulation.

(ii) Five hundred thousand dollars per institution. A group self-insurance fund shall not invest in mutual funds, except that investments in money market mutual funds of short-term duration which invest only in government agency issues, government-sponsored enterprises, and government bills, bonds, and notes will be allowed for short-term cash investment needs. As used in this paragraph, "short-term duration" means 180 days or less.

(g) The board of trustees of a group self-insurance fund, subject to the limitations set forth in subdivisions (h), (i), and (j) of this subrule, may, in its discretion, and upon contracting with a bank trust department or with a professional investment advisor registered with the securities and exchange commission under the investment advisors act of 1940, 15 U.S.C. '80B-3, invest monies not needed for immediate cash needs in corporate bonds and municipal bonds and common and preferred stock.

(h) Limit the combined holdings of corporate and municipal bonds to not more than 45% of the market value of the available investment portfolio. Corporate and municipal bonds must be (A) rated or better by at least 2 nationally recognized rating services. Holdings in any 1 corporation or municipality shall not be more than 5% of the total amount eligible for investment in corporate and municipal bonds as set forth in this subrule.

(i) Of the 45% of the market value of the investment portfolio available for investment in municipal or corporate bonds, 25% may be invested in common or preferred stocks. Common or preferred stocks shall be limited to publicly owned companies that trade on a United States regulated exchange. Mutual funds or bank pooled funds that invest in common or preferred stocks are permitted and shall be calculated as part of the percentage of market value available for investment in common and preferred stocks.

(j) Ensure that the professional investment advisor completes a compliance review of the investment portfolio on a quarterly basis. A copy of the investment review shall be provided to the fund and the agency within 30 days of the close of each quarter. The annual financial statements shall be audited by a certified public accountant and shall include a certification as to whether the fund has been in compliance with the requirements for investments. Failure to report on investments as required by this rule may result in withdrawal of the authority to invest in corporate and municipal bonds and/or common and preferred stocks.

(k) Any group fund found to have investments in vehicles other than as provided by this rule shall be given 30 days or a time period approved by the director to divest themselves of the investments. Failure to meet the divestiture requirement may subject the fund to further sanction by the director.

History: 1980 AACS; 1984 AACS; 1996 AACS; 1997 AACS; 2003 AACS; 2007 AACS; 2013 AACS.

R 408.43j Group self-insurers' funds; advance premium discounts; surplus monies; surplus investment income and premiums; unfunded claims.

Rule 13j. (1) The trustees of any group self-insurers' fund shall not authorize advance premium discounts to any member in excess of those authorized by the excess insurance underwriter and approved by the bureau.

If discounts are approved by the excess carrier and the bureau, the excess carrier shall agree to base the loss fund on the premium collected after discount.

(2) Any surplus monies for a fund year in excess of the amount necessary to fulfill all obligations under the act for that fund year, including a provision for claims incurred but not reported, may be declared to be refundable by the trustees at any time, and the amount of the declaration shall be a fixed liability of the fund at the time of the declaration. The date of payment shall be as agreed to by the trustees and the bureau, except that monies not needed to satisfy the loss fund requirements, as established by the aggregate excess contract, may be refunded immediately after the end of the fund year with the approval of the bureau. The intent of this rule is to ensure that sufficient monies are retained so that total assets are greater than total liabilities for each fund year.

(3) If premiums collected and earned investment income associated with any fund year are insufficient to completely fund all reported claims and expenses for that year, unfunded amounts, by fund year, shall be reported immediately to the bureau with the proposed plan to achieve 100% funding.

The plan to achieve 100% funding for all claims is subject to bureau approval. A plan may include, but is not limited to, all of the following:

(a) Use of premiums collected in other fund years, but not necessary for payment of claims or expenses in the year collected.

(b) Use of investment earnings associated with other fund years, but not necessary for payment of claims or expenses in the year in which associated.

(c) Assessment of members by order of the bureau.

(4) The bureau may allow investment income earned by a group self-insurance fund during a calendar year to be returned to the fund membership without prior bureau approval if the fund trustees provide all of the following documentation:

(a) Certification, to the bureau, in the form of a letter from a certified public accountant, attesting to the amount of investment income earned during the calendar year.

(b) Certification to the bureau, by the board of trustees, of the amount of the investment income and of the employers to whom the investment income is to be distributed.

(c) Certification by the board of trustees and the group's certified public accountant that, after the distribution of investment income, the aggregate retention in the current fund year, as determined by the group's excess insurance carrier, and all administrative expenses will be fully funded.

(d) If the fund operates with specific excess insurance only or a letter of credit in place of aggregate excess insurance, the board of trustees and the group's certified public accountant shall certify that, after the distribution of investment income, ultimate loss, as calculated by a certified actuary at a 90% confidence level, and all administrative expenses will be fully funded.

(e) Certification by the board of trustees and the fund's certified public accountant that the fund's financial statements are not discounted and do not consider the time value of money.

The information specified in subdivisions (a) to (e) of this rule shall be received by the bureau not earlier than December 1, and not later than December 31, of the calendar year in which the investment income is earned and is to be distributed. If the information specified in this rule is not received by the bureau in a timely manner, then the bureau may withdraw the fund's privilege of returning investment income to fund members without prior bureau approval.

History: 1980 AACS; 1984 AACS; 1996 AACS.

R 408.43k Aggregate excess liability insurance; specific excess liability insurance; individual self-insurer; group self-insurer.

Rule 13k. The bureau shall not recognize a policy of aggregate or specific excess liability insurance in

considering the ability of a self-insurer to fulfill its financial obligations under the act, unless the policy is issued by a casualty insurance company authorized, as defined in section 108 of PA 218, MCL 500. to transact such business in this state. The policy shall comply with all of the following provisions unless specifically waived by the bureau. Policies issued that do not comply with all provisions of this rule may be considered grounds for termination of the employer's self-insured authority.

(a) The policy shall not be cancelable or nonrenewable unless written notice, sent by courier, registered mail or certified mail, is given to the other party to the policy and to the bureau not less than 60 days before termination by the party desiring to cancel or not renew the policy.

(b) The policy shall contain no endorsements, provisions, or terms that increase the named insured or insureds retentions or increase the amount that must be paid by the named insured or insureds beyond the retentions reported on the declarations page of the policy and the Michigan certificate of specific/aggregate excess liability insurance. This provision does not apply to customary policy language that may call for increased payments by the insured or insureds for failure to act or abide by a policy provision.

(c) A policy that has any type of commutation clause shall provide that any commutation effected under the policy shall not relieve the casualty insurance company of further liability with respect to claims and expenses unknown at the time of the commutation or in regard to any claim apparently closed at the time of initial commutation that is subsequently reopened by or through a competent authority. If the casualty insurance company proposes to settle its liability for future payments payable as compensation for accidents occurring during the term of the policy by the payment of a lump sum to the employer, to be fixed as provided in the commutation clause of the policy, then the casualty insurance company or the company's agent shall give the bureau not less then 30 days' prior notice of the commutation. Notice shall be by courier, registered mail or certified mail. If any commutation is affected, then the bureau has the right to direct that the sum be placed in trust for the benefit of the injured employee or employees entitled to future payments of compensation.

(d) The policy shall state that if a private self-insured employer becomes insolvent and is unable to make compensation payments and the self-insurers' security fund may have responsibility for making payment under section 537 of the act, then the excess insurance carrier shall make, directly to the claimants or their authorized representatives, payments as would have been made by the excess insurance carrier to the employer after it has been determined that the retention level has been reached on the excess liability insurance policy.

(e) The policy shall state that 100% of the following payments shall be applied toward reaching the retention level in the specific and aggregate excess liability policy:

(i) Benefit payments made by the employer as required in the act.

(ii) Benefit payments, as required in the act that are due and owing to claimants of the employer.

(iii) Benefit payments made on behalf of the employer, as required in the act, by a surety under a bond or through the use of other security required by the director.

(iv) Payments made by the self-insurers' security fund.

(v) Usual and customary claims allocated loss adjustment expenses.

(vi) Payments made, as specified in paragraphs (i), (iii), (iv) and (v) of this subdivision, that are reimbursable by the specific excess liability policy shall not be considered in reaching the aggregate excess liability retention.

(f) The policy shall provide for 100% reimbursement of the following payments that exceed the retention levels as defined in the specific or aggregate excess liability policy: (i) Benefit payments made by the employer as required in the act.

(ii) Benefit payments made on behalf of the employer as required in the act by a surety under a bond or through the use of other security required by the bureau.

(iii) Payments made by the self-insurers' security fund.

(iv) Usual and customary claims allocated loss adjustment expenses.

(g) Reimbursement shall be pro rata if multiple excess insurers insure the same self-insured for the same period. A request to waive a provision of this rule shall be in writing and approved by the bureau before a policy is issued. The carrier shall confirm issuance of an aggregate or specific excess liability policy on a form prescribed by the bureau.

History: 1980 AACS; 1984 AACS; 1989 AACS; 1996 AACS; 1998-2000 AACS; 2007 AACS.

Editor's Note: An obvious error in R 408.43k was corrected at the request of the promulgating agency, pursuant to Section 56 of 1969 PA 306, as amended by 2000 PA 262, MCL 24.256. The rule containing the error was published in Michigan Register, 2007 MR 4. The memorandum requesting the correction was

published in Michigan Register, 2007 MR 10.

R 408.43m Servicing self-insured employers or groups; application; requirements; noncompliance.

Rule 13m. (1) An individual, partnership, limited liability company, or corporation that desires to engage in the business of providing 1 or more services for an individual self-insurer or a self-insurers' group shall apply to the bureau before entering into a contract with the individual or group self-insurer and shall satisfy the bureau that it has adequate facilities and competent staff with Michigan workers' compensation adjusting experience within the state to service a self-insured program in a manner that fulfills the employers' obligations under the act and the rules of the bureau. Workers' compensation claims of Michigan individual or group self-insured employers shall be handled within the state of Michigan by its staff, except that the director, at his or her discretion, may permit an approved service company to handle the claims of a Michigan individual self-insurer outside of this state upon specific written request by the individual self-insurer and the service company. The request for permission shall set forth documentation sufficient to the agency that claims will be handled pursuant to Michigan law, administrative rules, and agency policy. The director will respond to the request in writing, giving the reasons for denial, or if approved, the conditions of approval. The approval may be withdrawn by the director at any time based upon the failure of the service company and/or employer to comply with the conditions of the approval. Service may include claims adjusting, loss control services, underwriting, and the capacity to provide required reporting. Any individual, partnership, limited liability company, or corporation that provides claims adjusting or loss control services to an approved self-insured employer, where the self-insured employer has designated within its own organization an individual to be responsible to the bureau for its claims program or loss control services, or both, shall not be considered a service company for purposes of this rule.

(2) An applicant shall apply to the bureau for approval to act as a servicing company for self-insured employers or group funds on a form prescribed by the bureau. The application shall contain answers to all questions. An applicant shall give the answers under oath. The bureau shall approve the application prior to the service company entering into a contract with an approved self- insurer. Approval to act as a service company for self-insurers is granted for a period of 1 year and is subject to renewal annually.

(3) If a service company seeks approval to service claims for self-insurers, then it shall submit proof that it has, within its organization at least 1 person who has the knowledge and Michigan workers' compensation adjusting experience necessary to handle claims involving the act. The service company shall attach a resume covering the principal person's background to the application of the service company. The principal individuals adjusting workers' compensation claims shall hold a current workers' disability compensation adjuster's license under chapter 12 of 1956 PA 218, MCL §500.1201.

(4) If a service company seeks approval to provide underwriting service to self-insurers, then it shall submit proof that it has, within its organization or under contract on a full-time basis, at least 1 person who has the knowledge and experience necessary to provide underwriting services for workers' compensation excess liability insurance coverage. The service company shall attach a resume detailing the principal person's background to the application of the service company.

(5) If a service company seeks approval to furnish loss control services to self-insurers, then it shall submit proof that it has, within its organization or under contract on a full-time basis, at least 1 person who has the knowledge and background necessary to adequately provide loss control and health services.

(6) A service company shall maintain adequate staff in the state. The service company shall authorize staff to act for the service company on all matters covered by the act and the rules of the bureau.

(7) A service company shall attach to the application a copy of its standard service agreement that it will enter into with self-insured employers or group funds. The service company shall certify, in writing, that the service agreement is in compliance with the act and these rules. The service company shall certify, and include a provision in its standard service contract which states, that the contract provides for the handling of all claims with dates of injury or disease within the contract until conclusion of the claims, unless the service company is relieved by the bureau, in writing, of the responsibility for handling claims. If the service contract calls for additional fees for any reason, then the service company shall clearly define the additional fees in the contract. For a service company to be relieved of the responsibility of handling claims to conclusion, the client, the previous service company, and the new service company shall sign a claims transfer agreement. The claims transfer agreement shall be completed on a form prescribed by the bureau and shall include a written request made by the previous service company to be relieved of its claims handling responsibilities to the bureau. A requesting company is relieved of its claims handling responsibility only after receiving a written response from the bureau approving a request. The service company shall certify

that it will report to the specific excess insurance carrier or aggregate excess insurance carrier, or both, and put the specific excess insurance carrier or aggregate excess insurance carrier, or both, on notice of all claims as required by the self-insurers' or group self-insurers' insurance policies. The standard service contract filed with the bureau for approval and renewal of the service company authority shall include language specifically stating that the service company is responsible for reporting to the excess insurance carrier. The bureau may waive the reporting requirement upon written request to the bureau. Any dispute involving late reporting of excess liability insurance claims and potential penalties shall be reported to the bureau immediately.

(8) A service company shall certify, and provide for in all service contracts, that all documents generated or prepared by the service company for the group or the individual self-insurer or any materials relating to an individual or group self-insurer held by a service company are the property of the individual or group self-insurer and shall be surrendered to the individual or group self-insurer within 10 days of termination of the service contract, subject to written request by the individual or group self-insurer.

(9) Failure to comply with the provisions of the act constitutes good cause for withdrawal of the approval to act as a service company for self-insurers. The bureau shall give 30 days' notice of withdrawal. The bureau shall give the notice by certified or registered mail, upon all interested parties.

History: 1980 AACS; 1984 AACS; 1996 AACS; 1998-2000 AACS; 2007 AACS.

R 408.43n Hearing before director; self-insured status, individual and group fund; group fund rates, membership applications, security requirements, and surplus refunds.

Rule 13n. (1) Upon receiving a notice of intent to deny or terminate self- insured status under section 611 of the act, a party may request a hearing before the director within 15 days of the mailing of the notice by the bureau.

Upon receiving a notice denying a request by a group fund for deviation from manual rates, denial of an individual membership application or security requirement, or a denial of a request for a refund of surplus, the group fund may request a hearing before the director within 15 days of the mailing of the notice by the bureau.

(2) The director shall, by certified or registered mail, notify the appealing party of the date, time, place, and reasons for holding the hearing. The director shall mail the notice not less than 15 days before the hearing. If the intent to terminate self-insured status is based on the self-insurer's failure to maintain existing security requirements, then the notice shall advise the self-insurer that proof of reinstatement of the security shall accompany the request for hearing or the director may make a final decision on the termination without further hearing.

(3) If an appearance is made at a hearing, then it shall be made in person by a duly authorized representative or by counsel.

(4) A person who has been served with a notice of hearing may, at his or her option, file a written statement before the date set for hearing or may appear at the hearing and present an oral statement and other evidence on the issues contained in the notice of hearing. When written briefs or arguments are presented, a copy shall be served upon the director and other interested parties not less than 5 days before the date set for the hearing.

(5) If the person or persons who have requested a hearing fail to appear at a noticed hearing, the director may consider the request for a hearing as having been abandoned or, in his or her discretion, may proceed with a hearing of the case and may, on the evidence presented, make a decision.

(6) A hearing shall not be adjourned or continued, except upon an order of the director.

History: 1980 AACS; 1996 AACS; 1998-2000 AACS.

R 408.43o Rescinded.

History: 1980 AACS; 1988 AACS; 1996 AACS.

R 408.43p Enforcement by director of order of denial or termination of self-insured status; circuit court relief.

Rule 13p. If the director has probable cause to believe that an order denying or terminating self-insured status is being violated, or that an employer who is approved or has been previously approved as a self-insured is liquidating or may be about to liquidate and distribute its assets to its stockholders or to its members without providing for its obligation as a self-insured employer to pay or arrange for the payment of compensation and benefits as directed by chapter 6 of the act, the director may, through the attorney general of the state, cause a petition to be filed in the circuit court of Ingham County or the county in which such person does business to enjoin and restrain such person from engaging in such method, act, or practice.

History: 1980 AACS.

R 408.43q Irrevocable letter of credit; acceptance; requirements; payment of surety bond or letter of credit.

Rule 13q. (1) An irrevocable letter of credit may be accepted by the bureau as other security for a self-insured program as provided by section 611(1)(a) of the act. The bureau will retain discretion in each particular case to determine if the letter of credit is acceptable and if its language and format are satisfactory.

(2) Irrevocable letters of credit shall be issued by a state-chartered bank, a federally chartered bank or foreign bank. Funds shall be immediately payable on demand. The director may require confirmation of acceptable letters of credit from any state, federally or foreign chartered bank without state operations or branch services within this state. If a confirmation is required, it shall be by a State of Michigan chartered bank or federally chartered bank with Michigan branch operations and state that the confirming bank is primarily obligated on the letter of credit.

(3) An employer who elects an irrevocable letter of credit as other security for a self-insured program shall furnish a memorandum of understanding with the letter of credit, on a form provided by the bureau, which affirms the employer's acceptance of all of the following requirements:

(a) A letter of credit is furnished to the bureau instead of a surety bond as one of the requirements for approval of a self-insured program.

(b) The employer understands that the letter of credit shall be deemed automatically extended without amendment for 1 year from the expiry date or any future expiry date unless, 60 days before any expiry date, the bureau is notified, by courier, certified or registered mail, that the letter of credit shall not be renewed for any additional period.

(c) A policy of insurance or a surety bond of equal amount may be furnished at a later date as a substitute for the letter of credit if the policy of insurance or surety bond covers all claims that would have been covered by the letter of credit. All policies of insurance and surety bonds furnished as substitutes for letters of credit are subject to prior bureau approval.

(d) The employer shall affirm that the irrevocable letter of credit in the amount requested by the bureau is being offered with the understanding that if the bureau receives notice that the letter of credit will not be renewed, then the bureau, in its discretion, may, after 30 days from the date of receipt of the notice, call the proceeds of the letter of credit and deposit the proceeds in the state treasury. And further, if, in the judgment of the bureau, the letter of credit is needed to cover any worker's disability compensation claims, then the proceeds of the letter of credit shall be called immediately and deposited in the state treasury for such purpose.

(e) If legal proceedings are initiated by any party with respect to payment of any letter of credit, then the proceedings shall be subject to Michigan courts and law.

(4) The bureau shall not grant an effective date for a self-insured program until a completed letter of credit and the memorandum of understanding have been reviewed and accepted by the bureau.

(5) If it is necessary for the director, under statute and bureau rules, to call the bond or other security, then a trust shall be established with the funds, unless the provider of the bond or other security elects to handle the claims directly and the bureau approves. If a trust is established, the funds shall be deposited in the state treasury and the state treasurer, as provided by section 551(7) of the act, shall be the custodian of the trust. The trustees of the trust shall be the trustees of the funds denominated in chapter 5 of the act and also those who are appointed as trustees under section 511 of the act. The service company of the self-insured employer, if any, shall continue to perform in accordance with the terms of the employer's contract with the service company.

History: 1988 AACS; 1998-2000 AACS; 2007 AACS.

R 408.43r Public employer group funds; waiver of requirement for excess insurance.

Rule 13r. A public employer group fund may request a waiver of the requirement for excess insurance. The director shall waive the requirement for excess insurance for a public employer group fund if the fund demonstrates that it has sufficient financial strength and liquidity to assure that all obligations under the act shall be promptly met without the protection of an excess insurance policy.

History: 1987 AACS.

R 408.43s Group funds; insufficient funding; creation of trust; appointment of trustees.

Rule 13s (1) If the plan to achieve full funding for payment of all claims and expenses of the self-insurers

group pursuant to rule 408.43j is not approved by the bureau, then the bureau may order the board of trustees of the self-insurers group to immediately assess the employer members of the group for the full amount of the deficiency and/or order that any surplus funds distributed to group members during the previous 12 calendar months from the date of discovery of the funding deficiency by the group fund be immediately returned.

(2) If the bureau determines that the self-insurers group ceases to provide ongoing and active coverage to its members and/or the requirements of this rule are not sufficient to secure all future liability established by the workers disability compensation act of 1969, then the bureau may require additional assessment of the employer members of the group and request the director to create and establish the terms of a trust, at the expense of the self-insurers group, for the deposit and administration of any assessment received and/or all assets of the self-insurers group. The trustees of the funds appointed under section 511 of the workers' disability compensation act shall be appointed trustees of the self-insurers group trust fund established under this rule.

History: 2003 AACS.

R 408.43t Group self-insurance; employee leasing.

Rule 43t. On or after the effective date of this rule, an employee leasing company approved for membership in a group self-insurance fund pursuant to MCL 418.611(2) of the workers' compensation act shall qualify as being in the same industry of the group fund if the employee leasing company meets all of the following conditions:

(a) The individual or individuals or entity or entities owning the entity or entities where the employees are or will be placed shall have a combined majority ownership interest of at least 51% in the prospective member leasing company.

(b) The leasing company shall only lease employees to entities that qualify for and participate in the group to which the leasing company seeks admission.

(c) The application submitted for membership by the employee leasing company shall clearly state on the first page of the application that the entity is an employee leasing company and shall name all the owners of the leasing company and the percentage of ownership of each owner. Any change in the percentage of ownership shall be reported to the group fund and the agency within 10 days of the ownership change. If the leasing company no longer meets the requirements of subdivision (a) or (b) of this rule after the change in ownership, then the leasing company shall be subject to termination pursuant to R 408.43g(4).

(d) The application shall identify and name the entity or entities with which employees are placed or to be placed, the name of each individual or entity that owns the entity with which employees are or will be placed, and the percentage or ownership interest for each.

(e) If the leasing company leases employees to any entity which is not a member of the group fund of which the leasing company is a member, or the leasing company fails to report any changes in ownership to the group fund and the agency within 10 days of the change in ownership, then the leasing company shall be terminated from participation in the group fund, pursuant to R 408.43g(4).

History: 2006 AACS.

PART 4. MISCELLANEOUS

R 408.44 Attorney fees.

Rule 14. (1) The limitation in this rule as to fees applies to plaintiff's attorneys, including combined charges of attorneys who combine their efforts toward the enforcement or collection of any compensation claim.

(2) In a case tried to completion with proofs closed or compensation voluntarily paid, an attorney, before computing the fee, shall deduct from the accrued compensation the reasonable expenses incurred on plaintiff's behalf.

The fee that the magistrate may approve shall not be more than 30% of the balance.

(3) In a case involving a redemption of liability, the attorney, before computing the fee, shall deduct the reasonable expenses incurred on plaintiff's behalf from the total settlement. The fee that the magistrate may approve is as follows:

(a) Of the first $25,000.00, a fee of not more than 15%.

(b) Of any amount more than $25,000.00, a fee of not more than 10%.

(4) In a case tried to completion with proofs closed but before a final order, after which there is a redemption of liability, the attorney, before computing the fee, shall deduct the reasonable expenses

incurred on plaintiff's behalf from the total settlement. The total settlement in such redemptions shall be deemed to include the gross amounts of any partial payments made under section 862 of the act, if the redemption specifically includes a waiver of the right of reimbursement of such amounts from either the plaintiff or the second injury fund. The fee that the magistrate may approve shall not be more than 20% of the balance.

(5) Reasonable expenses, as used in this rule, include all of the following:

(a) Medical examination fee and witness fee.

(b) Any other medical witness fee, including the cost of a subpoena.

(c) The cost of a court reporter service.

(d) Appeal costs.

(6) Subrules (2) to (4) of this rule apply to a case with an injury date on or after September 1, 1965. The rule as to attorney fees in effect before September 1, 1965, applies to a case with an injury date before September 1, 1965.

(7) In a case dismissed for lack of progress or prosecution or in which the petition for hearing is withdrawn for reasons other than voluntary payment or other meritorious reasons and further action is taken by the same attorney or law firm, the fee that the magistrate may approve in cases specified in subrule (2) of this rule shall be not more than 25% of the balance; in subrule (3) of this rule, of the first $25,000.00, not more than 12-1/2%, and of any amount more than $25,000.00, 10%; in subrule (4) of this rule, the fee shall be not more than 15% of the balance.

(8) A group disability or hospitalization insurance company that enforces an assignment given to it as provided in the act shall pay a part of the fee of the attorney who secured the compensation recovery in the same proportion that the group insurance company payments bear to the total compensation recovery upon which the attorney's fee is based.

(9) In the computation of attorney fees in a case decided by the workers' compensation appellate commission, the fee shall be assessed on not more than 104 weeks of the period the matter was pending before the commission. All other weekly benefits due and owing for the period of appeal shall be fully paid to the plaintiff. The limitation of fee applies only to weekly compensation.

(10) In a case where benefits are being voluntarily paid at time of redemption, and no application for mediation or hearing is pending, not more than 10% attorney fee will be allowed.

History: 1979 AC; 1980 AACS; 1998-2000 AACS.

R 408.45 Medical examination and rehabilitation.

Rule 15. (1) A carrier and the self-insurers' security fund shall report to the bureau, on form 110, report on rehabilitation, 3 months after the date of injury and after each subsequent 4 months, what evaluation and what provision has been made for rehabilitation on all cases for which a final form 701, notice of compensation payments, has not been filed. All reports shall be accompanied by a current medical report. In case of a specific loss where the injured employee has returned to work without rehabilitation before expiration of the specific loss period, a notation of the return to work shall be made on form 110, report on rehabilitation, and thereafter further reports shall not be necessary. Where rehabilitation has been undertaken in the form of favored work or on-the-job training by the employer, the rehabilitation shall be so identified in all reports.

(2) When an employee consents or is ordered by the bureau to submit to a medical examination or rehabilitation or undergoes any medical treatment related to the disability, the carrier shall pay the traveling expenses incidental to such examination, medical treatment, or rehabilitation. The employee shall notify the carrier, in writing, of the mileage involved and other expenses. When an employee is examined at the request of the carrier under the provisions of section 385 of the act, MCL 418.385, the expenses incidental to such examination shall be paid in advance. The traveling expenses shall be those authorized in the state standardized travel regulations, except that when special transportation is medically required, payments shall be made at actual cost. The allowance for other expenses, if any, shall be those allowed by this state. The provisions of this rule do not apply to the first examination requested by the employer or insurer if all of the following conditions exist:

(a) An application for hearing is filed upon which no payment of compensation or medical expense has been made for 1 year before the date of filing.

(b) The employee's home at the time of filing the application for hearing is outside of this state.

(c) The citation to appear for examination is at a time reasonably close to the date of hearing so as to obviate the necessity of an additional trip on the part of the employee to attend the hearing.

(3) Under section 319 of the act, MCL 418.319, the director may, on his or her own motion or upon receipt of

an application from the employee or employer, refer the employee for an evaluation of the need for a rehabilitation program and the kind of rehabilitation program necessary to return the employee to work. If a hearing is requested, then all of the following provisions apply:

(a) When a request for rehabilitation service is made by the employee or employer, then the director or his authorized representative may schedule a hearing.

(b) If the director, on his or her own motion, orders a rehabilitation program, then he or she shall notify both parties and, if requested by either party within 15 days, shall schedule a hearing.

(c) A hearing shall be scheduled within a reasonable time, subject to the availability of the director or his or her representative and the parties involved. A request for a hearing shall, at a minimum, contain all of the following:

(i) A brief statement of the question concerning rehabilitation.

(ii) If requested by the employer, a citation of the specific instances of the employee's failure to cooperate in the rehabilitation program.

(iii) If requested by the employee, the type of program requested and the reason for it.

(d) Unless a request for review by the Michigan compensation appellate commission is filed by a party within 15 days after the order of the director is mailed, the order shall stand as the order of the bureau.

History: 1979 AC; 1980 AACS; 1998-2000 AACS; 2014 MR 15, Eff. August 19, 2014.

R 408.46 Application for silicosis, dust disease, and logging industry compensation fund and second injury fund benefits.

Rule 16. (1) An application for reimbursement of benefits from the silicosis, dust disease and logging industry compensation fund and second injury fund shall be made on form 112 and sent to the principal office of the funds administrator.

(2) A carrier believing that reimbursement may be due from the second injury fund under section 372 of the act shall immediately notify the fund of the potential claim. The fund may then conduct an investigation of the personal injury and shall have reasonable time to schedule medical examinations.

If a petition is filed with the bureau, then the carrier shall add the second injury fund and the fund shall have the same rights as any other party defendant.

The magistrate shall enter an order determining the liability of the carrier and the fund.

(3) If an employee petitions for a hearing under section 356(1) of the act, then the second injury fund shall be deemed a party in interest and shall be named on the petition filed by the employee or added by the carrier when it has knowledge that a claim is being filed under section 356(1) of the act. The fund shall have the same rights as a carrier in the proceedings.

(4) Any stipulated order presented for entry which may affect the amount or duration of benefits or which involves a potential liability on any state fund created under chapter 5 of the act shall be presented to the magistrate for entry only after a party provides 10 days' notice of the date of hearing to all parties affected or potentially affected. A party shall file proof of service on the other parties before the hearing date. The magistrate may, at his or her discretion, require the presentment of proofs in support of the stipulation.

(5) Reimbursement shall be made on a quarterly basis for the second injury fund's portion of the benefits due the employee.

History: 1979 AC; 1984 AACS; 1998-2000 AACS.

R 408.47 Extensions of time granted by the director.

Rule 17. The director or his authorized representative may grant extensions of time in which to comply with any rule as the director deems reasonable.

History: 1979 AC.

R 408.48 Compensation payments; calculation; payment.

Rule 18. (1) Pursuant to section 313(1) of the act, the calculation of federal income tax, federal insurance contribution act tax, and state income tax shall be based on the federal income tax schedule, federal insurance contribution act tax, and state income tax rate in effect on the applicable July 1 for which the after-tax weekly wage is determined. The state law in effect on the applicable July 1 shall be conclusive in the determination of the after-tax weekly wage for that calendar year.

(2) Weekly payments shall be made payable by check and mailed or electronically transferred directly to the injured employee or the injured employee's dependent, pursuant to subrule (3) of this rule. When the claimant is represented by counsel, the accrued compensation shall be made payable by check to the person or persons

entitled to compensation and mailed to the attorney representing the person or persons.

(3) Weekly compensation payments may be made by an electronic transfer when both of the following have occurred:

(a) The claimant consents to and authorizes in writing the use of electronic transfer payments. This authorization shall include acknowledgement by the claimant that any amount received through electronic transfer into the claimant's account or the account of the claimant's dependent at a financial institution may be subject to attachment or garnishment.

(b) The electronic transfer is made by 1 of the following methods:

(i) Direct deposit or electronic transfer to the claimant's account or the account of the claimant's dependent at a financial institution.

(ii) Issuance of a debit card to the claimant or the claimant's dependent provided that the financial institution complies with all of the following:

Allows the claimant to receive immediate payment in full at no charge.

Allows at least 1 additional free transaction per pay period for any amount up to the balance accessible through the card.

(C) Fully and prominently discloses any fees and charges.

(D) Prohibits changes in fees or terms of services, as specified in subrule(3)(b)(ii)(F) of this rule to subrule (3)(b)(ii)(G) of this rule. Any other changes to the fees or terms of service may occur when the claimant has received a written notice of these fees at least 21 days prior to the change and the claimant has consented in writing to the change.

(E) Provides a method for the claimant to make an unlimited number of balance inquiries electronically or by telephone and without charge.

(F) Prohibits a link to any form of credit, including a loan against future payments or a cash advance on future payments.

(G) Ensures that the debit card is negotiable at locations easily and readily accessible to the claimant.

(iii) Any other form of payments approved in advance by the director.

(4) A claimant, at any time, may make a request in writing to the employer to change the method of receiving weekly compensation payments established under this rule. The employer shall take no longer than 1 pay period to implement the change after he or she receives the request and any information necessary to implement the request.

History: 1979 AC; 1985 AACS; 2013 MR 5, Eff. March 4, 2013.

PART 5. REVIEW AND APPEAL

R 408.49 Rescinded.

History: 1979 AC; 1998-2000 AACS.

R 408.50 Rescinded.

History: 1979 AC; 1998-2000 AACS.

R 408.51 Rescinded.

History: 1979 AC; 1998-2000 AACS.

R 408.52 Rescinded.

History: 1979 AC; 1998-2000 AACS.

PART 6. DEFINITIONS

R 408.59 Definitions and use of terms.

Rule 29. (1) As used in these rules:

(a) "Act" means 1969 PA 317, MCL 418.101 to 418.941.

(b) "Debit card" means a stored value card issued by a federally insured financial institution that provides a claimant or the dependent of a claimant immediate access for withdrawal or transfer of the claimant's weekly compensation payments through a network of automatic teller machines. "Debit card" includes a card commonly known as a payroll debit card, payroll card, or paycard.

(2) Unless the context of the rule indicates otherwise, the terms "agency" and "director" shall have equivalent

meaning.
(3) Terms defined in the act have the same meanings when used in these rules.
History: 1980 AACS; 1984 AACS; 2013 MR 5, Eff. March 4, 2013.

SKI AREA SAFETY BOARD

GENERAL RULES

R 408.61 Rescinded.
History: 1979 AC; 1989 AACS; 1993 AACS; 1998-2000 AACS; 2007 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.62
Source: 2008 AACS.

R 408.65
Source: 2007 AACS.

R 408.66
Source: 1997 AACS.

R 408.67 rescinded.
History: 1979 AC; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.68
Source: 1997 AACS.

R 408.69
Source: 1997 AACS.

R 408.70 Rescinded.
History: 1979 AC; 1989 AACS; 1998-2000 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.71
Source: 1997 AACS.

R 408.75 Rescinded.
History: 1979 AC; 1989 AACS; 1993 AACS; 1998-2000 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.76 Rescinded.
History: 1979 AC; 1989 AACS; 1998-2000 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.77
Source: 1998-2000 AACS.

R 408.78
Source: 1998-2000 AACS.

R 408.79 Rescinded.
History: 1979 AC; 1989 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.80
Source: 1998-2000 AACS.

R 408.81

Source: 2012 AACS.

R 408.82
Source: 1998-2000 AACS.

R 408.83
Source: 1989 AACS.

R 408.90 Ski lift accident or breakdown; report; securing scene of accident.
Rule 30. (1) An operator shall immediately report to the department an accident involving a ski lift that results in serious injury to, or the death of, a person, including an employee, or a breakdown resulting from the structural, mechanical, electrical, or operational failure of a ski lift.
(2) If a ski lift is removed from service by the director, the director shall order an immediate investigation by the department.
History: 1979 AC; 1989 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.91
Source: 1997 AACS.

R 408.92
Source: 1989 AACS.

R 408.94
Source: 1979 AC.

R 408.95
Source: 1979 AC.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF SAFETY AND REGULATION

OCCUPATIONAL HEALTH STANDARDS COMMISSION

MINE SAFETY

R 408.121
Source: 1998-2000 AACS.

R 408.122
Source: 1998-2000 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

OCCUPATIONAL HEALTH STANDARDS COMMISSION

ABANDONED AND IDLE MINES

R 408.171
Source: 1998-2000 AACS.

R 408.172
Source: 1998-2000 AACS.

R 408.174
Source: 1998-2000 AACS.

R 480.175
Source: 1998-2000 AACS.

R 408.176
Source: 1998-2000 AACS.

R 408.177
Source: 1998-2000 AACS.

R 408.178
Source: 1998-2000 AACS.

R 408.179
Source: 1998-2000 AACS.

R 408.180
Source: 1998-2000 AACS.

BUREAU OF SAFETY AND REGULATION

EMPLOYMENT OF MINORS

R 408.201
Source: 1997 AACS.

R 408.202
Source: 1997 AACS.

R 408.203
Source: 1997 AACS.

R 408.204
Source: 1997 AACS.

R 408.205
Source: 1997 AACS.

R 408.206
Source: 1997 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF SAFETY AND REGULATION

OCCUPATIONAL HEALTH STANDARDS COMMISSION

OXYGEN SUPPLY EQUIPMENT

R 408.491
Source: 1998-2000 AACS.

R 408.492
Source: 1998-2000 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

OCCUPATIONAL HEALTH STANDARDS COMMISSION

HEARINGS

R 408.501
Source: 1998-2000 AACS.

R 408.502
Source: 1998-2000 AACS.

R 408.503
Source: 1998-2000 AACS.

R 408.504
Source: 1998-2000 AACS.

R 408.505
Source: 1998-2000 AACS.

R 408.506
Source: 1998-2000 AACS.

BUREAU OF EMPLOYMENT STANDARDS

GENERAL RULES

PART 1. GENERAL PROVISIONS

R 408.701
Source: 1998-2000 AACS.

R 408.702
Source: 1998-2000 AACS.

R 408.703
Source: 1998-2000 AACS.

R 408.704
Source: 1998-2000 AACS.

R 408.705
Source: 1998-2000 AACS.

R 408.706
Source: 1998-2000 AACS.

PART 2. OVERTIME COMPENSATION

R 408.721
Source: 1998-2000 AACS.

R 408.722
Source: 1998-2000 AACS.

R 408.723

Source: 1998-2000 AACS.

R 408.724
Source: 1998-2000 AACS.

R 408.725
Source: 1998-2000 AACS.

R 408.726
Source: 1998-2000 AACS.

R 408.727
Source: 1998-2000 AACS.

R 408.728
Source: 1998-2000 AACS.

R 408.729
Source: 1998-2000 AACS.

R 408.730
Source: 1998-2000 AACS.

R 408.731
Source: 1997 AACS.

R 408.732
Source: 1997 AACS.

R 408.733
Source: 1998-2000 AACS.

R 408.734
Source: 1998-2000 AACS.

R 408.735
Source: 1998-2000 AACS.

DIRECTOR OF LABOR AND WAGE DEVIATION BOARD

CERTIFICATES FOR SHELTERED WORKSHOPS AND EMPLOYMENT OF HANDICAPPED WORKERS

R 408.751
Source: 1997 AACS.

R 408.752
Source: 1997 AACS.

R 408.753
Source: 1997 AACS.

R 408.754
Source: 1997 AACS.

R 408.755
Source: 1997 AACS.

R 408.756
Source: 1997 AACS.

R 408.757
Source: 1997 AACS.

R 408.758
Source: 1997 AACS.

R 408.759
Source: 1997 AACS.

R 408.760
Source: 1997 AACS.

R 408.761
Source: 1997 AACS.

R 408.762
Source: 1997 AACS.

R 408.763
Source: 1997 AACS.

R 408.764
Source: 1997 AACS.

BUREAU OF EMPLOYMENT STANDARDS

WAGE DEVIATION

R 408.771
Source: 1983 AACS.

R 408.772
Source: 1983 AACS.

R 408.773
Source: 1983 AACS.

R 408.774
Source: 1983 AACS.

R 408.775
Source: 1983 AACS.

R 408.776
Source: 1983 AACS.

R 408.777
Source: 1983 AACS.

R 408.778
Source: 1983 AACS.

R 408.779
Source: 1983 AACS.

R 408.780
Source: 1983 AACS.

R 408.781
Source: 1983 AACS.

R 408.782
Source: 1983 AACS.

R 408.783
Source: 1983 AACS.

R 408.784
Source: 1983 AACS.

R 408.785
Source: 1983 AACS.

R 408.786
Source: 1983 AACS.

R 408.787
Source: 1983 AACS.

DIRECTOR'S OFFICE

CARNIVAL AND AMUSEMENT RIDES

PART 1. GENERAL PROVISIONS

R 408.801 Rescinded.
History: 1979 AC; 1983 AACS; 2003 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.802
Source: 2007 AACS.

R 408.803 Definitions.
Rule 3. As used in these rules:
(a) "Aerial passenger tramway" means any of the following devices used to transport passengers:
(i) "Single and double reversible aerial tramways" which means devices in which passengers are carried in 1 or more enclosed cars that reciprocate between terminals.
(ii) "Chair lift, gondola lift, and monorail" means a device in which passengers are carried on chairs, cars, or in gondola cabs attached to and suspended from a moving wire rope or attached to a moving wire rope or chain and supported on a standing wire rope, rail, or other structure.
(b) "Amusement park" means a tract or area used principally as a permanent location for carnival-amusement rides.
(c) "Major breakdown" means a stoppage of operation from whatever cause resulting in damage, failure, or breakage of a structural or stress-bearing part of a ride.
History: 1979 AC; 1983 AACS; 2003 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.805
Source: 1997 AACS.

R 408.806
History: 1979 AC; 1983 AACS; 2003 AACS; 2007 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.807

Source: 1997 AACS.

R 408.809
Source: 1997 AACS.

R 408.811
Source: 1997 AACS.

R 408.813 Rescinded.
History: 1979 AC; 1983 AACS; 2003 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.814
Source: 2003 AACS.

R 408.815
Source: 1997 AACS.

R 408.816
Source: 1983 AACS.

R 408.817
Source: 1996 AACS.

R 408.819 Rescinded.
History: 1979 AC; 1983 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

PART 2. DESIGN, CONSTRUCTION, AND OPERATION

R 408.821 Rescinded.
History: 1979 AC; 1983 AACS; 2003 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.822
Source: 1997 AACS.

R 408.824 Rescinded.
History: 1979 AC; 1983 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.825 Rescinded.
History: 1979 AC; 1983 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.826 Rescinded.
History: 1979 AC; 1983 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.827 Rescinded.
History: 1979 AC; 1983 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.828
Source: 1983 AACS.

R 408.829
Source: 1983 AACS.

R 408.830 Rescinded.
History: 1979 AC; 1983 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.831
Source: 1983 AACS.

R 408.832
Source: 1983 AACS.

R 408.833
Source: 2007 AACS.

R 408.834
Source: 2003 AACS.

R 408.835
Source: 1983 AACS.

R 408.837
Source: 2003 AACS.

R 408.838
Source: 2003 AACS.

R 408.839 Gravity rides.
Rule 39. A ride which is installed on an inclined surface, which depends on gravity for its operation to convey a passenger from the top of the incline to the bottom, and which conveys a passenger in or on a carrier, tube, bag, bathing suit, or clothes shall, in addition to other applicable rules, be in compliance with all of the following provisions:
(a) The frequency of departure of carriers from the loading area shall be controlled by a ride operator. The minimum distance or time between departures shall be determined by the director.
(b) The ride shall have an operator located at the loading area and an attendant at the unloading area.
(c) If the entire ride is not visible to the operator, then additional persons shall be located at other stations along the ride to assure complete surveillance of the entire ride. Two-way communication shall be provided between the operator and other attendants of the ride.
History: 1983 AACS; 1996 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.839a
Source: 2003 AACS.

R 408.841
Source: 2003 AACS.

R 408.843
Source: 2003 AACS.

R 408.844
Source: 2003 AACS.

R 408.846
Source: 1983 AACS.

R 408.848 Control and operation.
Rule 48. (1) A ride shall be operated by a person who is trained to operate the ride. The operator of a ride designed for the exclusive use of children and the operator of other rides for which the operator does not have mechanical or electrical controls shall be not less than 16 years of age. For all other rides, an operator shall be not less than 18 years of age.
(2) An operator shall have knowledge of the use and function of normal operating controls, signal systems, and safety devices applicable to the ride and of the proper use, function, capacity, and speed of the particular ride at all times that it is being operated. When the ride is shut down, provision shall be made to prevent the ride from being operated by the public. A person other than a trained operator shall not be permitted to handle the controls of a ride during normal operation, except where the ride is designed to be controlled by the passenger.
History: 1979 AC; 1983 AACS; 1996 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.849 Rescinded.
History: 1979 AC; 1983 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.851 Rescinded.
History: 1979 AC; 1983 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.852 Rescinded.
History: 1979 AC; 1983 AACS; 2003 AACS; 2007 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.854
Source: 1983 AACS.
R 408.856 Rescinded.
History: 1979 AC; 1983 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

PART 3. PROCEDURES

R 408.871 Rescinded.
History: 1979 AC; 1983 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.872
Source: 1983 AACS.

R 408.873 Inspection and authorization to operate individual rides.
Rule 73. No person shall operate a ride unless it has been inspected and an authorization to operate has been issued to that person by the department. However, a ride inspected and covered by a valid authorization to operate in the preceding year may continue to operate until further inspected**.**
History: 1979 AC; 1983 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.874
Source: 1983 AACS.

R 408.876
Source: 2003 AACS.

R 408.877 Rescinded.
History: 1979 AC; 2003 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.881 Rescinded.
History: 1979 AC; 2003 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.882 Rescinded.
History: 1979 AC; 2003 AACS; 2007 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.883 Rescinded.
History: 1979 AC; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.885 Rescinded.
History: 1979 AC; 2003 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.886 Rescinded.
History: 1979 AC; 2003 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.887 Rescinded.
History: 1979 AC; 2003 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.891 Rescinded.
History: 1979 AC; 2003 AACS; 2007 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

PART 4. PARTICIPATORY RIDES--GO-KARTS

R 408.891a Rescinded.
History: 1998-2000 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.893 Rescinded.
History: 1998-2000 AACS; 2005 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.895 Rescinded.
History: 1998-2000 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

R 408.897 Remote idle system.
Rule 97. (1) Effective May 1, 2000, each go-kart shall be equipped with a receiver for a remote idle system. A go-kart ride attendant shall control the remote idle system.
(2) If the remote idle system becomes inoperable and requires repair, then the track owner-operator shall make a written request to operate the go-kart rides until the repair is completed. The duration of the repair period shall not be more than 30 days.
History: 1998-2000 AACS; 2014 MR 19, Eff. Oct. 16, 2014.

PART 4. PARTICIPATORY RIDES—GO-KARTS

R 408.891
Source: 2007 AACS.

R 408.891a
Source: 1998-2000 AACS.

R 408.893
Source: 1998-2000 AACS.

R 408.895
Source: 1998-2000 AACS.

R 408.897
Source: 1998-2000 AACS.

PART 5. SIGNS AND SAFETY WARNINGS

R 408.898
Source: 2003 AACS.

PART 39. HEARING PROCEDURES

R 408.3901
Source: 1979 AC.

R 408.3902
Source: 1979 AC.

R 408.3903
Source: 1979 AC.

R 408.3904
Source: 1979 AC.

R 408.3905
Source: 1979 AC.

R 408.3906
Source: 1979 AC.

R 408.3907
Source: 1979 AC.

R 408.3911
Source: 1979 AC.

BOILERS

PART 1. GENERAL PROVISIONS

R 408.4001
Source: 1979 AC.

R 408.4011
Source: 1998-2000 AACS.

R 408.4012
Source: 2013 AACS.

R 408.4013
Source: 1998-2000 AACS.

R 408.4015
Source: 1998-2000 AACS.

R 408.4017
Source: 1998-2000 AACS.

R 408.4019
Source: 1998-2000 AACS.

R 408.4021
Source: 1998-2000 AACS.

R 408.4023
Source: 1998-2000 AACS.

R 408.4024
Source: 2013 AACS.

R 408.4025
Source: 2013 AACS.

R 408.4026
Source: 2009 AACS.

R 408.4027
Source: 2013 AACS.

R 408.4028
Source: 2006 AACS.

R 408.4029
Source: 1979 AC.

R 408.4031
Source: 2013 AACS.

R 408.4032
Source: 2013 AACS.

R 408.4033
Source: 2013 AACS.

R 408.4034
Source: 2013 AACS.

R 408.4035
Source: 2013 AACS.

R 408.4036
Source: 2013 AACS.

R 408.4038
Source: 2013 AACS.

R 408.4039
Source: 2006 AACS.

R 408.4043
Source: 1997 AACS.

R 408.4045
Source: 2006 AACS.

R 408.4047
Source: 2013 AACS.

R 408.4049
Source: 1981 AACS.

R 408.4051
Source: 1981 AACS.

R 408.4052
Source: 2002 AACS.

R 408.4053
Source: 1997 AACS.

R 408.4055
Source: 2013 AACS.

R 408.4057
Source: 2013 AACS.

R 408.4058
Source: 2013 AACS.

R 408.4059
Source: 2006 AACS.

R 408.4061
Source: 1997 AACS.

R 408.4063
Source: 1997 AACS.

R 408.4065
Source: 2013 AACS.

R 408.4067
Source: 2013 AACS.

R 408.4069
Source: 2013 AACS.

R 408.4071
Source: 1995 AACS.

R 408.4073
Source: 2006 AACS.

R 408.4075
Source: 1995 AACS.

R 408.4077
Source: 2002 AACS.

R 408.4079
Source: 1981 AACS.

R 408.4081
Source: 1995 AACS.

R 408.4087
Source: 2013 AACS.

R 408.4089
Source: 1979 AC.

R 408.4091
Source: 2006 AACS.

R 408.4093
Source: 2002 AACS.

R 408.4095
Source: 1997 AACS.

R 408.4096
Source: 2006 AACS.

R 408.4099
Source: 2002 AACS.

R 408.4101

Source: 2002 AACS.

R 408.4103
Source: 2006 AACS.

R 408.4105
Source: 1981 AACS.

R 408.4107
Source: 2013 AACS.

R 408.4109
Source: 2009 AACS.

R 408.4110
Source: 1997 AACS.

R 408.4111
Source: 2013 AACS.

R 408.4113
Source: 1997 AACS.

R 408.4114
Source: 2013 AACS.

R 408.4115
Source: 2002 AACS.

R 408.4116
Source: 2002 AACS.

R 408.4017
Source: 1979 AC.

R 408.4119
Source: 2006 AACS.

R 408.4120
Source: 2006 AACS.

R 408.4121
Source: 2009 AACS.

R 408.4122
Source: 2002 AACS.

R 408.4123
Source: 1981 AACS.

R 408.4124
Source: 2002 AACS.

R 408.4125
Source: 2013 AACS.

R 408.4127
Source: 2009 AACS.

R 408.4129
Source: 2013 AACS.

R 408.4131
Source: 1979 AC.

R 408.4133
Source: 2013 AACS.

R 408.4139
Source: 2006 AACS.

R 408.4143
Source: 1981 AACS.

R 408.4149
Source: 2013 AACS.

R 408.4151
Source: 1979 AC.

R 408.4153
Source: 2013 AACS.

R 408.4155
Source: 1979 AC.

R 408.4157
Source: 2013 AACS.

R 408.4159
Source: 1997 AACS.

R 408.4161
Source: 1979 AC.

R 408.4163
Source: 2006 AACS.

R 408.4165
Source: 1979 AC.

R 408.4167
Source: 1979 AC.

R 408.4169
Source: 2013 AACS.

R 408.4171
Source: 2013 AACS.

R 408.4172
Source: 2013 AACS.

R 408.4173
Source: 2002 AACS.

R 408.4174
Source: 1997 AACS.

R 408.4175
Source: 2002 AACS.

R 408.4177
Source: 2006 AACS.

R 408.4179
Source: 2002 AACS.

R 408.4181
Source: 1997 AACS.

R 408.4182
Source: 2013 AACS.

R 408.4183
Source: 1997 AACS.

R 408.4184
Source: 1997 AACS.

R 408.4185
Source: 1995 AACS.

R 408.4186
Source: 2009 AACS.

R 408.4187
Source: 2002 AACS.

R 408.4189
Source: 2002 AACS.

R 408.4191
Source: 1997 AACS.

R 408.4193
Source: 2013 AACS.

R 408.4195
Source: 2009 AACS.

R 408.4197
Source: 2013 AACS.

PART 2. EXISTING INSTALLATIONS
STEAM BOILERS

R 408.4201
Source: 1979 AC.

R 408.4202
Source: 1979 AC.

R 408.4203
Source: 1979 AC.

R 408.4205
Source: 1979 AC.

R 408.4206
Source: 1979 AC.

R 408.4207
Source: 1979 AC.

R 408.4208
Source: 1979 AC.

R 408.4210
Source: 1979 AC.

R 408.4212
Source: 1979 AC.

R 408.4214
Source: 1995 AACS.

R 408.4215
Source: 1979 AC.

R 408.4216
Source: 1979 AC.

R 408.4217
Source: 1979 AC.

R 408.4218
Source: 1979 AC.

R 408.4219
Source: 1979 AC.

R 408.4220
Source: 1979 AC.

R 408.4222
Source: 1979 AC.

R 408.4223
Source: 2013 AACS.

R 408.4225
Source: 1979 AC.

R 408.4230
Source: 1979 AC.

R 408.4232
Source: 1979 AC.

R 408.4235
Source: 1979 AC.

R 408.4236
Source: 1979 AC.

R 408.4240
Source: 1979 AC.

R 408.4241
Source: 1979 AC.

R 408.4242
Source: 1979 AC.

R 408.4244
Source: 1979 AC.

R 408.4246
Source: 1979 AC.

R 408.4251
Source: 1979 AC.

R 408.4253
Source: 1979 AC.

R 408.4255
Source: 1979 AC.

R 408.4257
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R 408.4258
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R 408.4259
Source: 1979 AC.

R 408.4260
Source: 1979 AC.

R 408.4263
Source: 1979 AC.

R 408.4265
Source: 1979 AC.

R 408.4267
Source: 1979 AC.

R 408.4268
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R 408.4269
Source: 1979 AC.

R 408.4270
Source: 1985 AACS.

R 408.4274
Source: 1979 AC.

R 408.4275
Source: 1997 AACS.

R 408.4277
Source: 1979 AC.

R 408.4278
Source: 1979 AC.

R 408.4280
Source: 1979 AC.

R 408.4281
Source: 1979 AC.

R 408.4283
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R 408.4284
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R 408.4286
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R 408.4287
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R 408.4288
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R 408.4292
Source: 1979 AC.

R 408.4293
Source: 1979 AC.

R 408.4294
Source: 1979 AC.

R 408.4296
Source: 1979 AC.

R 408.4298
Source: 1979 AC.

PART 3. INSPECTION AND TESTING FOR NEW CONSTRUCTION; INSTALLATION AND ALTERATION OF BOILERS AND PIPING

R 408.4301
Source: 2002 AACS.

R 408.4302

Source: 2006 AACS.

R 408.4303
Source: 2006 AACS.

R 408.4304
Source: 2006 AACS.

R 408.4306
Source: 1997 AACS.

R 408.4309
Source: 1997 AACS.

R 408.4312
Source: 1997 AACS.

R 408.4315
Source: 1997 AACS.

R 408.4318
Source: 1997 AACS.

R 408.4321
Source: 1997 AACS.

R 408.4324
Source: 1997 AACS.

R 408.4327
Source: 1997 AACS.

R 408.4330
Source: 1997 AACS.

R 408.4333
Source: 1997 AACS.

R 408.4336
Source: 1997 AACS.

R 408.4339
Source: 1997 AACS.

R 408.4342
Source: 1997 AACS.

R 408.4345
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R 408.4348
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R 408.4351
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R 408.4354
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R 408.4357
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R 408.4360
Source: 1997 AACS.

R 408.4363
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R 408.4366
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R 408.4369
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R 408.4372
Source: 1997 AACS.

R 408.4375
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R 408.4378
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R 408.4381
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R 408.4384
Source: 1997 AACS.

R 408.4387
Source: 1997 AACS.

R 408.4390
Source: 1997 AACS.

R 408.4393
Source: 1997 AACS.

R 408.4396
Source: 1997 AACS.

PART 4. INSPECTION OF FUSION WELDING

R 408.4401
Source: 1997 AACS.

R 408.4402
Source: 1997 AACS.

R 408.4405
Source: 1997 AACS.

R 408.4407
Source: 1997 AACS.

R 408.4409
Source: 1997 AACS.

R 408.4410
Source: 1997 AACS.

R 408.4412
Source: 1997 AACS.

R 408.4414
Source: 1997 AACS.

R 408.4416
Source: 1997 AACS.

R 408.4418
Source: 1997 AACS.

R 408.4420
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R 408.4422
Source: 1997 AACS.

R 408.4424
Source: 1997 AACS.

R 408.4426
Source: 1997 AACS.

R 408.4428
Source: 1997 AACS.

R 408.4430
Source: 1997 AACS.

R 408.4432
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R 408.4434
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R 408.4436
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R 408.4438
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R 408.4440
Source: 1997 AACS.

R 408.4442
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R 408.4444
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R 408.4446
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R 408.4448

Source: 1997 AACS.

R 408.4450
Source: 1997 AACS.

R 408.4452
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R 408.4454
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R 408.4456
Source: 1997 AACS.

R 408.4458
Source: 1997 AACS.

R 408.4460
Source: 1997 AACS.

R 408.4462
Source: 1997 AACS.

R 408.4466
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R 408.4468
Source: 1997 AACS.

R 408.4470
Source: 1997 AACS.

R 408.4472
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R 408.4474
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R 408.4476
Source: 1997 AACS.

R 408.4478
Source: 1997 AACS.

R 408.4480
Source: 1997 AACS.

R 408.4482
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R 408.4484
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R 408.4486
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R 408.4488
Source: 1997 AACS.

R 408.4489
Source: 1997 AACS.

R 408.4490
Source: 1997 AACS.

R 408.4491
Source: 1997 AACS.

R 408.4492
Source: 1997 AACS.

R 408.4493
Source: 1997 AACS.

R 408.4494
Source: 1997 AACS.

R 408.4495
Source: 1997 AACS.

R 408.4496
Source: 1997 AACS.

R 408.4497
Source: 1997 AACS.

R 408.4498
Source: 1997 AACS.

R 408.4499
Source: 1997 AACS.

PART 5. INSERVICE INSPECTION OF BOILERS

R 408.4501
Source: 2002 AACS.

R 408.4502
Source: 2001 AACS.

R 408.4503
Source: 2013 AACS.

R 408.4505
Source: 1998-2000 AACS.

R 408.4507
Source: 2009 AACS.

R 408.4510
Source: 2006 AACS.

R 408.4511
Source: 2013 AACS.

R 408.4512

Source: 2006 AACS.

R 408.4513
Source: 1998-2000 AACS.

R 408.4515
Source: 1998-2000 AACS.

R 408.4517
Source: 1998-2000 AACS.

R 408.4518
Source: 2006 AACS.

R 408.4520
Source: 2013 AACS.

R 408.4522
Source: 1995 AACS.

R 408.4524
Source: 1998-2000 AACS.

R 408.4526
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R 408.4529
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R 408.4531
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R 408.4538
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R 408.4542
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R 408.4559
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R 408.4561
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R 408.4566
Source: 2013 AACS.

R 408.4569
Source: 1998-2000 AACS.

R 408.4570
Source: 2013 AACe.

R 408.4572
Source: 1998-2000 AACS.

R 408.4575
Source: 2013 AACS.

R 408.4578
Source: 1998-2000 AACS.

R 408.4580
Source: 1998-2000 AACS.

R 408.4581
Source: 1979 AC.

R 408.4583
Source: 1998-2000 AACS.

R 408.4586
Source: 1998-2000 AACS.

R 408.4590
Source: 1998-2000 AACS.

PART 6. REPAIR OF BOILERS
SCOPE OF RULES FOR REPAIR BY RIVETING

R 408.4601
Source: 2006 AACS.

R 408.4602
Source: 2006 AACS.

R 408.4603
Source: 2006 AACS.

R 408.4604

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R 408.4605
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R 408.4661
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R 408.4680
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R 408.4682

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R 408.4683
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R 408.4684
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R 408.4688
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R 408.4689
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R 408.4693
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R 408.4694
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R 408.4695
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R 408.4696
Source: 1997 AACS.

R 408.4697
Source: 1998-2000 AACS.

PART 7. BOILER BLOWOFF SYSTEMS

R 408.4701
Source: 2013 AACS.

R 408.4704
Source: 2006 AACS.

R 408.4707
Source: 2006 AACS.

R 408.4711
Source: 2006 AACS.

R 408.4715
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R 408.4719
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R 408.4723
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R 408.4743
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R 408.4750
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R 408.4756
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R 408.4762
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R 408.4768
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R 408.4774
Source: 1997 AACS.

R 408.4780
Source: 1997 AACS.

R 408.4786
Source: 1997 AACS.

R 408.4792
Source: 1997 AACS.

R 408.4798
Source: 1997 AACS.

PART 8. CONTROLS

R 408.4801
Source: 2006 AACS.

FUEL CUTOFFS AND FEEDWATER REGULATORS

R 408.4851
Source: 2006 AACS.

R 408.4853
Source: 2006 AACS.

R 408.4856
Source: 2006 AACS.

R 408.4857
Source: 1998-2000 AACS.

R 408.4859
Source: 1997 AACS.

R 408.4861
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R 408.4879
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R 408.4882
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R 408.4885
Source: 1997 AACS.

R 408.4888
Source: 1997 AACS.

R 408.4890
Source: 1997 AACS.

R 408.4893
Source: 2006 AACS.

PART 9. LOW-PRESSURE SIDE OF REDUCING VALVES

R 408.4901
Source: 1997 AACS.

R 408.4910
Source: 1997 AACS.

R 408.4920
Source: 1997 AACS.

R 408.4930
Source: 1997 AACS.

R 408.4940
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R 408.4950
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R 408.4960
Source: 1997 AACS.

R 408.4970
Source: 1997 AACS.

R 408.4980
Source: 1997 AACS.

R 408.4990
Source: 1997 AACS.

PART 15. HEARINGS

R 408.5501
Source: 1995 AACS.

R 408.5502
Source: 1997 AACS.

R 408.5503
Source: 1997 AACS.

R 408.5504
Source: 1997 AACS.

R 408.5505
Source: 1997 AACS.

R 408.5506
Source: 1997 AACS.

R 408.5507
Source: 1997 AACS.

PART 16. MICHIGAN BOILER OPERATORS AND STATIONARY ENGINEERS QUALIFICATION AND VOLUNTARY REGISTRATION PROGRAM RULES

R 408.5601
Source: 2010 AACS.

R 408.5602
Source: 2010 AACS.

R 408.5603
Source: 2010 AACS.

R 408.5604
Source: 2010 AACS.

R 408.5605
Source: 2013 AACS.

R 408.5606
Source: 2010 AACS.

R 408.5607
Source: 2010 AACS.

R 408.5608
Source: 2010 AACS.

R 408.5609
Source: 2010 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF SAFETY AND REGULATION

OCCUPATIONAL SAFETY STANDARDS COMMISSION

GENERAL RULES

R 408.6171
Source: 1998-2000 AACS.

BUREAU OF EMPLOYMENT STANDARDS

YOUTH EMPLOYMENT STANDARDS

PART 1. GENERAL PROVISIONS

R 408.6199
Source: 1988 AACS.

PART 2. HAZARDOUS OCCUPATIONS IN GENERAL EMPLOYMENT

R 408.6201
Source: 1988 AACS.

R 408.6202
Source: 2003 AACS.

R 408.6203
Source: 2006 AACS.

R 408.6204
Source: 1988 AACS.

R 408.6205
Source: 1988 AACS.

R 408.6206
Source: 2006 AACS.

R 408.6207
Source: 1988 AACS.

R 408.6208
Source: 2006 AACS.

R 408.6209
Source: 1988 AACS.

PART 3. DEVIATIONS FROM ESTABLISHED STANDARDS OR FROM LEGAL HOURS OF EMPLOYMENT FOR 16- AND 17-YEAR-OLD MINORS

R 408.6301
Source: 1988 AACS.

R 408.6302 Application for deviation from legal hours of employment.
Rule 302. (1) An employer seeking approval to employ minors age 16 and older beyond the hours prescribed in the act shall file an application for a deviation from the legal hours of employment with the department.
(2) An application for a deviation shall include all of the following information:
(a) The name and address of the employer.
(b) The name and title of the person filing the application.
(c) An indication of the work schedule for hours to be worked before 6 a.m. and after 10:30 p.m. when school is in session and before 6 a.m. and after 11:30 p.m. when school is not in session.
(d) The address where the work is to be performed.
(e) A statement of the type of business.
(f) Verification that all of the following shall be maintained by the employer:
(i) Written permission of the parent or guardian for the minor to work the hours requested.
(ii) Records certifying that the work week does not exceed 24 hours if the minor is a student in school and school is in session.
History: 1988 AACS; 2003 AACS; 2006 AACS; 2015 MR 23, Eff. Dec. 12, 2014.

R 408.6303
Source: 2006 AACS.

R 408.6304
Source: 2003 AACS.

R 408.6305
Source: 1988 AACS.

R 408.6306
Source: 1988 AACS.

R 408.6307
Source: 1988 AACS.

R 408.6308
Source: 1988 AACS.

R 408.6309
Source: 2006 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

ELEVATORS

CHAPTER 1. GENERAL PROVISIONS

R 408.7001 Scope.
Rule 1. These rules establish administrative and operational procedures for implementation of the act and shall be known as the Michigan elevator rules. The rules establish, for protection of the general public, minimum safety requirements for inspection, construction, installation, alteration, maintenance, repair, and operation of elevators.
History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7002 Definitions.
Rule 2. (1) As used in these rules:
(a) "Act" means elevator safety board, 1967 PA 227, MCL 408.801to 408.824.
(b) "Belt manlift" means a power-driven endless belt which has steps and handholds and which is used to transport persons in a vertical direction through successive floors or levels of a building or structure.
(c) "Department" means the department of licensing and regulatory affairs.
(d) "Electrical-powered, 1-man elevator" means an elevator that has a car platform area of not more than 5 square feet, a rated load of not more than 300 pounds, and a rated speed of not more than 100 feet per minute. It is for the exclusive use of certain designated operating and maintenance employees and is installed in any of the following structures:
(i) A grain or feed mill.
(ii) A chemical or alcohol distillery.
(iii) A cement storage tower.
(iv) A radio tower.
(v) A similar structure that is not accessible to the general public.
(e) "Examination" means a survey of the design and construction of elevators or elevator equipment by a dealer in elevators or elevator equipment or an approved insurance company.
(f) "Hand-powered, 1-man elevator" means an elevator which has a car platform area of not more than 5 square feet, which has a rated load of not more than 300 pounds, and which is operated from the car only by pulling on a stationary rope that is located in the hoistway and passing through or adjacent to the car platform. The elevator is for the exclusive use of certain designated operating and maintenance employees and is installed in a grain or feed mill or a similar structure that is not accessible to the general public.
(g) "Inspection" means the official determination by a general inspector of the condition of all parts of equipment on which the safe operation of an elevator depends.
(h) "Private residence elevator" means any elevating device installed in or at a private residence or installed in a building as a means of access to a private residence within such building, provided the elevator is installed so that it is not accessible to the general public or to other occupants in the building. The use is restricted to the owner and the owner's immediate family and nonpaying guests. All other elevating device installations shall be classified as commercial.
(i) "Private residential incline elevator" means a private residence inclined elevator for use on a property of a private residence or homeowners' association in accordance with the act.
(j) "Special elevating device" includes other lifting or lowering apparatus which is guided as provided in section 3 of the act.
(k) "Temporary inspection" means the inspection of a permanent elevator that is to be used on a temporary basis.
(2) Terms defined in the act have the same meanings when used in these rules.
History: 2003 AACS; 2005 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7003 Applicability of national standards.
Rule 3. The following standards are adopted by reference.
(a) The following standards are available from the American Society of Mechanical Engineers (ASME), 22 Law Drive, Box 2900, Fairfield, New Jersey 07007-2900, at a cost as of the time of adoption of these rules, as stated in this subrule:
(i) ASME A17.1-2010 safety code for elevators and escalators, except for sections, 2.5.1.5.3, 2.8.3.3.2, 2.8.6, 2.11.1.3, 2.11.1.4, 2.11.7.2, 2.11.7.2.1, 2.11.7.2.2, 2.11.7.2.3, 2.11.7.2.4, 2.11.7.2.5, 2.14.2.2(f), 2.14.2.6, 2.14.5.8.2, 2.16.5.1.3, 2.22.2, 3.18.3.8.3, 3.19.5.2, 3.22.1.6, 5.3.1.1.1, 5.3.1.1.2, 5.3.1.2.1, 5.3.1.14.3, 5.4.10.2, 8.6.5.8, 8.6.11.5 to 8.6.11.5.6, 8.10.1.1.3, 8.11.1.1, 8.11.1.1.1, 8.11.1.1.2. Cost $310.00.
(ii) ASME A17.2-2012 guide for inspection of elevators, escalators, and moving walks. Cost $180.00.
(iii) ASME A17.6-2010 standard for elevator suspension, compensation, and governor systems. Cost $90.00.
(iv) ASME A17.7-2007 performance-based safety code for elevators and escalators, except for where the Michigan elevator rules make an exception to, addition to, or an amendment of, an ASME A17.1/CA B44 code section the Michigan elevator rules shall govern over the corresponding section in ASME A17.7/CSA B44.7 and must obtain department approval. Cost $155.00.
(v) ASME A18.1-2011 safety code standard for platform lifts and stairway chairlifts, except for sections 2.1.2 to 2.1.2.8, 2.1.3 to 2.1.3.10, 3.10.2 to 3.10.2.4, 10.1.1, 10.1.2 to 10.1.2.3, 10.1.3.3, 10.1.4, and 10.2.1. Cost $90.00.
(vi) ASME A90.1-2009 safety standard for belt manlifts. Cost $59.00.
(b) ANSI A10.4-2007, the American national standards institute (ANSI), safety requirements for personnel hoist and employee elevators for construction and demolition and operations, except for sections 24.1.2.1 and 26.4.8.1, is available from ANSI at 1430 Broadway, New York, New York, 10018. Cost $74.00.
(c) The following standards are available from American Society for Testing and Materials, (ASTM), 100 Bar Harbor Drive, 2 Conshohocken, PA 19428-2959, at a cost as of the time of adoption of these rules, as stated in this subrule:
(i) ASTM D 2667-2008, 'Standard test method for biodegradability of alkylbenzene sulfonates'. Cost $47.00.
(ii) ASTM E 648-2010, standard test method for critical radiant flux of floor-covering systems using a radiant heat energy source. Cost $47.00.
(ii) ASTM E 648-2010, standard test method for critical radiant flux of floor-covering systems using a radiant heat energy source. Cost $47.00.
(iii) ASTM F 714-2012, standard specification for polyethylene (PE) plastic pipe (SDR-PR) based on outside diameter'. Cost $47.00.
(d) The standards adopted in this subrule are also available for inspection at the Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes, 2501 Woodlake Circle, Okemos, Michigan 48864. Copies may be obtained from the bureau at the cost of the individual codes as noted in this subrule, plus the department's cost for shipping and handling.
(e) All references to NFPA 70-2011 mean the Michigan electrical code. The Michigan electrical code is available for inspection or may be purchased from the Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes 2501 Woodlake Circle, Okemos, Michigan 48864, at a cost as of the time of adoption of these amendatory rules of $89.50.
History: 2003 AACS; 2005 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014..

R 408.7004
Source: 2003 AACS.

R 408.7005
Source: 2003 AACS.

R 408.7006
Source: 2003 AACS.

R 408.7007
Source: 2003 AACS.

R 408.7008
Source: 2003 AACS.

R 408.7009
Source: 2003 AACS.

R 408.7010
Source: 2003 AACS.

R 408.7011 Frequency of inspections.
Rule 11. All elevators shall be inspected by a general elevator inspector pursuant to the following schedule:
(a) Passenger, freight, mine, inclined, limited-use/limited application, special purpose personnel, and rooftop elevators, material lifts, barrier free lifting devices, escalators, moving walks, belt manlifts, and special elevating devices shall be inspected at least once every 12 months.
(b) Dumbwaiters, stairway chairlifts, 1-person elevators, hand-powered; 1-person elevators, electric-powered; platform lifts; and power sidewalk elevators shall be inspected at least once every 24 months.
(c) Personnel hoists shall be inspected at least once every 30 days.
(d) Elevating devices in private residences shall be inspected only at the discretion of the department or owner.
(e) Private residence inclined elevators installed under the requirements of the act for use by multiple residences, shall be inspected at least once every 24 months.
(f) More frequent inspections may be scheduled at the discretion of the department or owner.
History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7012
Source: 2003 AACS.

R 408.7013
Source: 2003 AACS.

R 408.7014
Source: 2003 AACS.

R 408.7015
Source: 2003 AACS.

R 408.7016
Source: 2003 AACS.

R 408.7017
Source: 2003 AACS.

R 408.7018
Source: 2003 AACS.

R 408.7019 Fees.
Rule 19. (1) Fees shall be paid in accordance with the following schedule:

Commissions to inspect elevators

Commission	$50.00.
Commission renewal	$50.00.

Examination for certificates of competency

Certificate of competency examination (nonrefundable)	$50.00.

Elevator contractors and journeyperson examination and licenses

Elevator contractor's license and renewal (nonrefundable)	$100.00.
Elevator contractor's examination (nonrefundable)	$100.00.
Elevator journeyperson license and renewal (nonrefundable)	$40.00.
Elevator journeyperson examination (nonrefundable)	$100.00.

Installation permits

Elevator installation application fee (nontransferable and nonrefundable) ..... $60.00.
Base permit fee for each of the following devices: ..... $200.00.
Passenger elevator
Freight elevator
Mine elevator
Inclined elevator
Limited-use/limited application elevator
Private residence elevator
Private residence inclined elevator
Special purpose personnel elevator
Dumbwaiter
Material lift
Power sidewalk elevator
Rooftop Elevator
Belt manlift
Special elevating device

For the above installations, an additional $25.00 is charged for each hoistway opening and for each floor traveled without a hoistway opening.

Escalator ..... $240.00.
Moving walk ..... $240.00.

Personnel hoist, initial inspection ..... $340.00.
Plus $25.00 for each hoistway opening and for each floor traveled without a hoistway opening.

Private residence platform lift and private residence stairway chairlift ..... $40.00.
Platform lift and stairway chairlift in buildings other than private residence ..... $70.00.

Major alteration permits

Elevator alteration application fee (nontransferable and nonrefundable) ..... $60.00.
First alteration (including 1 final inspection) ..... $90.00.
Each additional alteration ..... $65.00.
Personnel hoist tower rise ..... $90.00.
Plus $25.00 for each added hoistway opening and for each floor traveled without a hoistway opening.
Maximum alteration fee (includes $60.00 nontransferable and nonrefundable application fee) ..... $395.00.

(2) A final inspection fee is included in the installation and alteration permit fee. If a scheduled final inspection is canceled without 24 hours notice to the department, or if the elevator is not complete in the judgment of the general elevator inspector, then an additional fee shall be charged to the elevator contractor as follows:
(a) $300.00 for private residence elevator, dumbwaiter, platform lift, or stairway chairlift.
(b) $500.00 for all other devices.
(3) A written request for a refund on a permit must be made within 1 year from the application date. An issued permit shall become invalid unless the work on the site authorized by such permit is commenced within 180 days after issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after work is commenced. A 1-time 180-day permit extension shall automatically be granted when a building permit for the same project remains valid.

Certificate of operation

Biennial and annual certificate of operation ..... $45.00.
Temporary certificate of operation ..... $200.00.

Inspection by general inspector

Biennial inspection for devices complying with R 408.7011(b) ..... $110.00.

Annual and biennial inspection for all other devices ..... $125.00.
Plus $5.00 for each hoistway opening and for each floor traveled without a hoistway opening.

Temporary certificate of operation inspection ..... $125.00.
Plus $5.00 for each hoistway opening and for each floor traveled without a hoistway opening.

Reinspection or correction order follow-up for devices complying with R 408.7011(b) ..... $110.00.
Reinspection or correction order follow-up for all other devices ..... $125.00.

(4) The department may provide, upon written request, special services that are not otherwise covered in the fee structure. The charge for this service shall be at the rate of $100.00 per hour including travel time.
Fees that are required pursuant to the provisions of the act shall be paid to the department. Checks or money orders shall be made payable to the "State of Michigan."

History: 2003 AACS; 2005 AACS; 2008 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7020 Supervising employees.

Rule 20. (1) If a contractor's license is based on the qualification of a supervising employee, then termination of employment of a supervising employee shall result in the suspension of the license 90 days after termination of employment and the license shall remain suspended until another supervising employee is certified for the employer by the board. The supervising employee and the employer shall each notify the department in writing when the termination of the employment of the former occurs.
(2) A person serving as supervising employee of a contractor may not concurrently serve as supervising employee of another contractor. A supervising employee shall be employed on a full-time basis by the contractor.
(3) The person, firm, or corporation and the elevator contractor license holder supervising employee shall be jointly and severally responsible for exercising the supervision and control of the elevator operations necessary to secure full compliance with the act, the rules promulgated under the act, and all other laws and rules related to elevating devices.

History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7021 Renewal of contractor's licenses and commissions.

Rule 21. A contractor's license and a commission which has expired may be renewed within 60 days after the date of expiration without examination upon payment of the required renewal fee and late fee of $20.00. A contractor's license and a commission which is not so renewed is considered revoked. The revoked contractor's license or commission may be reinstated if approved by the elevator safety board, and upon payment of the required renewal fee and reinstatement fee of $100.00.

History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7022

Source: 2003 AACS.

R 408.7023 Appeals to the board.

Rule 23. (1) Any person, firm, or corporation aggrieved by any decision, ruling, or order of the director or of the department may appeal within 15 days from date of mailing of the decision, ruling, or order to the board, for a hearing before the board in accordance with section 8(d) of the act. An appeal shall specify the reasons and the relief sought and shall be submitted to the director for presentation to the board.
(2) A $200.00 non-refundable fee shall be made to the department at the time the appeal is filed. Checks or money orders shall be made payable to the "State of Michigan."
(3) The board shall set a time for hearing of the appeal and provide written notice to the appellant at least 10 days before the date set for hearing.
(4) A request for an adjournment shall be filed in writing at least 5 days before the date set for hearing. The board or the director may, for good cause, grant an adjournment.
(5) If the appellant fails to appear at the time set for hearing, the board may proceed with the hearing and decide the case in the absence of the appellant. The board may affirm, modify, or set aside the ruling of the department and shall notify the director and the appellant in writing of its decision.

History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7023a Variance requests.
Rule 23a. (1) Any person, firm, or corporation upon application in specific cases, may request a variation of the requirements of the rules when it is clearly evident that exceptions or variations are necessary to prevent undue hardship or when existing conditions prevent compliance with the literal requirements. The request shall be on a form prescribed by the department and specify the reasons and the relief sought and shall be submitted to the department for review.
(2) A $75.00 nonrefundable fee shall be made to the department at the time the variance request is filed. Checks or money orders shall be made payable to the "State of Michigan".
(3) The department may submit the variance request to the board for its action. The department shall set a time for reviewing a request submitted to the board and provide written notice to the appellant at least 10 days before the date set for the review.
(4) A request for an adjournment shall be filed in writing by the appellant at least 5 days before the date set for the review. The department or the board may, for good cause, grant an adjournment.
(5) If the appellant fails to appear at the time set for the variance request, the action may proceed and the board may decide the request in the absence of the appellant. The request may be approved, denied, modified, or set aside. The department shall notify the appellant in writing of the decision.
History: 2014 MR 11, Eff. July 11, 2014.

R 408.7023b Product approval.
Rule 23b. (1) All elevating devices, equipment, systems, subsystems, components, and functions must be reviewed for compliance with the current elevator requirements and approved by the department prior to use in this state. An initial $75.00 nonrefundable application fee shall be made to the department at the time of application.
(2) All product approval requests shall be on a form prescribed by the department and accompanied by a compliance document which reflects compliance with the corresponding requirements and supporting documents such as drawings, wiring diagrams, factor of safety calculations, certifications, and any other information the department finds necessary for the specific review.
(3) A rate of $75.00 per hour shall be charged for special services of a product review. The total charges shall be determined on an hourly basis for the review upon completion. An approval may not be granted until full payment of these services has been received.
History: 2014 MR 11, Eff. July 11, 2014.

R 408.7024 Applicability of rules and manual.
Rule 24. Elevators as defined in section 3 of the act installed before the effective date of this code edition shall comply with the Michigan elevator laws and rules in effect at the time of adoption of this code until the device is altered. All other approved existing features or components of the elevator shall comply with these rules and shall be maintained as described in the American society of mechanical engineers (ASME) guide for inspection of elevators, escalators, and moving walks ASME A17.2-2012, which is adopted by reference in R 408.7003.
History: 2003 AACS; 2005 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7025 Service and examination of power elevators; frequency; exceptions.
Rule 25. A power elevator, except a private residence elevator, private residence inclined elevator, private residence platform lift, or private residence stairway chairlift, shall be serviced and examined for defects by a licensed elevator journeyperson at least once every 90 days, except for the following devices which shall be serviced and examined at least once every 180 days:
(a) Dumbwaiters.
(b) One-person elevators, electric and hand-powered.
(c) Platform lifts and stairway chairlifts in buildings other than private residences.
(d) Private residences inclined elevators installed under the requirements of the act for use by multiple residences.
An accessible written record of all service and examination shall be maintained in the machine room or on-site if a machine room does not exist.
History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

CHAPTER 2. ALL ELEVATORS

R 408.7026 Disconnecting means for new and altered elevators.
Rule 26. The disconnecting means for all elevators and escalators that have 208 volts alternating current (VAC) nominal, shall be a heavy-duty type means and feature a dual cover interlock or a circuit breaker capable of being locked in the open position.
History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7027
Source: 2003 AACS.

R 408.7028
Source: 2003 AACS.

R 408.7029 Dormant elevators.
Rule 29. (1) An elevator, escalator, or moving walk which is inactive for 1 year shall be classified as dormant and placed out of service in compliance with section 8.11.1.4(b) of the ASME A17.1 code.
(2) A platform lift or stairway chairlift which is inactive for 1 year shall be classified as dormant and placed out of service as follows:
(a) The device shall be lowered and any suspension means removed.
(b) The power feed lines shall be disconnected from the machine disconnect switch and taped in compliance with section 10.1.6 of the ASME A18.1 code.
(c) All landing entrances shall be secured in a closed position from inside the runway or hoistway.
(d) Folding type devices shall be secured against movement.
(3) Before a dormant elevating device may be placed in service, it shall be inspected by the department and shall conform to these rules and the applicable section of the standard.
History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7030 Elevator and escalator monitoring.
Rule 30. All elevators and escalators may be monitored from a remote location. Monitoring shall consist of passing information from the elevator control to a remote location for the collection of information. A device shall not have the capability to adjust, alter, change or reset any switch, parameter, or system of the elevator control from any location except the corresponding car, hoistway, machine room, lobby panel, or fire command center. The device shall not be capable of bypassing or resetting any safety or electrical protective device. The monitoring means may be used to initiate car and hall landing calls or to secure floors from access. Information collected shall be made available to the department upon request.
History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7031
Source: 2003 AACS.

CHAPTER 3. ASME A17.1 MODIFICATIONS

R 408.7031a ASME A17.7/CSA B44.7.
Rule 31a. Section 1.2.1 of the ASME A17.1/CSA B44 code is amended to read as follows:
1.2.1 The purpose of this code is to provide for the safety of life and limb, and to promote the public welfare. Compliance with this code shall be achieved by either subdivisions (a), (b) and (d) or (c) and (d):
(a) Conformance with the requirements in ASME A17.1/CSA B44.
(b) Conformance with some of the requirements in ASME A17.1/CSA B44 and for systems, subsystems, components, or functions that do not conform with certain requirements in ASME A17.1/CSA B44, conform with the applicable requirements in ASME A17.7/CSA B44.7. Where the Michigan elevator rules make an exception to, addition to, or an amendment of, an ASME A17.1/CSA B44 code section the Michigan elevator rules shall govern over the corresponding section in ASME A17.7/CSA B44.7 and shall also obtain department approval.
(c) Conformance with the requirement in ASME A17.7/CSA B44.7. Where Michigan elevator rules make an exception to, addition to, or an amendment of, an ASME A17.1/CSA B44 code section the provisions of the

Michigan elevator rules shall govern over the corresponding section in ASME A17.7/CSA B44.7 and shall also obtain department approval.
(d) Any ASME A17.7/CSA B44.7 certifications that violate the Michigan elevator rules exceptions, additions, or modifications to ASME A17.1/CSA B44 shall require approval from the department.
History: 2014 MR 11, Eff. July 11, 2014.

R 408.7032 Machinery space, machine rooms, control spaces, and control rooms.
Rule 32. Section 2.7 of the ASME A17.1 code is amended to read as follows:
2.7. A machinery space outside the hoistway containing an electric driving machine and an elevator controller shall be a machine room. The electric driving machine shall be located in a machinery space within the elevator hoistway or outside the hoistway in an elevator machine room. A controller shall be accessible only from a machinery space, machine room, control room, or hoistway.
History: 2003 AACS; 2005 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7033
Source: 2003 AACS.

R 408.7034 Enclosure of machine rooms and machinery spaces.
Rule 34. Section 2.7.1 of the ASME A17.1 code is amended to read as follows:
2.7.1. Machines, control equipment, sheaves, and other machinery shall not be exposed to the weather. Machine room, control room, and machinery-space enclosures shall conform to section 2.7.1.1 or 2.7.1.2, and shall also conform to 2.7.1.3 of the ASME A17.1 code, as applicable.
Machine rooms and control rooms shall be located at a hoistway landing associated with the equipment within the room. Elevator machine and control rooms may be located overhead, adjacent to, underneath the hoistway, or at a remote location. The entrance to the machine room or control room shall be not more than 25 feet, clear unobstructed walking pathway from the elevator hoistway door. The distance from the machine room door to the hoistway door may be over 25 feet when the machine room is located directly above the hoistway in a conventional layout. Pit and hoistway access doors shall not be a direct access between a hoistway enclosure and machine room or control room.
Elevators installed without a machine room or control room shall locate the required disconnecting means in a single machinery space or control space outside the hoistway located within 25 feet clear unobstructed walking pathway of the elevator hoistway door, inspection and test panel, and at the same hoistway landing.
The disconnecting means shall be located in a single dedicated space, or dedicated room intended with or without full body entry, and shall be secured so only the elevator journeyperson or other qualified personnel may gain access.
Access to machine rooms, control rooms, machine spaces, or control spaces shall not be through restrooms, lavatories, locker rooms, or associated vestibules. Where enclosed ceilings are required or provided they shall be of a solid type with no access panels. Drop type ceilings shall not be permitted. Machine rooms, control rooms, machinery spaces, and control spaces shall not be used as a pass through or for access to other areas. Building access panels or doors are prohibited in these areas.
History: 2003 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7034a
Source: 2010 AACS.

R 408.7035 Rescinded.
History: 2003 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7036 Rescinded.
History: 2003 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7037 Rescinded.
History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7037a
Source: 2005 AACS.

R 408.7038
Source: 2003 AACS.

R 408.7039
Source: 2005 AACS.

R 408.7040 Rescinded.
History: 2003 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014..

R 408.7041 Machinery spaces, machine rooms, control spaces, and control rooms.
Rule 41. Sections 3.7 and 3.7.1 of the ASME A17.1 code is amended to read as follows:
3.7. A machinery space outside the hoistway containing a hydraulic machine and an elevator controller shall be a machine room. The hydraulic machine shall be located in a machine space within the elevator hoistway or outside the hoistway in an elevator machine room. The elevator controller shall be accessible only from a machine room, control room, or hoistway.
3.7.1. Hydraulic machines, control equipment, sheaves, and other machinery shall not be exposed to the weather. Machine room, control room, and machinery-space enclosures shall conform to the requirements of sections 2.7.1 to 2.7.7 and 2.7.9 of the ASME A17.1 code and the following:
Machine rooms and control rooms shall be located at a hoistway landing associated with the equipment within the room. Elevator machine and control rooms may be located overhead, adjacent to, underneath the hoistway, or at a remote location. The entrance to the machine room or control room shall be not more than 25 feet, clear unobstructed walking pathway from the elevator hoistway door. The distance from the machine room door to the hoistway door may be over 25 feet when the machine room is located directly above the hoistway in a conventional layout. Pit and hoistway access doors shall not be for direct access between a hoistway enclosure and machine room or control room.
Elevators installed without a machine room or control room shall locate the required disconnecting means in a single machinery space or control space outside the hoistway located within 25 feet clear unobstructed walking pathway of the elevator hoistway door, inspection and test panel, and at the same hoistway landing.
The disconnecting means shall be located in a single dedicated space, or dedicated room intended with or without full body entry, and shall be secured so only the elevator journeyperson or other qualified personnel may gain access.
Access to machine rooms, control rooms, machine spaces, or control spaces shall not be through restrooms, lavatories, locker rooms, or associated vestibules. Where enclosed ceilings are required or provided they shall be of a solid type with no access panels. Drop type ceilings shall not be permitted. Machine rooms, control rooms, machinery spaces, and control spaces shall not be used as a pass through or for access to other areas. Building access panels or doors are prohibited in these areas.
History: 2003 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7042
Source: 2003 AACS.

R 408.7043
Source: 2010 AACS.

R 408.7043a
Source: 2010 AACS.

R 408.7044 Rescinded.
History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7045
Source: 2010 AACS.

R 408.7046
Source: 2010 AACS.

R 408.7047
Source: 2003 AACS.

R 408.7047a
Source: 2010 AACS.

R 408.7047b Capacity.
Rule 47b. Section 5.3.1.10.1 of the ASME A17.1 is amended to read as follows:
5.3.1.10.1. The maximum inside net platform area shall not exceed 1.7m^2 (18 ft^2). The minimum rated load shall be not less than the following:
(a) For net platform areas up to and including 1.1 m^2 (12 ft^2), the rated load shall be not less than 195 kg/m^2 (40 lb/ft^2) or 159 kg (350 lb), whichever is greater.
(b) For net platform areas greater than 1.1 m^2 (12 ft^2), the rated load shall be based upon 305 kg/m^2 (62.5 lb/ft^2).
History: 2014 MR 11, Eff. July 11, 2014.

R 408.7048
Source: 2010 AACS.

R 408.7049
Source: 2003 AACS.

R 408.7050 Rescinded.
History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7051 Type of operation.
Rule 51. Section 5.4.15.1 of the ASME A17.1 code is amended to read as follows:
5.4.15.1. The inclined elevator shall be operated by weatherproof constant pressure key switches or constant pressure switch or button at each landing and on the car. Key-operated switches shall be of the spring-return type and shall be operated by a cylinder type lock having not less than 5-pin or 5-disk combination with the key removable only when the switch is in the off position. Constant pressure switches and buttons shall be hand operated and controlled by an adjacent on-off key switch with the key removable only when the key is in the off position. The key shall be group 4 security in compliance with section 8.1 of the ASME A17.1 code.
History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7052 Electrical equipment and wiring requirements.
Rule 52. Section 5.4.15.5.1 of the ASME A17.1 code is amended to read as follows:
5.4.15.5.1. All electrical equipment and wiring shall conform to the requirements of the Michigan electrical code and ASME A17.1 sections 5.3.1.18.4, 5.3.1.18.5 and 5.3.1.18.6. A fused disconnect switch or a circuit breaker shall be installed within the machine enclosure and connected to the power supply line to each electric motor. A hoisting motor shall have a manually reset type of electrical overload device.
History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7053
Source: 2010 AACS.

R 408.7054
Source: 2005 AACS.

R 408.7054a
Source: 2010 AACS.

R 408.7054b
Source: 2010 AACS.

R 408.7055 Record of oil usage.
Rule 55. Section 8.6.5.7 of the ASME A17.1 code is amended to read as follows:

8.6.5.7. For systems where part of the cylinder or piping, or both, are not exposed for visible inspection, a written record shall be kept of the quantity of hydraulic fluid added to the system and emptied from leakage collection containers and pans. The written record shall be kept in the machine room. If the quantity of hydraulic fluid loss cannot be accounted for, then the test specified in section 8.6.5.15.3 of R 408.7060 shall be done.

History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7055a Periodic test.

Rule 55a. Section 8.6.7.4.1 of the ASME A17.1 code is amended to read as follows:

8.6.7.4.1. (1) Private residence inclined elevators and lifts should be subject to the periodic tests specified in 8.6.4.19, 8.6.4.20, and 8.6.4.14 to 8.6.5.16. The test requirements shall apply to the corresponding requirements in 5.4. Any additional requirements for this equipment should also be checked during these tests.

(2) Private residence inclined elevators installed under the requirements of the act for use by multiple, shall be subject to the periodic tests specified in 8.6.4.19, 8.6.4.20, and 8.6.5.14 to 8.6.5.16. The test requirements shall apply to the corresponding requirements in 5.4. Any additional requirements for this equipment shall also be checked during these tests.

History: 2014 MR 11, Eff. July 11, 2014.

R 408.7056 Firefighters' emergency operation.

Rule 56. Section 8.6.11.1 of the ASME A17.1 code is amended to read as follows:

8.6.11.1. All elevators provided with firefighters' emergency operation shall be subjected quarterly to phase I recall by use of the key switch, and a minimum of 1-floor operation on phase II. Deficiencies shall be corrected. An accessible written record of test results shall be maintained in the machine room.

History: 2003 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7057

Source: 2003 AACS.

R 408.7057a

Source: 2010 AACS.

R 408.7058 Cylinders.

Rule 58. Section 8.7.3.23.3 of the ASME A17.1 code is amended to read as follows:

8.7.3.23.3. Where a cylinder is installed, replaced, or altered, it shall conform to section 3.18.3 of the ASME A17.1 code. Sleeving of a cylinder shall not be permitted. If the plunger is not equipped with a stop ring conforming to section 3.18.4.1 of the ASME A17.1 code, the installation shall also conform to sections 3.18.1.2 and 3.18.2 of the ASME A17.1 code.

History: 2003 AACS; 2005 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7058a

Source: 2010 AACS.

R 408.7058b

Source: 2010 AACS.

R 408.7059 Acceptance inspection and tests.

Rule 59. Section 8.10.1.1.1 of the ASME A17.1 code is amended to read as follows:

8.10.1.1.1. The acceptance inspection shall be made by an inspector employed by the authority having jurisdiction. All parts of the installation shall be inspected for conformity with the requirements of the Michigan elevator laws and rules and section 8.10 of the ASME A17.1 code. The American society of mechanical engineers A17.2-2012, guide-for inspection of elevators, escalators, and moving walks, ASME, a copy of which is adopted by reference in R 408.7024, is recommended as a guide in making the inspection. Balance load and maximum normal speeds with maximum rated load and no load shall be determined and recorded on forms furnished by the department.

History: 2003 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7059a Periodic test tags.
Rule 59a. Section 8.6.1.7.2 of the ASME A17.1 code is amended to read as follows:
8.6.1.7.2. An approved paper tag with the applicable code requirement or requirements and date or dates performed, and the name of the person or firm performing the test, shall be installed in the machine room or machine space for all periodic tests.
History: 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7060 Three-year inspection and test requirements.
Rule 60. Section 8.6.5.15.3 is added to the ASME A17.1 code to read as follows:
8.6.5.15.3. (1) Cylinders shall be tested at intervals of not more than 36 months.
(2) Three-year inspection and test requirements.
(a) The relief valve setting shall be in compliance with section 3.19.4.2 of the ASME A17.1 code. The relief valve shall be resealed if the relief valve setting is altered or if the seal is broken.
(b) Test the relief valve setting by first inching the empty car upward to engage the plunger stop ring or to engage other suitable blocking provided and then apply pressure from the pump to check the setting. Procedures for set test are as follows:
(i) Put rated load in the car and locate it at any convenient level.
(ii) Open the disconnect switch and locate the elevation of the platform with respect to a convenient reference.
(iii) For cylinders that are not completely exposed, after not less than 2 hours, note the position of the platform with respect to the chosen reference. For cylinders that are completely exposed, after not less than 30 minutes, note the position of the platform with respect to the chosen reference. A change in the car position during a cylinder test that cannot be accounted for by visible oil leakage or temperature change of the oil indicates a failure of some type requiring further inspections, tests, or repairs. An accessible written record of all oil levels and all oil added shall be maintained in the machine room.
History: 2003 AACS; 2005 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7060a Private residence elevators and private residence inclined elevators.
Rule 60a. Section 8.11.5.2 of the ASME A17.1 code is amended to read as follows:
8.11.5.2. (1) Private residence elevators should be subject to the periodic inspections specified in 8.11.2 and 8.11.3. The inspection requirements shall apply to the corresponding requirements in 5.3 and 5.4. Any additional requirements for this equipment should also be checked during these inspections.
(2) Private residence inclined elevators installed under the requirements of the act for use by multiple residences, shall be subject to the periodic inspections specified in 8.11.2 and 8.11.3. The inspection requirements shall apply to the corresponding requirements in 5.3 and 5.4. Any additional requirements for this equipment shall also be checked during these inspections.
History: 2014 MR 11, Eff. July 11, 2014.

CHAPTER 4. ASME A18.1 MODIFICATIONS

R 408.7061
Source: 2003 AACS.

R 408.7062
Source: 2010 AACS.

R 408.7062a
Source: 2010 AACS.

R 408.7063 Rescinded.
History: 2003 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7064 Rescinded.
History: 2003 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7065 Rescinded.
History: 2003 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7066
Source: 2010 AACS.

R 408.7066a Rescinded.
History: 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7067 Rescinded.
History: 2003 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7068
Source: 2003 AACS.

CHAPTER 5. ASME A90-1 MODIFICATIONS

R 408.7069 Applicability of national standard and rules of board.
Rule 69. (1) This rule applies to manlifts, as described in the ASME A90.1-2009, which is adopted by reference in R 408.7003, that are used only to carry plant personnel in granaries, flour mills, parking garages, and similar buildings or occupancies. Belt manlifts shall not be used by the public and, if located in buildings to which the public has access, shall be located in an enclosure that is protected by self-closing, spring-locked doors. Keys to the doors shall be available to employees. The use of belt manlifts during construction is prohibited.
(2) The hoistway enclosure shall comply with the Michigan building code, R 408.30401 to R 408.30547, and shall maintain the fire rating of the structure.
(3) The travel of any single belt manlift installed after February 14, 1968 shall not exceed 100 feet.
History: 2003 AACS; 2005 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

CHAPTER 6. ANSI A10.4 MODIFICATIONS

R 408.7070

R 408.7071 Location.
Rule 71. Section 5.4.8 of the ANSI A10.4 standard is amended to read as follows:
5.4.8. (1) A personnel hoist shall be installed not less than 10 feet from any other lifting or lowering apparatus except other personnel hoists.
(2) A hoistway shall not be located either partially or wholly over sidewalks or passageways.
(3) If tower cranes are installed such that the boom or trolley may go over or into the 10-foot restricted area, then the personnel hoist shall be unoccupied anytime the boom or trolley passes over the restricted area. The evacuation of the personnel hoist shall be the responsibility of the crane operator and the general contractor.

History: 2003 AACS; 2010 AACS; 2014 MR 11, Eff. July 11, 2014.

R 408.7072
Source: 2003 AACS.

R 408.7073
Source: 2010 AACS.

R 408.7074
Source: 2003 AACS.

R 408.7075
Source: 2003 AACS.

R 408.7076
Source: 2003 AACS.

R 408.7077
Source: 2003 AACS.

R 408.7078
Source: 2003 AACS.

R 408.7079
Source: 2003 AACS.

R 408.7080
Source: 2010 AACS.

R 408.7081
Source: 2010 AACS.

R 408.7081a
Source: 2010 AACS.

CHAPTER 7. SEWER LIFT STATION PERSONNEL ELEVATORS

R 408.7082
Source: 2003 AACS.

R 408.7083
Source: 2003 AACS.

R 408.7084
Source: 2003 AACS.

R 408.7085
Source: 2003 AACS.

R 408.7086
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R 408.7090
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R 408.7091
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R 408.7092
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R 408.7093
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R 408.7100
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R 408.7102
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R 408.7103
Source: 2003 AACS.

R 408.8101
Source: 2003 AACS.

R 408.8103
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R 408.8108
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R 408.8111
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R 408.8121
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R 408.8161
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R 408.8171
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R 408.8191
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R 408.8201
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R 408.8202
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R 408.8203
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R 408.8205
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R 408.8206
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R 408.8211
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R 408.8212
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R 408.8213
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R 408.8694
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R 408.8695
Source: 2003 AACS.

PAYMENT OF WAGES AND FRINGE BENEFITS

R 408.9001
Source: 1998-2000 AACS.

R 408.9002 Definitions; A to I. Rule 2. (1) As used in these rules:
(a) "Act" means 1978 PA 390, MCL 408.471 to 408.490, and known as the payment of wages and fringe benefits act.
(b) "Complainant" means an employee who submits a written complaint alleging a violation of the act and who provides the information required by the department.
(c) "Department" means the department of licensing and regulatory affairs.
(d) "Voluntary payment in full" means either of the following:
(i) Payment of wages and fringe benefits claimed before the issuance of a departmental determination.
(ii) Payment of the full amount of wages and fringe benefits due, plus the 10% per annum penalty and any exemplary damages assessed within 14 days of the date of the determination. If the last day of the 14-day period

is a Saturday, Sunday, or a state holiday, then that day is excluded and the period extends until the end of the next day that is not a Saturday, Sunday, or state holiday.
(2) As used in the act:
(a) “Administrative capacity” means an employee to whom all of the following apply:
(i) Is compensated on a salary basis at not less than $455.00 per week.
(ii) Has the primary duty of performing office or non-manual work that is directly related to the management or general business operations of the employer.
(iii) Uses discretion and independent judgment in matters of significance.
(b) "An employee employed in a bona fide executive capacity" means an employee to whom all of the following apply:
(i) Compensation is on a salary basis at not less than $455.00 per week.
(ii) The employee's primary duty is management.
(iii) The employee supervises 2 or more employees.
(c) "An employee employed in a bona fide professional capacity" means an employee who is compensated on a salary or fee basis at not less than $455.00 per week and whose primary duty is any of the following:
(i) Work in a field of science or learning that requires knowledge acquired by a prolonged course of specialized instruction.
(ii) Work in a recognized field of artistic endeavor that depends upon the talent of the employee.
(iii) Work in an educational institution as a teacher, tutor, instructor, or lecturer.
(d) "Bonus" means a premium or extra or irregular remuneration in addition to wages that is awarded to an employee under a written contract or written policy.
(e) "Director" means the director of the department or his or her authorized representative. (f) "Informally resolve" means any of the following:
(i) Voluntary payment in full as defined in R 408.9002. (ii) A settlement agreement as described in R 408.9026.
(iii) Withdrawal of the complaint as described in R 408.9027.
(iv) Dismissal of the complaint due to lack of jurisdiction, as described in R 408.9036.
History: 1982 AACS; 1998-2000 AACS; 2003 AACS; 2006 AACS; 2015 MR 23, Eff. Dec. 12, 2014.

R 408.9003
Source: 1998-2000 AACS.

R 408.9004
Source: 1998-2000 AACS.

R 408.9005
Source: 1998-2000 AACS.

R 408.9006
Source: 1998-2000 AACS.

R 408.9007
Source: 1998-2000 AACS.

R 408.9008
Source: 1998-2000 AACS.

R 408.9009
Source: 1998-2000 AACS.

R 408.9010
Source: 1998-2000 AACS.

R 408.9011
Source: 1998-2000 AACS.

R 408.9012 Statement of hours worked and pay earned; records.

Rule 12. (1) An employer shall furnish each employee with a statement of the information required by section 9(2) of the act in a retainable form.
(2) The employment records for each employee shall include total daily hours worked showing and the starting and ending times each day, computed to the nearest tenth of an hour, or other finer measure.
History: 1982 AACS; 1998-2000 AACS; 2003 AACS; 2015 MR 23, Eff. Dec. 12, 2014.

R 408.9013
Source: 1998-2000 AACS.

R 408.9014
Source: 1998-2000 AACS.

R 408.9015
Source: 1998-2000 AACS.

R 408.9016
Source: 1998-2000 AACS.

R 408.9017
Source: 1998-2000 AACS.

R 408.9018
Source: 1982 AACS.

R 408.9019 Acceptance of complaints by department.
Rule 19. The department shall accept a complaint form or other written statement received by the department from an employee for work performed in Michigan which provides
all of the following:
(a) Name and address of complainant.
(b) Name and address of employer who is alleged to have committed the violation.
(c) The date or dates the violation is alleged to have occurred.
(d) An estimate of the amount of wages or fringe benefits claimed.
History: 1982 AACS; 1998-2000 AACS; 2003 AACS; 2015 MR 23, Eff. Dec. 12, 2014.

R 408.9020
Source: 1998-2000 AACS.

R 408.9021
Source: 1998-2000 AACS.

R 408.9022
Source: 1998-2000 AACS.

R 408.9023
Source: 1998-2000 AACS.

R 408.9024
Source: 1998-2000 AACS.

R 408.9025
Source: 1998-2000 AACS.

R 408.9026 Settlement agreement.
Rule 26. (1) A complaint may be informally resolved by a written settlement agreement that specifies all of the following:
(a) The amount of payment agreed to. (b) The terms of payment agreed to. (c) The date payment is due.
(d) A waiver of all rights to contest the amount due.

(2) The settlement agreement shall be signed by both of the following entities:
(a) The complainant.
(b) The employer or the employer's representative.
History: 1982 AACS; 1998-2000 AACS; 2015 MR 23, Eff. Dec. 12, 2014.

R 408.9027 Withdrawal of complaints; request to cease enforcement of order.
Rule 27. (1) A person who has filed a complaint with the department may withdraw the complaint at any time before issuance of a departmental determination.
(2) At any time after a departmental determination has been issued, a complainant may, in writing, request the department to cease enforcement of an order. For an order less than
$30.00, written requests shall not be required.
History: 1982 AACS; 1998-2000 AACS; 2015 MR 23, Eff. Dec. 12, 2014.

R 408.9028 Departmental determination.
Rule 28. (1) A departmental determination shall contain all of the following, if applicable: (a) The name of the complainant.
(b) The name of the employer.
(c) The findings of the department.
(d) A citation to the sections of the act violated, if any.
(e) An order for the payment of wages or fringe benefits due, if any, plus a 10% per annum penalty.
(f) An assessment of the civil penalties, if any, and the basis for the assessment.
(g) An assessment of exemplary damages, if any, and the basis for the assessment. (2) The department shall provide copies of the determination to the employer, the complainant, and designated legal representatives.
History: 1982 AACS; 1998-2000 AACS; 2015 MR 23, Eff. Dec. 12, 2014.

R 408.9029
Source: 1998-2000 AACS.

R 408.9030
Source: 1998-2000 AACS.

R 408.9031
Source: 1998-2000 AACS.

R 408.9032
Source: 1998-2000 AACS.

R 408.9033
Source: 2006 AACS.

R 408.9034 Assessment of exemplary damages.
Rule 34. (1) The department shall order an employer who has violated section 2, 3, 4, 5, 6,
7, or 8 of the act to pay exemplary damages to the employee in either of the following situations:
(a) If the employer was previously found to have violated the same section of the act against the same employee at any time within 12 months before the occurrence of the violation.
(b) If the department determines that the act was deliberately and knowingly violated.
(2) The department may assess exemplary damages at not more than twice the amount of wages and fringe benefits which were due and shall be paid to the employee.
History: 1982 AACS; 2015 MR 23, Eff. Dec. 12, 2014.

R 408.9035
Source: 2006 AACS.

R 408.9036 Lack of jurisdiction.
Rule 36. The following complaints shall be dismissed:
(a) A complaint alleging violation of sections 2 to 10 and 13a of the act, if the filing date is more than 12 months after the date the violation is alleged to have occurred.

(b) An employee discrimination complaint alleging violation of section 13(2) of the act, if the filing date is more than 30 days after the date the violation is alleged to have occurred.
(c) A complaint involving fringe benefits not defined under section 1(e) of the act.
(d) A complaint involving employment in the classified state civil service system.
(e) A complaint involving railroad employees covered by the railway laborers act.
(f) A complaint for which a civil action is filed by the claimant or for which there is a civil judgment that includes the same wages or fringe benefits claimed with the department.
(g) A complaint alleging either of the following:
(i) A claim period covered by a discharge of debt.
(ii) Non-payment of wages or fringe benefits earned prior to the filing of a bankruptcy petition or reorganization plan.
(h) A complaint for wages or fringe benefits earned by an employee of an employer not identified in section 1(d) of the act, including any of the following:
(i) The United States postal service. (ii) A foreign government.
(iii) Employment by an Indian tribe on a reservation or tribal land.
(iv) An employee subject to the regulations of the United States office of personnel management, formerly known as the United States civil service commission.
(i) A complaint requiring the enforcement or interpretation of a fringe benefit provision of a private sector collective bargaining agreement.
(j) A complaint filed for 1 of the following:
(i) Work performed outside of Michigan for an employer outside of Michigan.
(ii) Work performed in Michigan at a fixed site for an employer outside of Michigan subject to the jurisdiction of another state's wage protection law and that state asserts jurisdiction.
(iii) Work performed outside of Michigan for an employer located in Michigan.
(k) A complaint filed for monies deducted for taxes.
(l) A complaint filed for deductions required or expressly permitted by law.
(m) A complaint that alleges wages or fringe benefits earned by an employee, who has agreed to arbitrate compensation disputes under the authority of the federal arbitration act.
(n) A complaint that alleges wages or fringe benefits earned by an employee who has given contractual assent, not just a policy acknowledgement, to arbitration by the American arbitration association (aaa) for the issue or issues identified in the complaint.
(o) A complaint that alleges wages or fringe benefits earned by a public employee, who has a case pending, determination from, or files a case with the Michigan employment relations commission (merc) under the public employment relations act (pera) for the issue or issues identified in the complaint.
History: 2015 MR 23, Eff. Dec. 12, 2014.

GENERAL INDUSTRY SAFETY STANDARDS

PART 1. GENERAL PROVISIONS

R 408.10001
Source: 1979 AC.

R 408.10003
Source: 1993 AACS.

R 408.10004
Source: 1979 AC.

R 408.10005
Source: 1979 AC.

R 408.10011
Source: 1979 AC.

R 408.10012
Source: 1979 AC.

R 408.10013
Source: 1979 AC.

R 408.10015
Source: 1988 AACS.

R 408.10016
Source: 1983 AACS.

R 408.10017
Source: 1979 AC.

R 408.10018
Source: 1981 AACS.

R 408.10021
Source: 1979 AC.

R 408.10022
Source: 1979 AC.

R 408.10026
Source: 1979 AC.

R 408.10031
Source: 1979 AC.

R 408.10032
Source: 1997 AACS.

R 408.10033
Source: 1993 AACS.

R 408.10034
Source: 1979 AC.

R 408.10036
Source: 1983 AACS.

R 408.10037
Source: 1993 AACS.

R 408.10051
Source: 1979 AC.

R 408.10098
Source: 1993 AACS.

PART 1A. ABRASIVE WHEELS

R 408.10101
Source: 1979 AC.

R 408.10102
Source: 1990 AACS.

R 408.10103
Source: 1990 AACS.

R 408.10104

Source: 1979 AC.

R 408.10105
Source: 1990 AACS.

R 408.10111
Source: 1979 AC.

R 408.10113
Source: 1979 AC.

R 408.10114
Source: 1979 AC.

R 408.10115
Source: 1990 AACS.

GUARDING PROVISIONS

R 408.10121
Source: 1990 AACS.

R 408.10122
Source: 2009 AACS.

R 408.10123
Source: 2009 AACS.

R 408.10124
Source: 1990 AACS.

R 408.10125
Source: 1979 AC.

R 408.10126
Source: 2009 AACS.

R 408.10127
Source: 2009 AACS.

R 408.10128
Source: 2009 AACS.

R 408.10129
Source: 2009 AACS.

FLANGE PROVISIONS

R 408.10141
Source: 1979 AC.

R 408.10142
Source: 2009 AACS.

R 408.10143
Source: 2009 AACS.

MOUNTING PROVISIONS

R 408.10151
Source: 1979 AC.

R 408.10152
Source: 1979 AC.

R 408.10153
Source: 1979 AC.

R 408.10154
Source: 1979 AC.

R 408.10155
Source: 2009 AACS.

R 408.10156
Source: 1979 AC.

R 408.10158
Source: 1979 AC.

R 408.10159
Source: 1979 AC.

SPEED PROVISIONS

R 408.10171
Source: 1997 AACS.

R 408.10172
Source: 1997 AACS.

R 408.10173
Source: 1990 AACS.

R 408.10174
Source: 1990 AACS.

R 408.10175
Source: 1990 AACS.

SPECIAL SPEEDS

R 408.10177
Source: 1990 AACS.

OPERATING PROVISIONS

R 408.10181
Source: 1990 AACS.

R 408.10182
Source: 1979 AC.

R 408.10183
Source: 1979 AC.

R 408.10184
Source: 1979 AC.

R 408.10185
Source: 1979 AC.

R 408.10186
Source: 1990 AACS.

R 408.10187
Source: 1990 AACS.

R 408.10198
Source: 1990 AACS.

R 408.10199
Source: 1990 AACS.

PART 2. FLOOR AND WALL OPENINGS, STAIRWAYS, AND SKYLIGHTS

R 408.10201
Source: 1989 AACS.

R 408.10205
Source: 1979 AC.

R 408.10206
Source: 1989 AACS.

R 408.10207
Source: 1979 AC.

R 408.10208
Source: 1989 AACS.

R 408.10211
Source: 1979 AC.

R 408.10213
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R 408.10215
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R 408.10217
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R 408.10219
Source: 1989 AACS.

R 408.10220
Source: 1979 AC.

R 408.10221
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R 408.10223
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R 408.10227
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R 408.10228
Source: 1989 AACS.

R 408.10230
Source: 1989 AACS.

R 408.10231
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R 408.10232
Source: 1979 AC.

R 408.10233
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R 408.10235
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R 408.10236
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R 408.10237
Source: 1989 AACS.

R 408.10239
Source: 1979 AC.

R 408.10240
Source: 1989 AACS.

R 408.10241
Source: 1979 AC.

PART 3. FIXED LADDERS

R 408.10301
Source: 1979 AC.

R 408.10305
Source: 1994 AACS.

R 408.10306
Source: 1994 AACS.

R 408.10307
Source: 1994 AACS.

R 408.10308
Source: 1994 AACS.

R 408.10310
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R 408.10311
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R 408.10321
Source: 1979 AC.

R 408.10323
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R 408.10324
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R 408.10325
Source: 1979 AC.

R 408.10326
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R 408.10328
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R 408.10331
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R 408.10333
Source: 1994 AACS.

R 408.10335
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R 408.10341
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R 408.10342
Source: 1994 AACS.

R 408.10345
Source: 1994 AACS.

R 408.10351
Source: 1998-2000 AACS.

R 408.10352
Source: 1979 AC.

R 408.10353
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R 408.10354
Source: 1994 AACS.

R 408.10355
Source: 1994 AACS.

R 408.10357
Source: 1979 AC.

R 408.10361
Source: 1979 AC.

R 408.10365
Source: 1982 AACS.

R 408.10371
Source: 1994 AACS.

R 408.10372
Source: 1994 AACS.

PART 4. PORTABLE LADDERS

R 408.10401
Source: 1979 AC.

R 408.10403
Source: 1981 AACS.

R 408.10404
Source: 1979 AC.

R 408.10406
Source: 1979 AC.

R 408.10407
Source: 1982 AACS.

R 408.10408
Source: 1979 AC.

R 408.10413
Source: 2013 AACS.

R 408.10421
Source: 2013 AACS.

R 408.10422
Source: 1979 AC.

R 408.10426
Source: 1997 AACS.

R 408.10427
Source: 1981 AACS.

R 408.10428
Source: 1981 AACS.

R 408.10431
Source: 1982 AACS.

R 408.10433
Source: 1979 AC.

R 408.10441
Source: 1981 AACS.

R 408.10442
Source: 1979 AC.

R 408.10443
Source: 1979 AC.

R 408.10445
Source: 1979 AC.

R 408.10446
Source: 1982 AACS.

R 408.10447
Source: 1981 AACS.

R 408.10451
Source: 1981 AACS.

R 408.10452
Source: 1979 AC.

R 408.10454
Source: 1979 AC.

R 408.10456
Source: 1979 AC.

PART 5. SCAFFOLDING

R 408.10501
Source: 2008 AC.

R 408.10502
Source: 2008 AC.

R 408.10503
Source: 1992 AACS.

R 408.10504
Source: 1979 AC.

R 408.10506
Source: 1992 AACS.

R 408.10507
Source: 1992 AACS.

R 408.10508
Source: 1992 AACS.

R 408.10509
Source: 2013 AACS.
R 408.10511
Source: 2008 AC.

R 408.10512
Source: 1981 AACS.

R 408.10513
Source: 2008 AC.

R 408.10521
Source: 1981 AACS.

R 408.10524
Source: 1981 AACS.

R 408.10525
Source: 1983 AACS.

R 408.10526
Source: 2008 AC.

R 408.10527
Source: 1981 AACS.

R 408.10528
Source: 2008 AC.

R 408.10529
Source: 1983 AACS.

R 408.10532
Source: 2008 AC.

R 408.10535
Source: 1983 AACS.

R 408.10541
Source: 2013 AACS.

R 408.10542
Source: 1981 AACS.

R 408.10546
Source: 2008 AC.

R 408.10547
Source: 2008 AC.

POWERED PLATFORMS

R 408.10561
Source: 2008 AC.

R 408.10562
Source: 1992 AACS.

R 408.10563
Source: 1992 AACS.

R 408.10564
Source: 1992 AACS.

R 408.10565
Source: 2008 AC.

R 408.10566
Source: 1992 AACS.

R 408.10567
Source: 1992 AACS.

R 408.10568

Source: 2008 AC.

R 408.10569
Source: 2008 AC.

R 408.10570
Source: 2013 AACS.

R 408.10571
Source: 1992 AACS.

R 408.10572
Source: 1992 AACS.

R 408.10573
Source: 1992 AACS.

R 408.10574
Source: 1992 AACS.

R 408.10575
Source: 2008 AC.

R 408.10576
Source: 1992 AACS.

R 408.10577
Source: 1992 AACS.

R 408.10578
Source: 1992 AACS.

R 408.10579
Source: 2013 AACS.

R 408.10580
Source: 2013 AACS.

R 408.10581
Source: 1992 AACS.

WIRE, FIBER, AND SYNTHETIC ROPE

R 408.10582
Source: 2013 AACS.

R 408.10583
Source: 1992 AACS.

R 408.10584
Source: 1992 AACS.

R 408.10585
Source: 1992 AACS.

R 408.10586
Source: 1992 AACS.

R 408.10587
Source: 1992 AACS.

R 408.10588
Source: 1992 AACS.

R 408.10589
Source: 1992 AACS.

R 408.10590
Source: 2013 AACS.

R 408.10591
Source: 1992 AACS.

R 408.10592
Source: 2008 AC.

PART 6. FIRE EXITS

GENERAL PROVISIONS

R 408.10601
Source: 1990 AACS.

R 408.10602
Source: 1979 AC.

R 408.10603
Source: 1990 AACS.

R 408.10604
Source: 1990 AACS.

R 408.10605
Source: 1990 AACS.

R 408.10608
Source: 1990 AACS.

R 408.10611
Source: 1990 AACS.

R 408.10612
Source: 1979 AC.

R 408.10613
Source: 1979 AC.

R 408.10614
Source: 1979 AC.

CLASSES OF OCCUPANCY AND HAZARD OF CONTENTS

R 408.10621
Source: 1990 AACS.

R 408.10622
Source: 1979 AC.

R 408.10623
Source: 1993 AACS.

R 408.10624
Source: 1993 AACS.

MEANS OF EGRESS

R 408.10631
Source: 1979 AC.

R 408.10632
Source: 1979 AC.

R 408.10633
Source: 1979 AC.

R 408.10635
Source: 1979 AC.

R 408.10634
Source: 1990 AACS.

R 408.10636
Source: 1990 AACS.

R 408.10637
Source: 1979 AC.

R 408.10638
Source: 1979 AC.

R 408.10639
Source: 1990 AACS.

R 408.10641
Source: 1979 AC.

R 408.10643
Source: 1979 AC.

R 408.10644
Source: 1990 AACS.

R 408.10645
Source: 1990 AACS.

R 408.10646
Source: 1979 AC.

R 408.10647
Source: 1990 AACS.

R 408.10651
Source: 1979 AC.

R 408.10661
Source: 1979 AC.

R 408.10664
Source: 1990 AACS.

R 408.10667
Source: 1979 AC.

R 408.10671
Source: 1979 AC.

R 408.10672
Source: 1979 AC.

R 408.10673
Source: 1979 AC.

R 408.10674
Source: 1979 AC.

R 408.10675
Source: 1979 AC.

R 408.10677
Source: 1979 AC.
R 408.10679
Source: 1998-2000 AACS.

R 408.10681
Source: 1979 AC.

R 408.10682
Source: 1979 AC.

R 408.10685
Source: 1979 AC.

R 408.10686
Source: 1979 AC.

R 408.10691
Source: 1979 AC.

R 408.10692
Source: 1979 AC.

R 408.10693
Source: 1979 AC.

R 408.10694
Source: 1979 AC.

R 408.10695
Source: 1990 AACS.

R 408.10696
Source: 1979 AC.

R 408.10697
Source: 1979 AC.

PART 7. GUARDS FOR POWER TRANSMISSION

R 408.10701
Source: 1979 AC.

R 408.10703
Source: 1982 AACS.

R 408.10704
Source: 1979 AC.

R 408.10711
Source: 1982 AACS.

R 408.10712
Source: 1982 AACS.

R 408.10713
Source: 1982 AACS.

R 408.10714
Source: 1997 AACS.

R 408.10715
Source: 1982 AACS.

R 408.10716
Source: 1982 AACS.

R 408.10721
Source: 1982 AACS.

R 408.10722
Source: 1982 AACS.

R 408.10723
Source: 1979 AC.

R 408.10725
Source: 1982 AACS.

R 408.10726
Source: 1982 AACS.

R 408.10727
Source: 1982 AACS.

R 408.10728
Source: 1979 AC.

R 408.10729
Source: 1979 AC.

R 408.10730
Source: 1982 AACS.

R 408.10731
Source: 1982 AACS.

R 408.10732
Source: 1979 AC.

R 408.10734
Source: 1982 AACS.

R 408.10736
Source: 1979 AC.

R 408.10738
Source: 1979 AC.

R 408.10741
Source: 1982 AACS.

R 408.10743
Source: 1979 AC.

R 408.10744
Source: 1982 AACS.

R 408.10751
Source: 1979 AC.

R 408.10752
Source: 1979 AC.

R 408.10753
Source: 1982 AACS.

R 408.10754
Source: 1982 AACS.

R 408.10757
Source: 1997 AACS.

R 408.10761
Source: 2013 AACS.

R 408.10763
Source: 2013 AACS.

R 408.10765
Source: 2013 AACS.

PART 8. PORTABLE FIRE EXTINGUISHERS

GENERAL PROVISIONS

R 408.10801
Source: 2013 AACS.

R 408.10803
Source: 2006 AACS.

R 408.10804
Source: 1979 AC.

R 408.10805
Source: 1979 AC.

R 408.10807
Source: 2013 AACS.

R 408.10808
Source: 1979 AC.

R 408.10811
Source: 2006 AACS.

R 408.10812
Source: 1979 AC.

R 408.10813
Source: 2006 AACS.

R 408.10814
Source: 1980 AACS.

DISTRIBUTION

R 408.10821
Source: 1979 AC.

R 408.10822
Source: 2006 AACS.

R 408.10823
Source: 2013 AACS.

R 408.10824
Source: 1979 AC.

R 408.10825
Source: 1979 AC.

R 408.10826
Source: 2006 AACS.

R 408.10831
Source: 1979 AC.

R 408.10833
Source: 2006 AACS.

R 408.10836
Source: 2006 AACS.

R 408.10837
Source: 1979 AC.

R 408.10839

Source: 1984 AACS.

PART 9. FIXED FIRE EQUIPMENT

GENERAL PROVISIONS

R 408.10901
Source: 1984 AACS.

R 408.10902
Source: 1979 AC.

R 408.10903
Source: 1984 AACS.

R 408.10905
Source: 1979 AC.

R 408.10907
Source: 1979 AC.

R 408.10911
Source: 1979 AC.

R 408.10912
Source: 1979 AC.

R 408.10913
Source: 1984 AACS.

R 408.10914
Source: 2013 AACS.

R 408.10916
Source: 1979 AC.

R 408.10917
Source: 1979 AC.

R 408.10919
Source: 1984 AACS.

R 408.10920
Source: 1984 AACS.

AUTOMATIC SPRINKLER SYSTEMS

R 408.10921
Source: 1984 AACS.

R 408.10923
Source: 1979 AC.

R 408.10924
Source: 1979 AC.

R 408.10925

Source: 2013 AACS.

R 408.10926
Source: 1984 AACS.

R 408.10927
Source: 1979 AC.

R 408.10928
Source: 1984 AACS.

STANDPIPE AND HOSE SYSTEMS

R 408.10931
Source: 1984 AACS.

R 408.10933
Source: 1979 AC.

R 408.10934
Source: 1984 AACS.

R 408.10935
Source: 1979 AC.

R 408.10936
Source: 1997 AACS.

R 408.10937
Source: 1984 AACS.

CARBON DIOXIDE SYSTEMS

R 408.10941
Source: 1984 AACS.

R 408.10944
Source: 1979 AC.

R 408.10945
Source: 1979 AC.

R 408.10946
Source: 1979 AC.

DRY CHEMICAL SYSTEMS

R 408.10951
Source: 1984 AACS.

R 408.10952
Source: 1984 AACS.

R 408.10953
Source: 1979 AC.

R 408.10954
Source: 1979 AC.

R 408.10955
Source: 1979 AC.

FOAM SYSTEMS

R 408.10961
Source: 1984 AACS.

R 408.10963
Source: 1984 AACS.

R 408.10964
Source: 1984 AACS.

R 408.10965
Source: 1984 AACS.

HALOGENATED EXTINGUISHING SYSTEMS

R 408.10971
Source: 1984 AACS.

R 408.10973
Source: 1979 AC.

R 408.10975
Source: 1979 AC.

R 408.10976
Source: 1979 AC.

LOCAL FIRE ALARM SYSTEMS

R 408.10981
Source: 1984 AACS.

R 408.10983
Source: 1984 AACS.

R 408.10984
Source: 1979 AC.

FIRE DETECTION SYSTEMS

R 408.10991
Source: 1984 AACS.

R 408.10993
Source: 1984 AACS.

R 408.10995

Source: 1984 AACS.

R 408.10999
Source: 2013 AACS.

PART 11. POLISHING, BUFFING, AND ABRADING

R 408.11101
Source: 1979 AC.

R 408.11103
Source: 1979 AC.

R 408.11104
Source: 1979 AC.

R 408.11105
Source: 1979 AC.

R 408.11111
Source: 1983 AACS.

R 408.11115
Source: 1979 AC.

R 408.11116
Source: 1979 AC.

R 408.11118
Source: 1979 AC.

R 408.11119
Source: 2013 AACS.

R 408.11121
Source: 2013 AACS.

R 408.11123
Source: 1979 AC.

R 408.11131
Source: 1979 AC.

R 408.11135
Source: 1979 AC.

R 408.11137
Source: 1979 AC.

PART 12. WELDING AND CUTTING

R 408.11201
Source: 1979 AC.

R 408.11202
Source: 2013 AACS.

R 408.11203
Source: 2013 AACS.

R 408.11204
Source: 1979 AC.

R 408.11205
Source: 1988 AACS.

R 408.11211
Source: 2013 AACS.

R 408.11212
Source: 1988 AACS.

R 408.11213
Source: 2013 AACS.

R 408.11214
Source: 1997 AACS.

R 408.11221
Source: 2013 AACS.

R 408.11222
Source: 2013 AACS.

R 408.11223
Source: 1979 AC.

R 408.11224
Source: 2013 AACS.

R 408.11225
Source: 1988 AACS.

R 408.11231
Source: 1979 AC.

R 408.11232
Source: 1981 AACS.

R 408.11233
Source: 1979 AC.

R 408.11234
Source: 1981 AACS.

R 408.11241
Source: 2013 AACS.

R 408.11242
Source: 1981 AACS.

R 408.11243
Source: 2013 AACS.

R 408.11244
Source: 1979 AC.

R 408.11245
Source: 1979 AC.

R 408.11251
Source: 1979 AC.

R 408.11252
Source: 1979 AC.

R 408.11253
Source: 1979 AC.

R 408.11254
Source: 1979 AC.

R 408.11261
Source: 1979 AC.

R 408.11262
Source: 2013 AACS.

R 408.11271
Source: 1979 AC.

R 408.11272
Source: 1979 AC.

R 408.11273
Source: 1979 AC.

R 408.11274
Source: 1979 AC.

R 408.11275
Source: 2013 AACS.

R 408.11276
Source: 1979 AC.

R 408.11281
Source: 1988 AACS.

R 408.11282
Source: 1979 AC.

R 408.11283
Source: 1979 AC.

R 408.11284
Source: 1979 AC.

R 408.11291

Source: 1979 AC.

R 408.11292
Source: 1981 AACS.

R 408.11293
Source: 2013 AACS.

R 408.11294
Source: 2013 AACS.

R 408.11295
Source: 1979 AC.

R 408.11296
Source: 1979 AC.

R 408.11297
Source: 1997 AACS.

R 408.11298
Source: 1981 AACS.

R 408.11299
Source: 1981 AACS.

PART 13. DERRICKS

R 408.11301
Source: 1982 AACS.

PART 14. CONVEYORS

R 408.11401
Source: 1979 AC.

R 408.11403
Source: 1979 AC.

R 408.11404
Source: 1979 AC.

R 408.11405
Source: 1979 AC.

R 408.11406
Source: 1979 AC.

R 408.11407
Source: 1979 AC.

R 408.11411
Source: 1979 AC.

R 408.11412
Source: 1979 AC.

R 408.11421
Source: 1979 AC.

R 408.11422
Source: 1979 AC.

R 408.11423
Source: 1979 AC.

R 408.11424
Source: 1979 AC.

R 408.11425
Source: 1979 AC.

R 408.11426
Source: 1979 AC.

R 408.11427
Source: 1979 AC.

R 408.11428
Source: 1979 AC.

R 408.11429
Source: 1979 AC.

R 408.11431
Source: 2013 AACS.

R 408.11432
Source: 1979 AC.

R 408.11433
Source: 1979 AC.

R 408.11434
Source: 2013 AACS.

R 408.11435
Source: 2013 AACS.

R 408.11436
Source: 1997 AACS.

R 408.11441
Source: 1979 AC.

R 408.11442
Source: 1979 AC.

R 408.11443
Source: 1979 AC.

R 408.11444
Source: 1979 AC.

R 408.11445
Source: 1979 AC.

R 408.11446
Source: 1979 AC.

R 408.11447
Source: 1979 AC.

R 408.11448
Source: 1979 AC.

R 408.11449
Source: 1979 AC.

R 408.11450
Source: 1979 AC.

R 408.11451
Source: 1979 AC.

R 408.11452
Source: 1979 AC.

R 408.11461
Source: 1979 AC.

PART 16. LABELING OF HAZARDOUS SUBSTANCES

R 408.11601
Source: 1997 AACS.

R 408.11602
Source: 1997 AACS.

R 408.11603
Source: 1997 AACS.

R 408.11604
Source: 1997 AACS.

R 408.11605
Source: 1997 AACS.

R 408.11606
Source: 1997 AACS.

R 408.11607
Source: 1997 AACS.

R 408.11608
Source: 1997 AACS.

R 408.11609
Source: 1997 AACS.

R 408.11610
Source: 1997 AACS.

R 408.11611
Source: 1997 AACS.

R 408.11612
Source: 1997 AACS.

R 408.11613
Source: 1997 AACS.

PART 17. REFUSE PACKER UNITS

R 408.11701
Source: 1979 AC.

R 408.11704
Source: 1979 AC.

R 408.11705
Source: 1979 AC.

R 408.11706
Source: 1979 AC.

R 408.11711
Source: 1979 AC.

R 408.11713
Source: 1979 AC.

R 408.11715
Source: 1979 AC.

R 408.11716
Source: 1979 AC.

R 408.11717
Source: 1979 AC.

R 408.11718
Source: 1979 AC.

R 408.11721
Source: 1979 AC.

R 408.11722
Source: 1979 AC.

R 408.11723
Source: 1979 AC.

R 408.11724
Source: 2013 AACS.

R 408.11725
Source: 2013 AACS.

R 408.11731
Source: 1979 AC.

R 408.11732
Source: 1979 AC.

PART 18. OVERHEAD AND GANTRY CRANES

OPERATORS AND OPERATIONS

R 408.11801
Source: 2002 AACS.

R 408.11803
Source: 2002 AACS.

R 408.11804
Source: 2002 AACS.

R 408.11805
Source: 2002 AACS.

R 408.11806
Source: 2002 AACS.

R 408.11807
Source: 2013 AACS.

R 408.11808
Source: 2002 AACS.

CONSTRUCTION, INSTALLATION AND EQUIPMENT

R 408.11821
Source: 2005 AACS.

R 408.11822
Source: 2005 AACS.

R 408.11823
Source: 1979 AC.

R 408.11824
Source: 2002 AACS.

R 408.11825
Source: 2002 AACS.

R 408.11826
Source: 2002 AACS.

R 408.11827
Source: 2002 AACS.

R 408.11831
Source: 1979 AC.

R 408.11832
Source: 1979 AC.

R 408.11833
Source: 2002 AACS.

R 408.11835
Source: 2002 AACS.

R 408.11837
Source: 2002 AACS.

R 408.11841
Source: 2002 AACS.

R 408.11843
Source: 2002 AACS.

R 408.11844
Source: 2013 AACS.

R 408.11845
Source: 2002 AACS.

R 408.11847
Source: 2002 AACS.

OPERATORS AND OPERATIONS

R 408.11851
Source: 2013 AACS.

R 408.11852
Source: 2002 AACS.

R 408.11853
Source: 2002 AACS.

R 408.11854
Source: 2002 AACS.

R 408.11855
Source: 2005 AACS.

R 408.11857
Source: 2002 AACS.

R 408.11859
Source: 2013 AACS.

R 408.11861
Source: 2002 AACS.

R 408.11863
Source: 1979 AC.

R 408.11865

Source: 2002 AACS.

INSPECTIONS

R 408.11871
Source: 2002 AACS.

R 408.11872
Source: 2005 AACS.

R 408.11873
Source: 2005 AACS.

R 408.11874
Source: 2002 AACS.

R 408.11875
Source: 2002 AACS.

PART 19. CRAWLER, LOCOMOTIVE, AND TRUCK CRANES

R 408.11901
Source: 1979 AC.

R 408.11902
Source: 2013 AACS.

R 408.11903
Source: 1979 AC.

R 408.11904
Source: 1979 AC.

R 408.11905
Source: 1979 AC.

R 408.11906
Source: 1979 AC.

R 408.11911
Source: 1979 AC.

R 408.11912
Source: 1979 AC.

R 408.11913
Source: 2013 AACS.

R 408.11914
Source: 1979 AC.

R 408.11915
Source: 1979 AC.

R 408.11916
Source: 1997 AACS.

R 408.11921

Source: 2013 AACS.

R 408.11923
Source: 1979 AC.

R 408.11924
Source: 1979 AC.

R 408.11931
Source: 1979 AC.

R 408.11932
Source: 1979 AC.

R 408.11933
Source: 1979 AC.

R 408.11934
Source: 1979 AC.

R 408.11935
Source: 1979 AC.

R 408.11936
Source: 1979 AC.

R 408.11937
Source: 2013 AACS.

R 408.11941
Source: 1979 AC.

R 408.11942
Source: 1979 AC.

R 408.11943
Source: 1989 AACS.

R 408.11951
Source: 1979 AC.

R 408.11952
Source: 1979 AC.

R 408.11953
Source: 1979 AC.

R 408.11954
Source: 1979 AC.

R 408.11955
Source: 1979 AC.

R 408.11956
Source: 1979 AC.

R 408.11957
Source: 2013 AACS.

R 408.11971
Source: 1979 AC.

R 408.11972
Source: 1979 AC.

PART 20. UNDERHUNG CRANES AND MONORAIL SYSTEMS

R 408.12001
Source: 1990 AACS.

R 408.12002
Source: 2013 AACS.

R 408.12003
Source: 1990 AACS.

R 408.12004
Source: 1990 AACS.

R 408.12005
Source: 1990 AACS.

CONSTRUCTION, INSTALLATION, AND TESTING

R 408.12011
Source: 2013 AACS.

R 408.12012
Source: 1990 AACS.

R 408.12013
Source: 1990 AACS.

R 408.12014
Source: 1990 AACS.

R 408.12015
Source: 1990 AACS.

R 408.12016
Source: 2013 AACS.

R 408.12017
Source: 1990 AACS.

R 408.12018
Source: 1990 AACS.

R 408.12019
Source: 1990 AACS.

OPERATORS AND OPERATIONS

R 408.12021
Source: 2013 AACS.

R 408.12022

Source: 1990 AACS.

R 408.12023
Source: 1990 AACS.

R 408.12024
Source: 1990 AACS.

R 408.12025
Source: 1990 AACS.

R 408.12026
Source: 2013 AACS.

R 408.12031
Source: 1990 AACS.

R 408.12032
Source: 1990 AACS.

R 408.12033
Source: 1990 AACS.

R 408.12034
Source: 1990 AACS.

R 408.12035
Source: 1990 AACS.

INSPECTION AND MAINTENANCE

R 408.12041
Source: 1990 AACS.

R 408.12042
Source: 1990 AACS.

R 408.12043
Source: 2013 AACS.

R 408.12044
Source: 1990 AACS.

R 408.12045
Source: 1990 AACS.

PART 21. POWERED INDUSTRIAL TRUCKS

R 408.12101
Source: 1979 AC.

R 408.12102
Source: 1998-2000 AACS.

R 408.12103
Source: 1998-2000 AACS.

R 408.12104

Source: 1998-2000 AACS.

R 408.12105
Source: 1998-2000 AACS.

R 408.12106
Source: 1998-2000 AACS.

R 408.12107
Source: 1979 AC.

R 408.12108
Source: 1979 AC.

R 408.12109
Source: 1998-2000 AACS.

R 408.12110
Source: 1998-2000 AACS.

R 408.12111
Source: 2013 AACS.

R 408.12121
Source: 1998-2000 AACS.

R 408.12122
Source: 1979 AC.

R 408.12123
Source: 1979 AC.

R 408.12124
Source: 1979 AC.

R 408.12125
Source: 1979 AC.

R 408.12126
Source: 1979 AC.

R 408.12127
Source: 1979 AC.

R 408.12128
Source: 1979 AC.

R 408.12129
Source: 1979 AC.

R 408.12130
Source: 1998-2000 AACS.

R 408.12131
Source: 1979 AC.

R 408.12132
Source: 1998-2000 AACS.

R 408.12133
Source: 1979 AC.

R 408.12134
Source: 1998-2000 AACS.

R 408.12135
Source: 1998-2000 AACS.

R 408.12136
Source: 1998-2000 AACS.

R 408.12137
Source: 1998-2000 AACS.

R 408.12138
Source: 1998-2000 AACS.

R 408.12139
Source: 1979 AC.

R 408.12143
Source: 1983 AACS.

R 408.12151
Source: 2013 AACS.

R 408.12152
Source: 1998-2000 AACS.

R 408.12153
Source: 1983 AACS.

R 408.12154
Source: 1998-2000 AACS.

R 408.12155
Source: 2013 AACS.

R 408.12161
Source: 1980 AACS.

R 408.12162
Source: 1983 AACS.

R 408.12163
Source: 2013 AACS.

R 408.12164
Source: 1998-2000 AACS.

R 408.12165
Source: 1979 AC.

R 408.12166
Source: 1979 AC.

R 408.12167

Source: 1979 AC.

R 408.12168
Source: 1979 AC.

R 408.12169
Source: 1979 AC.

R 408.12171
Source: 1998-2000 AACS.

R 408.12172
Source: 1998-2000 AACS.

R 408.12173
Source: 1998-2000 AACS.

R 408.12174
Source: 1979 AC.

R 408.12175
Source: 1979 AC.

R 408.12178
Source: 1979 AC.

R 408.12176
Source: 1998-2000 AACS.

R 408.12177
Source: 1983 AACS.

R 408.12179
Source: 1983 AACS.

R 408.12180
Source: 1979 AC.

R 408.12181
Source: 1979 AC.

R 408.12182
Source: 1979 AC.

R 408.12183
Source: 1983 AACS.

R 408.12184
Source: 1983 AACS.

R 408.12185
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R 408.12186
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R 408.12187
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R 408.12188
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R 408.12189
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R 408.12190
Source: 1983 AACS.

R 408.12191
Source: 1979 AC.

R 408.12192
Source: 1979 AC.

R 408.12193
Source: 1979 AC.

PART 22. TRACTORS

R 408.12201
Source: 1979 AC.

R 408.12202
Source: 2013 AACS.

R 408.12203
Source: 1979 AC.

R 408.12205
Source: 1979 AC.

R 408.12206
Source: 1979 AC.

R 408.12207
Source: 1979 AC.

R 408.12211
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R 408.12212
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R 408.12213
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R 408.12214
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R 408.12216
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R 408.12217
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R 408.12218
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R 408.12219
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R 408.12220
Source: 2013 AACS.

R 408.12231
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R 408.12232
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R 408.12233
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R 408.12255
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R 408.12259
Source: 1979 AC.

R 408.12260
Source: 1979 AC.

R 408.12261
Source: 1979 AC.

PART 23. HYDRAULIC POWER PRESSES

R 408.12301
Source: 1979 AC.

R 408.12303
Source: 1979 AC.

R 408.12304
Source: 1979 AC.

R 408.12305
Source: 1979 AC.

R 408.12306
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R 408.12307
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R 408.12308
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R 408.12309
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R 408.12310
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R 408.12311
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R 408.12312
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R 408.12316
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R 408.12321
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R 408.12332
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R 408.12334
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R 408.12336
Source: 1997 AACS.

R 408.12338
Source: 1979 AC.

R 408.12341
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R 408.12344
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R 408.12345
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R 408.12351
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R 408.12371
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R 408.12372
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R 408.12373
Source: 1979 AC.

PART 24. MECHANICAL POWER PRESSES

R 408.12401
Source: 1990 AACS.

R 408.12403
Source: 1990 AACS.

R 408.12404
Source: 1990 AACS.

R 408.12405
Source: 1979 AC.

R 408.12406
Source: 1979 AC.

R 408.12407
Source: 1990 AACS.

R 408.12408
Source: 1979 AC.

R 408.12409
Source: 1979 AC.

R 408.12411
Source: 1993 AACS.

R 408.12412
Source: 1993 AACS.

R 408.12413
Source: 1990 AACS.

R 408.12421
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R 408.12434
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R 408.12441
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R 408.12442
Source: 1990 AACS.

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R 408.12444
Source: 1979 AC.

R 408.12445
Source: 1979 AC.

R 408.12446
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R 408.12450
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R 408.12451
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R 408.12452
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R 408.12453
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R 408.12454
Source: 1979 AC.

SAFEGUARDING THE POINT OF OPERATION

R 408.12461
Source: 1990 AACS.

R 408.12463
Source: 1993 AACS.

R 408.12464
Source: 1979 AC.

DIE DESIGN, CONSTRUCTION, SETTING, AND FEEDING

R 408.12471
Source: 1990 AACS.

R 408.12472
Source: 1990 AACS.

R 408.12473
Source: 1990 AACS.

R 408.12474
Source: 1990 AACS.

R 408.12475
Source: 1979 AC.

R 408.12476
Source: 1979 AC.

R 408.12477
Source: 1990 AACS.

PART 25. MANLIFTS

R 408.12501
Source: 1997 AACS.

PART 26. METALWORKING MACHINERY

R 408.12601
Source: 1979 AC.

R 408.12602
Source: 1979 AC.

R 408.12603
Source: 1979 AC.

R 408.12604
Source: 1979 AC.

R 408.12605
Source: 1991 AACS.

R 408.12606
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R 408.12608
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R 408.12611
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R 408.12612
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R 408.12649
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R 408.12650
Source: 1991 AACS.

PART 27. WOODWORKING MACHINERY

R 408.12701
Source: 1979 AC.

R 408.12702
Source: 2013 AACS.

R 408.12705
Source: 1979 AC.

R 408.12706
Source: 1979 AC.

R 408.12707
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R 408.12708
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R 408.12709
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R 408.12773
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R 408.12791
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R 408.12797
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R 408.12798
Source: 1983 AACS.

R 408.12799
Source: 2013 AACS.

PART 31. PERSONAL PROTECTIVE EQUIPMENT

R 408.13101
Source: 1997 AACS.

R 408.13102
Source: 1997 AACS.

R 408.13103
Source: 1997 AACS.

R 408.13104
Source: 1997 AACS.

R 408.13105
Source: 1997 AACS.

R 408.13106
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R 408.13107
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R 408.13108
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R 408.13109

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R 408.13110
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R 408.13111
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R 408.13112
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R 408.13113
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R 408.13114
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R 408.13115
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R 408.13131
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R 408.13132
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R 408.13133
Source: 1997 AACS.

R 408.13134
Source: 1997 AACS.

R 408.13135
Source: 1997 AACS.

PART 32. HEAD PROTECTION EQUIPMENT

R 408.13201
Source: 1997 AACS.

R 408.13203
Source: 1997 AACS.

R 408.13205
Source: 1997 AACS.

R 408.13211
Source: 1997 AACS.

R 408.13221
Source: 1997 AACS.

R 408.13222
Source: 1997 AACS.

R 408.13231
Source: 1997 AACS.

R 408.13241
Source: 1997 AACS.

PART 33. PERSONAL PROTECTIVE EQUIPMENT

R 408.13301. Scope.
Rule 3301. (1) This standard shall apply to all places of general industry employment in this state and includes requirements of the employer and use by the employee of personal protective equipment and provides reasonable and adequate means, ways, and methods for the proper selection and safe use of this equipment.
(2) Hearing protection shall be in compliance with Occupational Health Standard Part 380 "Occupational Noise Exposure," as referenced in R 408.13301a.
(3) Respiratory protection shall be in compliance with Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.13301a.

History: 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13301a. Adoption of standards by reference; access to other MIOSHA rules; appendices.

Rule 3301a. (1) The following standards are adopted by reference in these rules and are available from IHS Global, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at website: http://global.ihs.com; at a cost as of the time of adoption of these rules, as stated in this subrule.

(a) American National Standards Institute Standard (ANSI) Z-41, "American National Standard for Personal Protection -- Protective Footwear," 1999 edition. Cost $25.00.

(b) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 2003 edition. Cost $82.00.

(c) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 1989 edition, revised 1998. Cost $148.00.

(d) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 1989 edition. Cost: $148.00.

(e) American Society of Testing Materials Standard (ASTM) D-120, "Standard Specification for Rubber Insulating Gloves," 1987 edition. Cost: $49.00.

(f) ASTM D-178, "Standard Specification for Rubber Insulating Matting," 1988 edition. Cost $49.00.

(g) ASTM D-178, "Standard Specification for Rubber Insulating Matting," 1993 edition. Cost $56.00.

(h) ASTM D-1048, "Standard Specification for Rubber Insulating Blankets," 1988a edition. Cost $49.00.

(i) ASTM D-1048, "Standard Specification for Rubber Insulating Blankets," 1993 edition. Cost $56.00.

(j) ASTM D-1049, "Standard Specification for Rubber Insulating Covers," 1988 edition. Cost $49.00.

(k) ASTM D-1049, "Standard Specification for Rubber Insulating Covers," 1993 edition. Cost $56.00.

(l) ASTM D-1050, "Standard Specification for Rubber Insulating Line Hose," 1990 edition. Cost $56.00.

(m) ASTM D-1051, "Standard Specification for Rubber Insulating Sleeves," 1987 edition. Cost $49.00.

(n) ASTM F-478, "Standard Specification for In-Service Care of Insulating Line Hose and Covers," 1992 edition. Cost $49.00.

(o) ASTM F-479, "Standard Specification for In-Service Care of Insulating Blankets," 1988 edition. Cost: $49.00.

(p) ASTM F-496, "Standard Specification for In-Service Care of Insulating Gloves and Sleeves," 1991 edition. Cost $49.00.

(q) ASTM F-2412, "Standard Test Methods for Foot Protection," 2005 edition. Cost $64.00.

(r) ASTM F-2413, "Standard Specification For Performance Requirements For Protective Footwear," 2005 edition. Cost $56.00.

(2) The following standards are adopted by reference in these rules and are available from Document Center, Inc., Customer Service, 121 Industrial Road, Suite 8, Belmont, CA 94002, USA, telephone: (650) 591-7600 or via the internet at website: www.document-center.com; at a cost as of the time of adoption of these rules, as stated in this subrule.

(a) ANSI Z-89.1 "American National Standard for Industrial Head Protection," 2009 edition. Cost $61.25.

(b) ANSI Z-89.1, "American National Standard for Industrial Head Protection," 2003 edition. Cost: $20.00.

(c) ANSI Z-89.1 "American National Standard for Personnel Protection—Protective Headwear for Industrial Workers--Requirements," 1997 edition. Cost: $20.00.

(3) The standards adopted in subrules (1) and (2) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.

(4) Copies of the standards adopted in subrules (1) and (2) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.

(5) The following Michigan occupational safety and health standards (MIOSHA) are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA standards section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.

(a) Construction Safety Standard Part 45 "Fall Protection," R 408.44501 to R 408.44502.

(b) Occupational Health Standard Part 380 "Occupational Noise Exposure" R 325.60101 to R 325.30128.

(c) Occupational Health Standard Part 451 “Respiratory Protection,” R 325.60051 to R 325.60052.
(5) The appendices are informational only and are not intended to create any additional obligations or requirements not otherwise imposed or to detract from any established obligations or requirements.
History: 2014 MR 7, Eff. April 11, 2014.

R 408.13302. Definitions, A to E.
Rule 3302. (1) “Absorptive lens” means a filter lens whose physical properties are designed to attenuate the effect of glare, reflective, and stray light.
(2) “Apparatus” means electrical equipment.
(3) “Bare hand technique” means a method of working on energized conductors by isolating the employee from any ground potential and by placing the employee in continuous firm contact with the energized electric field.
(4) “Bump hat or cap” means a device worn on the head to protect the wearer from bumps or blows but which does not meet the requirements of protective helmets.
(5) “Chin protector” means the portion of a device that offers protection to a wearer’s chin, lower face, and neck.
(6) “Conductor” means a material, such as a bus bar, wire, or cable, suitable for carrying an electric current.
(7) “Corrective lens” means a lens ground to the wearer’s individual prescription.
(8) “Cover lens” means a removable disc or colorless glass, plastic-coated glass, or plastic that covers a filter lens and protects it from weld spatter, pitting, or scratching when used in a goggle.
(9) “Cover plate” means a removable pane of colorless glass, plastic-coated glass, or plastic that covers a filter plate and protects it from weld spatter, pitting, or scratching when used in a helmet, hood, or goggle.
(10) “Energized” also known as “live,” means to be electrically charged, or that to which voltage is being applied.
(11) “Eye size” means a measurement expressed in millimeters and denoting the size of the lens-holding section of an eye frame.
History: 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13303. Definitions; F, G.
Rule 3303. (1) “Face shield” means a device worn in front of the eyes and a portion or all of the face, whose predominant function is protection of the eyes and face.
(2) “Filter lens” means a lens that attenuates specific wavelengths of ultraviolet, visible, and infrared radiation according to the composition and density of the lens.
(3) “Filter plate” means a removable pane in the window of a helmet, hood, or goggle that absorbs varying proportions of the ultraviolet, visible, and infrared rays according to the composition and density of the plate.
(4) “Foot or toe protection” means a device or equipment, such as, but not limited to, safety toe footwear, toe protectors, or foot guards, that protects an employee’s foot or toes against injury.
(5) “Footwear” means apparel worn on the feet, such as shoes, boots, slippers, or overshoes, excluding hosiery.
(6) “Frame” means a device which holds the lens or lenses on the wearer.
(7) “Front” means the part of a spectacle or goggle frame that is intended to contain the lens or lenses.
(8) “Goggle” means a device with contour-shaped eyecups or facial contact with glass or plastic lenses, worn over the eyes and held in place by a headband or other suitable means for the protection of the eyes and eye sockets.
History: 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13304. Definitions; H, I.
Rule 3304. (1) “Hair enclosure” means a hat, cap, or hair net specifically designed to protect the wearer from hair entanglement in moving machinery.
(2) “Handshield” means a hand-held welding helmet. See “welding helmet.”
(3) “Headband” means that part of a goggle, helmet, or hood suspension consisting of a supporting band that encircles the head.
(4) “Headgear” means that part of a protective helmet, hood, or faceshield that supports the device on the wearer’s head, usually consisting of a headband and crown strap.
(5) “Helmet” also called a hard hat or cap, means a device that is worn on the head that is designed to provide limited protection against impact, flying particles, or electric shock.

(6) “Hood” means a device that is worn to provide protection against acids, chemicals, abrasives, and temperature extremes and entirely encloses the whole head including face, neck, and shoulders. Air line hoods and hoods used to protect wearers from inhalation or harmful atmospheres are not included in this part.
(7) “Isolated” means that all energized conductors or the exposed energized parts of equipment are isolated from the work area by an insulated barrier. Conductors may be isolated by moving them out of reaching distance by use of hot line tools.
History: 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13305. Definitions; L to R.
Rule 3305. (1) “Lanyard” means a tether attached to a safety belt or harness at one end and to a lifeline or a fixed object at the other.
(2) “Lens” means the transparent part of a protective device through which the wearer sees, also referred to as a plate or window for some devices.
(3) “Lifeline” means a rope line, except where used in tree trimming, attached at one end to a fixed object or attended by a person and to which a safety belt or lanyard is secured.
(4) “Lift-front” means a type of mounting frame for a welding helmet, hood, or goggles which is made of 2 connected parts. The front part, which may be removed from the line of vision, contains the high density filter plate with its cover plate, and the back part, which is fixed to the helmet, contains a low density or clear impact resistant plate.
(5) “Light” means an optical radiation weighted by its ability to cause visual sensations.
(6) “Manufacturer” means a business entity that marks or directs the permanent marking of the components or complete devices as compliant with this standard, and sells them as compliant.
(7) “Metatarsal guards” means guards that are designed to protect the top of the foot from the toes to the ankle over the instep of the foot. These guards may be attached to the outside of shoes.
(8) “Non-removable lens” means a lens and holder that are homogeneous and continuous.
(9) “Plano lens” means a lens which does not incorporate a corrective prescription; this lens is not necessarily flat.
(10) “Prescription lens” means a lens manufactured to the wearer’s individual corrective prescription.
(11) “Protective footwear” means footwear that is designed, constructed, and classified to protect the wearer from a potential hazard or hazards.
(12) “Protective helmet,” “protective hat or cap”, or “safety hat or cap” means a rigid device, often referred to as a safety cap or hat, that is worn to provide protection for the head or portions thereof against impact, flying particles, or electric shock, or any combination thereof, and which is held in place by a suitable suspension.
(13) “Protector” means a device that provides eye or face protection against the hazards of processes encountered in employment.
(14) “Radiant energy or radiation” means the following kinds of radiant energy which are pertinent to this standard:
(a) Ultraviolet.
(b) Visible light.
(c) Infrared.
(15) “Reaching distance” means the employee’s reach as extended by a conductive material or equipment.
History: 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13306. Definitions; S to W.
Rule 3306. (1) “Safety belt” means a device, usually worn around the waist which, by reason of its attachment to a lanyard and lifeline or a structure, will prevent a worker from falling.
(2) “Safety harness” means a belt with a shoulder strap worn around the waist and shoulder and capable of restraining a pull or fall of an employee.
(3) “Safety strap” means a restraining line secured at both ends to a safety belt or harness to hold an employee to a fixed object.
(4) “Safety toe footwear” means footwear containing a safety toe box of steel or equivalent material capable of meeting the requirements of this part.
(5) “Sanitizing” means an act or process of destroying organisms that may cause disease.
(6) “Shield” means a device to be held in the hand, or supported without the aid of the operator, whose predominant function is protection of the eyes and face.

(7) “Shell” means the portion of welding helmet or handshield that covers the wearer’s face and is the part of a helmet which includes the outermost surface.
(8) “Side shield” means a part of, or attachment to, a spectacle that provides side impact resistance.
(9) “Snood” means a flexible attachment to the back of a hood or helmet for protection against injury to the back of the head and neck.
(10) “Spectacles” also known as “safety glasses” means a protective device intended to shield the wearer’s eyes from certain hazards, depending on the spectacle type; also means a device patterned after conventional-type spectacle eyewear, but of more substantial construction, with or without sideshields, and with plano or corrective impact resistant lenses of clear or absorptive filter glass or plastic.
(11) “Temple” means the part of a spectacle frame commonly attached to the front and generally extending behind the ear of the wearer.
(12) “Toe guards” means the guards that fit over the toes of regular shoes to protect the toes from impact and compression hazards. These guards may be attached to the outside of shoes.
(13) “Welding goggle” means a goggle intended for limited welding applications.
(14) “Welding faceshield” means a faceshield intended for limited welding applications. Faceshields shall be used only in conjunction with spectacles or goggles or both.
(15) “Welding helmet” means a protective device intended to provide protection for the eyes and face against optical radiation and weld spatter, which shall be worn only in conjunction with spectacles or goggles.
(16) “Window” means the lens portion of a face shield (See definition of “lens” in R 408.13305(2).)
History: 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

HAZARD ASSESSMENT

R 408.13308. Personal protective hazard assessment and equipment selection.
Rule 3308. (1) An employer shall assess the workplace to determine if hazards are present, or are likely to be present, that necessitate the use of personal protective equipment.
(2) If the hazards are present or are likely to be present then the employer shall do all of the following:
(a) Select, and have each affected employee use, the types of personal protective equipment that will protect the affected employee from the hazards identified in the hazard assessment.
(b) Communicate selection decisions to each affected employee.
(c) Select the personal protective equipment that properly fits each affected employee.
(d) Select personal protective equipment that shall be designed and constructed to be safe for the work to be performed.
Note: Non-mandatory Appendix B contains an example of procedures that complies with the requirement for a hazard assessment.
(3) An employer shall verify that the required workplace hazard assessment has been performed through a written certification which identifies all of the following information:
(a) The workplace evaluated.
(b) The person certifying that the evaluation has been performed.
(c) The date or dates of the personal protective hazard assessment.
(d) The document is a certification of hazard assessment.
History: 1995 AACS; 2014 MR 7, Eff. April 11, 2014.

TRAINING

R 408.13309. Personal protective equipment training.
Rule 3309. (1) An employer shall provide training to each employee who is required by these rules to use personal protective equipment. The training shall include all of the following:
(a) When personal protective equipment is necessary.
(b) What personal protective equipment is necessary.
(c) How to properly don, doff, adjust, and wear the personal protective equipment.
(d) The limitations of the personal protective equipment.
(e) The proper care, maintenance, useful life, and disposal of the personal protective equipment.
(2) Each affected employee shall demonstrate an understanding of the training specified in subrule (1) of this rule and the ability to use the equipment properly before being allowed to perform work requiring the use of personal protective equipment.

(3) When an employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by subrule (2) of this rule, the employer shall retrain the employee. The occurrence of any of the following circumstances requires retraining:
(a) Changes in the workplace that render previous training obsolete.
(b) Changes in the types of personal protective equipment to be used that render previous training obsolete.
(c) Inadequacies in an affected employee's knowledge or use of assigned personal protective equipment which indicate that the employee has not retained the requisite understanding or skill.
History: 1995 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13310. Employer's and employee's responsibilities.
Rule 3310. (1) An employer shall not permit defective or damaged personal protective equipment to be used.
(2) An employee shall use all of the personal protective equipment provided by the employer.
History: 1983 AACS; 1989 AACS; 2014 MR 7, Eff. April 11, 2014.

PAYMENT FOR PERSONAL PROTECTIVE EQUIPMENT

R 408.13310a. Payment for personal protective equipment (PPE).
Rule 3310a. (1) An employer shall provide at no cost to employees the personal protective equipment necessary to protect against hazards that the employer is aware of as a result of any required assessments.
(2) An employer shall pay for replacement PPE, as necessary, under either of the following conditions:
(a) When the PPE no longer provides the protection it was designed to provide.
(b) When the previously provided PPE is no longer adequate or functional.
(3) When an employee has lost or intentionally damaged the PPE issued to him or her, an employer is not required to pay for its replacement and may require the employee to pay for its replacement.
(4) An employer is not required to pay for prescription safety eyewear with removable or permanent sideshields if the employer provides safety eyewear that fits over an employee's prescription lenses.
(5) An employer is not required to pay for non-specialty prescription safety eyewear, provided that the employer permits these items to be worn off the job-site.
(6) An employer is not required to pay for non-specialty safety-toe protective footwear, including steel-toe shoes or steel-toe boots, provided that the employer permits these items to be worn off the job-site.
(7) An employer shall provide, at no cost to employees, metatarsal guards attachable to shoes when metatarsal protection is necessary if both the following apply:
(a) If metatarsal protection is necessary and an employer requires employees to use metatarsal shoes instead of detachable guards, then the employer shall provide the metatarsal shoe at no cost to the employee.
(b) If an employer provides metatarsal guards and allows the employee, at his or her request, to use shoes or boots with built-in metatarsal protection, then the employer is not required to pay for the metatarsal shoes or boots.
(8) An employer is not required to pay for either of the following:
(a) Everyday clothing, including any of the following:
(i) Long-sleeve shirts.
(ii) Long pants.
(iii) Street shoes.
(iv) Normal work boots.
(v) Ordinary clothing.
(vi) Skin creams.
(b) Other items used solely for protection from weather, including any of the following:
(i) Winter coats.
(ii) Jackets.
(iii) Gloves.
(iv) Parkas.
(v) Rubber boots.
(vi) Hats.
(vii) Raincoats.
(viii) Ordinary sunglasses.
(ix) Sunscreen.

(9) An employer shall pay for protection when ordinary weather gear is not sufficient to protect an employee and special equipment or extraordinary clothing is needed to protect the employee from unusually severe weather conditions. Clothing used in artificially-controlled environments with extreme hot or cold temperatures, such as freezers, is not considered part of the weather gear exception.
(10) All of the following apply to upgraded and personalized PPE:
(a) An employer is not required to pay for PPE requested by an employee that exceeds the PPE requirements, provided that the employer provides PPE that meets the standards at no cost to the employee.
(b) If an employer allows an employee to acquire and use upgraded or personalized PPE, then the employer is not required to reimburse the employee for the equipment, provided that the employer has provided adequate PPE at no cost to the employee.
(c) An employer shall evaluate an employee's upgraded or personalized PPE to ensure that it complies with all of the following:
(i) Is adequate to protect from hazards present in the workplace.
(ii) Is properly maintained.
(iii) Is kept in a sanitary condition.
(11) If the provisions of another MIOSHA standard specify that the employer shall pay for specific equipment, then the payment provisions of that standard prevails.
History: 2014 MR 7, Eff. April 11, 2014.

EYE AND FACE PROTECTION

R 408.13311. Eye and face protection; consensus standards.
Rule 3311. (1) All protective eye and face protection devices, shall be in compliance with any of the following consensus standards:
(a) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 2003 edition, as adopted in R 408.13301a.
(b) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 1989 (Revised 1998) edition, as adopted in R 408.13301a.
(c) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 1989 edition, as adopted in R 408.13301a.
(2) Protective eye and face protection devices that the employer demonstrates are at least as effective as protective eye and face protection devices that are constructed in accordance with 1 of the consensus standards adopted in subrule (1) of this rule shall be considered to be in compliance with this rule.
History: 1983 AACS; 1995 AACS; 1997 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13312. Use of eye and face protection.
Rule 3312. (1) An employer shall ensure that each affected employee uses appropriate eye or face protection, when exposed to eye or face hazards from any of the following:
(a) Flying objects or particles.
(b) Harmful contacts.
(c) Exposures.
(d) Molten metal.
(e) Liquid chemicals.
(f) Acids or caustic liquids.
(g) Chemical fumes, gases or vapors.
(h) Glare.
(i) Injurious radiation.
(j) Electrical flash.
(k) A combination of these hazards.
Note: Appendix B, Appendix Table 1, "Eye and Face Protector Selection Chart," and Appendix Figure 1, "Eye and Face Protective Devices Chart," which shall be used as a guide in the selection of the proper eye and face protection.
(2) An employer shall ensure that each affected employee uses eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors, such as clip-on or slide-on sideshields, that are in compliance with the pertinent requirements of this rule are acceptable.
(3) A protector shall be in compliance with all of the following minimum requirements:

(a) Provides adequate protection against the particular hazards for which it is designed.
(b) Fits snugly and does not unduly interfere with movements of the wearer.
(c) Is capable of withstanding sanitizing.
(4) An employer shall ensure that eye and face personal protective equipment is distinctly marked to facilitate identification of the manufacturer.
(5) Limitations or precautions indicated by the manufacturer shall be transmitted to the user and care taken to ensure that the limitations or precautions are observed.
History: 1983 AACS; 1995 AACS; 1997 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13312a. Filter lenses.
Rule 3312a. (1) An employer shall ensure that each affected employee uses equipment that has filter lenses which have shade numbers appropriate for the work being performed for protection from injurious light radiation.
(2) Table 1 is a listing of appropriate shade numbers for various operations.
(3) Table 1 reads as follows:

TABLE 1
FILTER LENSES FOR PROTECTION AGAINST RADIANT ENERGY

OPERATIONS	PLATE THICKNESS (INCHES)	PLATE THICKNESS (MM)	MINIMUM* PROTECTIVE SHADE
Gas Welding:			
Light	Under 1/8	Under 3.2	4
Medium	1/8 to 1/2	3.2 to 12.7	5
Heavy	Over 1/2	Over 12.7	6
Oxygen Cutting			
Light	Under 1	Under 25	3
Medium	1 to 6	25 to 150	4
Heavy	Over 6	Over 150	5
OPERATIONS	ELECTRODE SIZE 1/32 IN.	ARC CURRENT	MINIMUM* PROTECTIVE SHADE
Shield metal Arc welding	Less than 3	Less than 60	7
	3 to 5	60 to 160	8
	more than 5 to 8	161 to 250	10
	more than 8	251 to 550	11
Gas metal arc welding and flux	cored arc welding	Less than 60	7
		60 to 160	10
		161 to 250	10
		251 to 500	10
Gas tungsten arc	welding	Less than 50	8
		50 to 150	8
		151 to 500	10
Air carbon Arc cutting	(Light)	Less than 500	10
	(Heavy)	500 to 1000	11
Plasma arc welding		Less than 20	6
		20 to 100	8
		101 to 400	10
		401 to 800	11
Plasma arc cutting	(Light)**	Less than 300	8
	(Medium)**	300 to 400	9
	(Heavy)**	401 to 800	10
Torch brazing			3
Torch soldering			2

Carbon arc welding			14

* As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade that gives a sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.

** These values apply where the actual arc is clearly seen. Experience has shown that light filters may be used when the arc is hidden by the workpiece.

History: 2014 MR 7, Eff. April 11, 2014.

R 408.13313
Source: 1983 AACS.

R 408.13320
Source: 1983 AACS.

R 408.13321
Source: 1983 AACS.

R 408.13322
Source: 1983 AACS.

R 408.13323
Source: 1983 AACS.

R 408.13324
Source: 1995 AACS.

R 408.13325
Source: 1983 AACS.

R 408.13327
Source: 1983 AACS.

R 408.13329
Source: 1983 AACS.

R 408.13330
Source: 1983 AACS.

R 408.13332
Source: 1983 AACS.

R 408.13340
Source: 1983 AACS.

R 408.13342
Source: 1983 AACS.

R 408.13343
Source: 1983 AACS.

R 408.13344
Source: 1983 AACS.

R 408.13345
Source: 1983 AACS.

R 408.13346

Source: 1983 AACS.

R 408.13347
Source: 1983 AACS.

EYE PROTECTORS

R 408.13350
Source: 1997 AACS.

R 408.13352
Source: 1983 AACS.

R 408.13353
Source: 1983 AACS.

R 408.13355
Source: 1983 AACS.

R 408.13356
Source: 1983 AACS.

R 408.13357
Source: 1983 AACS.

R 408.13359
Source: 1983 AACS.

R 408.13360
Source: 1983 AACS.

R 408.13362
Source: 1983 AACS.

R 408.13363
Source: 1983 AACS.

R 408.13364
Source: 1983 AACS.

R 408.13366
Source: 1983 AACS.

R 408.13367
Source: 1983 AACS.

R 408.13369. Spectacles.
Rule 3369. (1) Spectacles, also known as safety glasses, of metal, plastic, or a combination thereof, shall consist of lenses in a frame that supports the lenses around their entire periphery of suitable size and shape for the purpose intended connected by a nose bridge, and retained on the face by temples or other suitable means.
(2) The spectacles, also known as safety glasses, shall be furnished with or without sideshields depending upon their intended use.
(3) The frames, temples, and sideshields may be metal or plastic, and when made of plastic, shall be of the slow-burning type.
(4) Spectacles, also known as safety glasses, shall provide protection to the eye from flying objects, and, when required, from glare and injurious radiations.
(5) Spectacles, also known as safety glasses, without sideshields are intended to provide frontal protection.

(6) Where side as well as frontal protection is required, the spectacles, also known as safety glasses, shall be provided with sideshields.
Note: Appendix B, Appendix Table 1 “Eye and Face Protector Selection Chart,” and Appendix Figure 1, “Eye and Face Protective Devices Chart,” shall be used as a guide in the selection of the proper eye and face protection.
(7) Frames shall be designed for industrial exposure and shall bear a trademark identifying the manufacturer on both fronts and temples. The frame front shall carry a designation of the eye size and bridge size, where applicable. Temples shall be marked as to the overall length or fitting value.
(8) Temples may be of the cable or spatula type, as specified, and shall be of such design as to permit adjustment and fit comfortably and securely on the wearer. The size of the temples shall be clearly marked.
(9) Safety lens in frames which do not comply with this part shall not be worn.
History: 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

HEAD PROTECTION EQUIPMENT

R 408.13370. Use of head protection.
Rule 3370. (1) An employer shall ensure that each affected employee is provided with, and wears, head protection equipment and accessories when the employee is required to be present in areas where a hazard exists from any of the following:
(a) Falling or flying objects.
(b) Other harmful contacts or exposures.
(c) Where there is a risk of injury from any of the following:
(i) Electric shock.
(ii) Hair entanglement.
(iii) Chemicals.
(iv) Temperature extremes.
(2) Service facilities shall be provided for the sanitizing and replacement of needed parts when necessary and before head protection equipment is re-issued.
(3) Head protection equipment that has been physically altered~~,~~ or damaged shall not be worn or reissued to an employee.
(4) An employee shall not physically alter, and shall guard against damage to, the head protection equipment provided.
(5) An employee shall use the provided head protection equipment in accordance with the instructions and training received
History: 1983 AACS; 1995 AACS; 1997 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13372. Criteria for head protection.
Rule 3372. (1) An employer shall provide each employee with head protection that meets the specifications contained in any of the following consensus standards:
(a) ANSI Z-89.1 "American National Standard for Industrial Head Protection," 2009 edition, as adopted in R 408.13301a.
(b) ANSI Z-89.1, "American National Standard for Industrial Head Protection,” 2003 edition, as adopted in R 408.13301a.
(c) ANSI Z-89.1 "American National Standard for Personnel Protection—Protective Headwear for Industrial Workers--Requirements," 1997 edition, as adopted in R 408.13301a.
(2) Any head protection device that the employer demonstrates is at least as effective as a head protection device constructed in accordance with 1 of the consensus standards adopted in subrule (1) of this rule is considered to be in compliance with this rule.
History: 1983 AACS; 1995 AACS; 1997 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13375. Protective helmets.
Rule 3375. (1) Protective helmets shall be described by impact type and electrical class. All protective helmets shall meet either Type I or Type II requirements. All helmets shall be further classified as meeting Class G, Class E, or Class C electrical requirements. Helmets shall be classified as follows:
(a) Impact type protective helmets shall be either of the following:

(i) Type I helmets shall be intended to reduce the force of impact resulting from a blow only to the top of the head.
(ii) Type II helmets shall be intended to reduce the force of impact resulting from a blow to the top or sides of the head.
(b) Electrical classes for protective helmets shall be 1 of the following:
(i) Class G, general protective helmets are intended to reduce the danger of contact with low voltage conductors. Test samples shall be proof-tested at 2200 volts (phase to ground). This voltage is not intended as an indication of the voltage at which the helmets protects the wearer.
(ii) Class E, electrical protective helmets are intended to reduce the danger of contact with higher voltage conductors. Test samples shall be proof-tested at 20,000 volts (phase to ground). This voltage is not intended as an indication of the voltage at which the helmet protects the wearer.
(iii) Class C, conductive protective helmets are not intended to provide protection against contact with electrical hazards.
(2) A metallic head device shall not be furnished by an employer or used by an employee for head protection, except where it has been determined that the use of other types of protective helmets or safety hats or caps is impractical, such as where chemical reaction will cause the deterioration of other types of head protection.
(3) A protective helmet furnished by an employer shall be identified on the inside of the shell with the name of the manufacturer.
(4) When used in conjunction with protective helmets, faceshields, welding helmets, and goggles shall be in compliance with the requirements in these rules, and hearing protection shall be in compliance with Occupational Health Standard Part 380 "Occupational Noise Exposure," as referenced in R 408.13301a.
(5) Winter liners and chin straps used in conjunction with class E helmets for high-voltage protection shall not contain any metallic parts or other conductive materials.
(6) Winter liners and chin straps used in areas where there is a danger of ignition from heat, flame, or chemical reaction shall be made of materials that are nonburning or flame retardant.
(7) Bump hats or caps or other limited-protection devices shall not be used as a substitute for protective helmets for the hazards described in R 408.13370.
(8) An employer shall ensure that protective helmets designed to reduce electrical shock hazard shall be worn by each affected employee who is near exposed electrical conductors that could come in contact with the employee's head.
History: 1983 AACS; 1995 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13376. Hoods.
Rule 3376. (1) A hood shall be made of materials that combine all of the following:
(a) Have mechanical strength and lightness of weight to a high degree.
(b) Be non-irritating to the skin when subjected to perspiration.
(c) Be capable of withstanding frequent cleaning and disinfection.
(2) Materials used in the manufacture of hoods shall also be suitable to withstand the hazards to which the user may be exposed.
(3) A hood shall bear a permanent and legible marking by which the manufacturer may be readily identified.
(4) A hood shall be designed to provide adequate ventilation for the wearer.
(5) A protective helmet shall be used in conjunction with a hood where there is a head injury hazard and the hood shall be designed to accommodate such helmet.
History: 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13378. Hair enclosures; face and head.
Rule 3378. (1) A hat, cap, or net shall be worn by a person where there is a danger of hair entanglement in moving machinery or equipment, or where there is exposure to means of ignition.
(2) Hair enclosures include all of the following:
(a) Be designed to be reasonably comfortable to the wearer.
(b) Completely enclose all loose hair.
(c) Be adjustable to accommodate all head sizes.
(3) Be material used for hair enclosures of all of the following:
(a) Fast dyed.
(b) Non-irritating to the skin when subjected to perspiration.
(c) Capable of withstanding frequent cleaning.

(4) Hair enclosures shall not be reissued from 1 employee to another unless it has been thoroughly sanitized.
History: 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

FOOT PROTECTION

R 408.13383. Criteria for protective footwear.
Rule 3383. (1) Protective footwear shall comply with any of the following consensus standards:
(a) ASTM F-2412 “Standard Test Methods for Foot Protection,” 2005 edition, as adopted in R 408.13301a,
(b) ASTM F-2413 “Standard Specification for Performance Requirements for Protective Footwear,” 2005 edition, as adopted in R 408.13301a.
(c) ANSI Z-41 "American National Standard for Personal Protection -- Protective Footwear," 1999 edition, as adopted in R 408.13301a.
(2) Protective footwear that an employer demonstrates is at least as effective as protective footwear that is constructed in accordance with 1 of the consensus standards adopted in subrule (1) of this rule, shall be considered to be in compliance with the requirements of this rule.
History: 1983 AACS; 1995 AACS; 1997 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13384
Source: 1983 AACS.

R 408.13385. Use of foot protection.
Rule 3385. (1) An employer shall ensure that each affected employee shall wear protective footwear when working in areas where any of the following occur:
(a) An employee’s feet are exposed to electrical hazards.
(b) There is a danger of foot injuries due to falling or rolling objects.
(c) There is a danger of objects piercing the sole of the shoe.
(2) Safety shoes and boots which are not worn over shoes and which are worn by more than 1 employee shall be maintained, cleaned, and sanitized inside and out before being issued to another employee
History: 1983 AACS; 1995 AACS; 1997 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13386. Foot protection; requirements.
Rule 3386. If a hazard is created from a process, environment, chemical, or mechanical irritant which could cause an injury or impairment to the feet by absorption or physical contact, other than from impact, then the employer shall provide any of the following to the employee:
(a) Boots.
(b) Overshoes.
(c) Rubbers.
(d) Wooden-soled shoes.
(e) The equivalent to subdivisions (a) to (d) of this subrule.
History: 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

ELECTRICAL PROTECTIVE EQUIPMENT

R 408.13387. Electrical protective equipment; design; certification.
Rule 3387. (1) Insulating blankets, matting, covers, line hose, gloves, and sleeves made of rubber shall be in compliance with all of the following requirements as applicable:
(a) Blankets, gloves, and sleeves shall be produced by a seamless process.
(b) Each item shall be clearly marked as follows:
(i) Class 0 equipment shall be marked class 0.
(ii) Class 1 equipment shall be marked class 1.
(iii) Class 2 equipment shall be marked class 2.
(iv) Class 3 equipment shall be marked class 3.
(v) Class 4 equipment shall be marked class 4.
(vi) Non-ozone-resistant equipment other than matting shall be marked type 1.
(vii) Ozone-resistant equipment other than matting shall be marked type II.

(viii) Other relevant markings, such as the manufacturer's identification and the size of the equipment, may also be provided.
(c) Markings shall be nonconducting and shall be applied in a manner that does not impair the insulating qualities of the equipment.
(d) Markings on gloves shall be confined to the cuff portion of the glove.
(2) Equipment shall be capable of withstanding the alternating current proof test voltage specified in Table 3 or the direct current proof test voltage specified in Table 4. The proof test shall reliably indicate that the equipment can withstand the voltage involved. The test voltage shall be applied continuously for 3 minutes for equipment other than matting and shall be applied continuously for 1 minute for matting.
(3) Gloves shall also be capable of withstanding the alternating current proof test voltage specified in Table 3 after a 16-hour water soak. When the alternating current proof test is used on gloves, the 60-hertz proof test current may not be more than the values specified in Table 3 at any time during the test period. If the alternating current test is made at a frequency other than 60 hertz, the permissible proof test current shall be computed from the direct ratio of the frequencies. For the test, gloves (right side out) shall be filled with tap water and immersed in water to a depth that is in accordance with Table 5. Water shall be added to or removed from the glove, as necessary, so that the water level is the same inside and outside the glove. After the 16-hour water soak specified in this subrule, the 60-hertz proof test current may exceed the values specified in Table 3 by not more than 2 milliamperes.
(4) Equipment that has been subjected to a minimum breakdown voltage test may not be used for electrical protection. See subrule (3) of this rule.
(5) Material used for type II insulating equipment shall be capable of withstanding an ozone test without visible effects. The ozone test shall reliably indicate that the material will resist ozone exposure in actual use. Any visible signs of ozone deterioration of the material, such as checking, cracking, breaks, or pitting, is evidence of failure to meet the requirements for ozone-resistant material. See subrule (3) of this rule.
(6) Equipment shall be free of harmful physical irregularities that can be detected by the tests or inspections required under this rule. Surface irregularities that may be present on all rubber goods because of imperfections on forms or molds or because of inherent difficulties in the manufacturing process and that may appear as indentations, protuberances, or imbedded foreign material are acceptable if both of the following conditions are satisfied:
(a) The indentation or protuberance blends into a smooth slope when the material is stretched.
(b) Foreign material remains in place when the insulating material is folded and stretches with the insulating material surrounding it.
(7) The standards listed in Table 2 are adopted by reference in R 408.13301a.

TABLE 2
AMERICAN SOCIETY OF TESTING MATERIALS STANDARDS

STANDARD TITLE	ASTM NUMBER	EDITION
Rubber Insulating Gloves	D-120	1987
Rubber Insulating Matting	D-178	1993 or 1988
Rubber Insulating Blankets	D-1048	1993 or 1988a
Rubber Insulating Covers	D-1049	1993 or 198
Rubber Insulating Line Hose	D-1050	1990
Rubber Insulating Sleeves	D-1051	1987
In-Service Care of Insulating Line Hose and Covers	F-478	1992
In-Service Care of Insulating Blankets	F-479	1988
In-Service Care of Insulating Gloves And Sleeves	F-496	1991

These standards contain specifications for conducting the various tests required in subrules (1) to (6) of this rule.

History: 1983 AACS; 1995 AACS; 1997 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13387a. Electrical protective equipment; use and storage.

Rule 3387a. (1) Electrical protective equipment shall be maintained in a safe, reliable condition.

(2) All of the following specific requirements apply to insulating blankets, covers, line hose, gloves, and sleeves made of rubber as applicable:

(a) Maximum use voltages shall conform to the voltages listed in Table 6.

(b) Insulating equipment shall be inspected for damage before each day's use and immediately following any incident that can reasonably be suspected of having caused damage. Insulating gloves shall be given an air test in addition to being inspected.

(c) Insulating equipment that has any of the following defects shall not be used:

(i) A hole, tear, puncture, or cut.

(ii) Ozone cutting or ozone checking, the cutting action produced by ozone on rubber under mechanical stress into a series of interlacing cracks.

(iii) An embedded foreign object.

(iv) Any of the following texture changes:

(A) Swelling.

(B) Softening.

(C) Hardening.

(D) Becoming sticky or inelastic.

(v)Any other defect that damages the insulating properties.

(d) Insulating equipment found to have other defects that might affect its insulating properties shall be removed from service and returned for testing under subdivisions (h) and (j) of this subrule.

(e) Insulating equipment shall be cleaned as needed to remove foreign substances.

(f) Insulating equipment shall be stored in a location and in a manner to protect it from all of the following:

(i) Light.

(ii) Temperature extremes.

(iii) Excessive humidity.

(iv) Ozone.

(v) Other injurious substances and conditions.

(g) Protector gloves shall be worn over insulating gloves, except that protector gloves need not be used with class 0 gloves under limited-use conditions or where small equipment and parts manipulation necessitate unusually high finger dexterity. Any other class of glove may be used for similar work without protector gloves if the employer can demonstrate that the possibility of physical damage to the gloves is small and if the class of glove is 1 class higher than that required for the voltage involved. Insulating gloves that have been used without protector gloves shall not be used at a higher voltage until they have been tested under the provisions of subdivisions (h) and(i) of this subrule. Extra care shall be taken when visually examining gloves and to avoid handling sharp objects.

(h) Electrical protective equipment shall be subjected to periodic electrical tests. Test voltages and the maximum intervals between tests shall be in accordance with Table 6 and Table 7.

(i) The test method used in this subrule shall reliably indicate whether the insulating equipment can withstand the voltages involved. The standard electrical test methods considered as meeting this requirement are listed in Table 2.

(j) Only insulating equipment that passes inspection or electrical tests may be used by employees, except that rubber insulating line hose may be used in shorter lengths if the defective portion is cut off. Rubber insulating blankets may be repaired using a compatible patch that results in physical and electrical properties equal to those of the blanket. Rubber insulating blankets may be salvaged by severing the defective area from the undamaged portion of the blanket. The resulting undamaged area may not be less than 22 inches by 22 inches (560mm by 560mm) for class 1, 2, 3, and 4 blankets. Rubber insulating gloves and sleeves that have minor physical defects, such as small cuts, tears, or punctures, may be repaired by applying a compatible patch. Rubber insulating gloves and sleeves that have minor surface blemishes may be repaired with a compatible liquid compound. The patched area shall have electrical and physical properties equal to those of the

surrounding material. Repairs to gloves are permitted only in the area between the wrist and the reinforced edge of the opening.
(k) Repaired insulating equipment shall be retested before use by employees.
(l) An employer shall certify that equipment has been tested in accordance with the requirements of subrule (2)(h),(i), and (k) of this rule. The certification shall identify the equipment that passed the test and the date it was tested. The employer may mark equipment and enter the results of the tests and the dates of testing, logs are acceptable means of equipment identification.
(3) Material other than rubber that offers protection equivalent to or greater than rubber may be used if the material is certified to meet the appropriate ASTM standard tests.
(4) An insulated blanket, glove, or sleeve shall be capable of withstanding the voltage to which it may be subjected.
(5) Exposed conductors or equipment, or both, except for conductors or equipment being directly worked on, that is energized from 750 volts to 28,000 volts phase to ground and that an employee may reach into or touch shall be isolated or covered with at least 1 of the following:
(a) An insulating blanket.
(b) An insulating hood.
(c) An insulating line hose.
(d) An insulating barrier.
(6) An employee shall use insulating gloves and sleeves capable of withstanding the imposed voltage when performing any of the following activities:
(a) Working directly on, or within reaching distance of, a conductor or equipment at a nominal 750 volts or more phase to ground, except when using barehanded techniques or a hot stick. Sleeves are not required for an employee who performs routine switching operations in a substation or powerhouse. An employee who uses gloves and sleeves and works directly on or within reaching distance of a conductor or equipment energized at more than 5,000 volts phase to ground shall do so from an insulated platform or board or an aerial device that has an insulated basket.
(b) Connecting or disconnecting primary neutrals, pole ground wires, or other conductors normally connected to static wires or energized equipment, except that gloves and sleeves need not be worn while connecting and disconnecting a service neutral or secondary neutral.
(c) Working on a de-energized conductor that extends into an area in which contact may be made with an energized conductor or exposed parts of energized equipment, unless the conductor is grounded or isolated. Insulating sleeves are optional at voltages of less than 750 volts phase to ground.
(7) An employee shall use insulating gloves capable of withstanding the imposed voltage when performing either of the following activities:
(a) When working with a powered or manual hole digger while using booms or using winch lines to install or remove poles or equipment where the hole digger may contact conductors or equipment energized at a voltage of 300 volts or more phase to ground. An employee need not use the gloves while in the enclosed cab of the equipment.
(b) When working directly on a conductor or equipment energized at a voltage of more than 240 volts phase to ground. This does not include the use of test equipment.

TABLE 3
ALTERNATING CURRENT PROOF-TEST REQUIREMENTS

CLASS OF EQUIPMENT	PROOF-TEST VOLTAGE RMS V	MAXIMUM PROOF-TEST CURRENT, Ma (Globes Only)			
		267mm (10.5 in.) Glove	356mm (14 in.) Glove	406mm (16 in.) Glove	457mm (18 in.) Glove
0	5,000	8	12	14	16
1	10,000	-	14	16	18
2	20,000	-	16	18	20
3	30,000	-	18	20	22

4	40,000	-	-	22	24

TABLE 4
DIRECT CURRENT PROOF-TEST REQUIREMENTS

CLASS OF EQUIPMENT	PROOF-TEST VOLTAGE
0	20,000
1	40,000
2	50,000
3	60,000
4	70,000

NOTE: The direct current voltages listed in this table are not appropriate for proof-testing rubber insulating line hose or covers. For this equipment, direct current proof tests shall use a voltage high enough to indicate that the equipment can be safely used to the voltages listed in Table 5.

See ASTM D-1050 "Rubber Insulating Line Hose," 1990 edition and ASTM D-1049 "Rubber Insulating Covers." 1993 or 1988 edition as adopted in R 408.13301a, for further information on proof tests for rubber insulating line hose and covers.

TABLE 5
GLOVE TESTS – WATER LEVEL 1, 2

CLASS OF GLOVE	ALTERNATING CURRENT PROOF TEST		DIRECT CURRENT PROOF TEST	
-	mm.	Inches	mm.	Inches
0	38	1.5	38	1.5
1	38	1.5	51	2.0
2	64	2.5	76	3.0
3	89	3.5	102	4.0
4	127	5.0	153	6.0

1. The water level is given as the clearance from the cuff of the glove to the waterline, with a tolerance of ±□13mm. (±□0.5 inches).
2. If atmospheric conditions make the specified clearances impractical, the clearances may be increased by a maximum of 25mm. (1 inch).

TABLE 6
RUBBER INSULATING EQUIPMENT VOLTAGE REQUIREMENTS

CLASS OF EQUIPMENT	MAXIMUM USE VOLTAGE	RETEST VOLTAGE ALTERNATING CURRENT ROOT MEAN SQUARE	RETEST VOLTAGE DIRECT CURRENT AVERAGE
0	1,000	5,000	20,000
1	7,500	10,000	40,000
2	17,000	20,000	50,000
3	26,500	30,000	60,000
4	36,000	40,000	70,000

1. The maximum use voltage is the alternating current voltage (root mean square) classification of the protective equipment that designates the maximum nominal

design voltage of the energized system that may be safely worked. The nominal voltage is equal to the phase-to-phase voltage on multiphase circuits. However, the phase-to-ground potential is considered to be the nominal design voltage in either of the following situations:

(a) If there is no multiphase exposure in a system area and if the voltage exposure is limited to the phase-to-ground potential.

(b) If the electrical equipment and devices are insulated or isolated, or both, so that the multiphase exposure on a grounded wye circuit is removed.

2. The proof-test voltage shall be applied continuously for not less than 1 minute, but not more than 3 minutes.

TABLE 7
RUBBER INSULATING EQUIPMENT TEST INTERVALS

TYPE OF EQUIPMENT	WHEN TO TEST
Rubber insulating line hose	Upon indication that insulating value is suspect.
Rubber insulating covers	Upon indication that insulating value is suspect.
Rubber insulating blankets	Before first issue and every 12 months thereafter.
Rubber insulating gloves	Before first issue and every 6 months thereafter.
Rubber insulating sleeves	Before first issue and every 12 months thereafter.

If the insulating equipment has been electrically tested, but not issued for service, the equipment may not be placed into service unless it has been electrically tested within the previous 12 months.

History: 2014 MR 7, Eff. April 11, 2014.

FALL PROTECTION

R 408.13390. Fall protection.

Rule 3390. An employer shall ensure that each employee whose fall protection is not covered by another MIOSHA safety standard, and the employee's work area is more than 6 feet above the ground, floor, water, or other surface, shall be protected as prescribed in Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.13301a.

The following systems are included in CS Part 45 "Fall Protection:"

(a) Guardrail systems.

(b) Safety net systems.

(c) Personal fall arrest systems.

See Appendix C for reference to the correct safety standards for general industry threshold heights requiring fall prevention/protection equipment.

History: 1983 AACS; 1997 AACS; 2014 MR 7, Eff. April 11, 2014.

HAND PROTECTION

R 408.13392. Hand protection.

Rule 3392. An employer shall select and require employees to use appropriate hand protection when employees' hands are exposed to hazards, such as those from any of the following:

(a) Skin absorption of harmful substances.

(b) Severe cuts or lacerations.

(c) Severe abrasions.

(d) Punctures.
(e) Chemical burns.
(f) Thermal burns.
(g) Harmful temperature extremes.
History: 1983 AACS; 1995 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13393. Hand protection; selection.
Rule 3393. (1) An employer shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection related to all of the following:
(a) The task or tasks to be performed.
(b) Conditions present.
(c) Duration of use.
(d) The hazards and potential hazards identified.
(2) Hand protection interiors shall be kept free of corrosive or irritating contaminants.
(3) If more than 1 employee wears a pair of gloves, the gloves shall be sanitized before re-issuance.
History: 2014 MR 7, Eff. April 11, 2014.

BODY PROTECTION

R 408.13394. Body protection.
Rule 3394.
(1) An employer shall ensure that each employee who is required to work so that his or her clothing becomes wet due to a condition other than the weather or perspiration uses any of the following:
(a) Aprons.
(b) Coats.
(c) Jackets.
(d) Sleeves.
(e) Other garments that will keep his or her clothing dry.
(2) The material shall be unaffected by the wetting agent.
(3) The provision of dry, clean, acid-resistant clothing, in addition to rubber shoes or short boots and an apron, shall be considered a satisfactory substitute where small parts are cleaned, plated, or acid-dipped in an open tank.
(4) When abrasive blasting is not protected by an enclosure, the operator shall use heavy canvas or leather gloves and aprons or equivalent protection to provide protection from the impact of abrasives.
History: 1983 AACS; 1997 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13398 Rescinded.
History: 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

PART 35. FACE AND EYE PROTECTION

R 408.13501
Source: 1997 AACS.

R 408.13503
Source: 1997 AACS.

R 408.13504
Source: 1997 AACS.

R 408.13505
Source: 1997 AACS.

R 408.13506
Source: 1997 AACS.

R 408.13508
Source: 1997 AACS.

R 408.13511
Source: 1997 AACS.

R 408.13512
Source: 1997 AACS.

R 408.13513
Source: 1997 AACS.

R 408.13514
Source: 1997 AACS.

R 408.13521
Source: 1997 AACS.

R 408.13522
Source: 1997 AACS.

R 408.13523
Source: 1997 AACS.

R 408.13524
Source: 1997 AACS.

R 408.13525
Source: 1997 AACS.

R 408.13526
Source: 1997 AACS.

R 408.13528
Source: 1997 AACS.

R 408.13530
Source: 1997 AACS.

R 408.13531
Source: 1997 AACS.

R 408.13533
Source: 1997 AACS.

R 408.13541
Source: 1997 AACS.

R 408.13542
Source: 1997 AACS.

R 408.13543
Source: 1997 AACS.

R 408.13544
Source: 1997 AACS.

R 408.13545
Source: 1997 AACS.

R 408.13546
Source: 1997 AACS.

R 408.13547
Source: 1997 AACS.

R 408.13551
Source: 1997 AACS.

R 408.13552
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R 408.13559
Source: 1997 AACS.

R 408.13560
Source: 1997 AACS.

R 408.13562
Source: 1997 AACS.

R 408.13563
Source: 1997 AACS.

R 408.13564
Source: 1997 AACS.

R 408.13566
Source: 1997 AACS.

R 408.13567
Source: 1997 AACS.

R 408.13569
Source: 1997 AACS.

PART 37. ACCIDENT PREVENTION SIGNS AND TAGS

TAGS

R 408.13701 Scope.
Rule 3701. (1) This part provides specifications for the design, application, and use of signs or symbols and tags to define or signal a specific hazard in, around or about a place of employment where the failure to designate a hazard could harm workers or the public, or both, or to property damage.
(2) These specifications are intended to cover all safety signs except those designed for streets, highways, and railroads. These specifications do not apply to plant bulletin boards or to safety posters.
(3) All new signs and replacements of old signs shall be in accordance with these specifications.
History: 1979 AC; 2014 MR 7, Eff. April 11, 2014.

R 408.13702
Source: 1979 AC.

R 408.13703 Definitions; A to D.
Rule 3703. (1) “Accident prevention sign” means the surface on which letters or markings are used to warn of a hazard, provide safety instructions, or provide directions. An accident prevention sign may be temporarily or permanently affixed or placed.
(2) “Accident prevention tag” means the surface on which letters or markings are used to warn of an existing or immediate hazard and which is temporarily attached to a part of equipment or structure.
(3) Biological hazard" or "BIOHAZARD" means those infectious agents presenting a risk of death, injury, or illness to employees.
(4) “Caution sign or tag” means a sign or tag used to warn of a potential hazard or to warn against an unsafe practice.
(5) “Danger sign or tag” means a sign or tag used to signal an immediate hazard.
(6) “Do not start tag” means a tag used to tag out a starting mechanism which would cause a hazard if started.
History: 1979 AC; 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13704 Definitions; E to S.
Rule 3704. (1) “Exit sign” means a sign used to designate a point of discharge from a room or building.
(2) “In-plant traffic sign” means a sign used to direct the safe use of a vehicle on plant property.
(3) "Major message" means that portion of a tag's inscription that is more specific than the signal word and that indicates the specific hazardous condition or the instruction to be communicated to the employee. Examples include: "High Voltage," "Close Clearance," "Do Not Start," or "Do Not Use" or a corresponding pictograph used with a written text or alone.
(4) “Out of order tag” means a tag used to indicate a machine is malfunctioning and its use might create a hazard.
(5) "Pictograph" means a pictorial representation used to identify a hazardous condition or to convey a safety instruction.
(6) “Plant thoroughfare” means the company streets on plant property.
(7) “Safety instruction sign” means a sign used for general instruction or suggestion relative to safety.
(8) "Sign" refers to a surface as prepared for the warning of, or safety instructions of, industrial workers or members of the public who may be exposed to hazards. “Sign” does not mean news releases, displays commonly known as safety posters, or bulletins used for employee education.
(9) "Signal word" means that portion of a tag's inscription that contains the word or words that are intended to capture the employee's immediate attention.
(10) "Tag" means a device usually made of card, paper, pasteboard, plastic, or other material used to identify a hazardous condition.
History: 1979 AC; 2014 MR 7, Eff. April 11, 2014.

R 408.13705 Adoption of standards by reference; access to other MIOSHA rules.
Rule 3705. (1) This standard is adopted by reference in these rules, American National Standard Institute Standard ANSI Z53.1, “USA Standard Safety Color Code for Marking Physical Hazards,” 1971 edition, and is available from IHS Global, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at website: http://global.ihs.com; at a cost as of the time of adoption of these rules of $20.00.
(2) The following standards are adopted by reference in these rules and are available from the American Society of Agricultural and Biological Engineers (ASABE), 2950 Niles Road, St. Joseph, Michigan 49085, Phone: (269) 429-0300 or via the internet at website: http://www.asabe.org/, at a cost as of the time of adoption of these rules, as stated in this subrule.
(a) American Society of Agricultural Engineers Standard ASAE R276, “Emblem for Identifying Slow-Moving Vehicles,” 1966 edition. Cost: $80.00.
(b) ASAE S276.2 “Slow-Moving Vehicle Identification Emblem,” 1968 edition. Cost: $80.00.
(3) The standards adopted in subrules (1) and (2) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.

(4) Copies of the standards adopted in subrules (1) and (2) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
(5) The General Industry Safety Standard Part 6 "Fire Exits," R 408.10601 to R 408.10698, is referenced in these rules. Up to 5 copies of this standard may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA standards section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
History: 2014 MR 7, Eff. April 11, 2014.

R 408.13706
Source: 1979 AC.

R 408.13707 Signs generally.
Rule 3707. (1) All signs shall be furnished with rounded or blunt corners and shall be free of sharp edges, burrs, splinters, or other sharp projections. The ends or heads of bolts or other fastening devices shall be located in such a way that they do not constitute a hazard.
(2) Danger signs. The colors red, black, and white shall be those of opaque glossy samples as specified in table 1 "Fundamental Specification of Safety Colors for CIE Standard Source "C"," in American National Standard Institute ANSI standard Z53.1, "USA Standard Safety Color Code for Marking Physical Hazards," 1971 edition, as adopted in R 408.13705.
(3) Caution signs. Standard color of the background shall be yellow; and the panel, black with yellow letters. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 in ANSI Z53.1, 1971 edition, as adopted in R 408.13705.
(4) Safety instruction signs. Standard color of the background shall be white; and the panel, green with white letters. Any letters used against the white background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 in ANSI Z53.1, 1971 edition, as adopted in R 408.13705.
History: 1979 AC; 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13708
Source: 1983 AACS.

R 408.13709
Source: 1979 AC.

R 408.13711 Danger signs.
Rule 3711. (1) A danger sign shall be used only where an immediate hazard exists. The sign shall be removed when the hazard is removed.
(2) A danger sign shall have the signal word "danger" in white within a red oval outlined in white on a black rectangular background in the upper panel. The lower panel where additional wording may be used shall be black or red letters on a white background. (See figure 1.)
(3) Danger signs shall have no variation in the type of design of signs posted to warn of specific dangers and radiation hazards.
(4) An employee shall be instructed that a danger sign indicates immediate danger and that special precautions are necessary.
(5) Figure 1 reads as follows:

Figure 1
Danger Sign

History: 1979 AC; 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13713
Source: 1983 AACS.

R 408.13714 Exit signs.
Rule 3714. (1) An exit sign shall be used as prescribed in subrule (3) of R 408.10685 and R 408.10686 of the General Industry Safety Standard Part 6 "Fire Exits," as referenced in R 408.13705.
(2) An exit sign installed after December 13, 1974 shall consist of red or white letters on a contrasting red or white field. An internally illuminated sign shall consist of translucent letters either red or white on a contrasting background of red or white. The background may be either opaque or translucent.
(3) A directional arrow used on an exit sign shall be the same color as the word "exit."
History: 1979 AC; 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13715
Source: 1983 AACS.

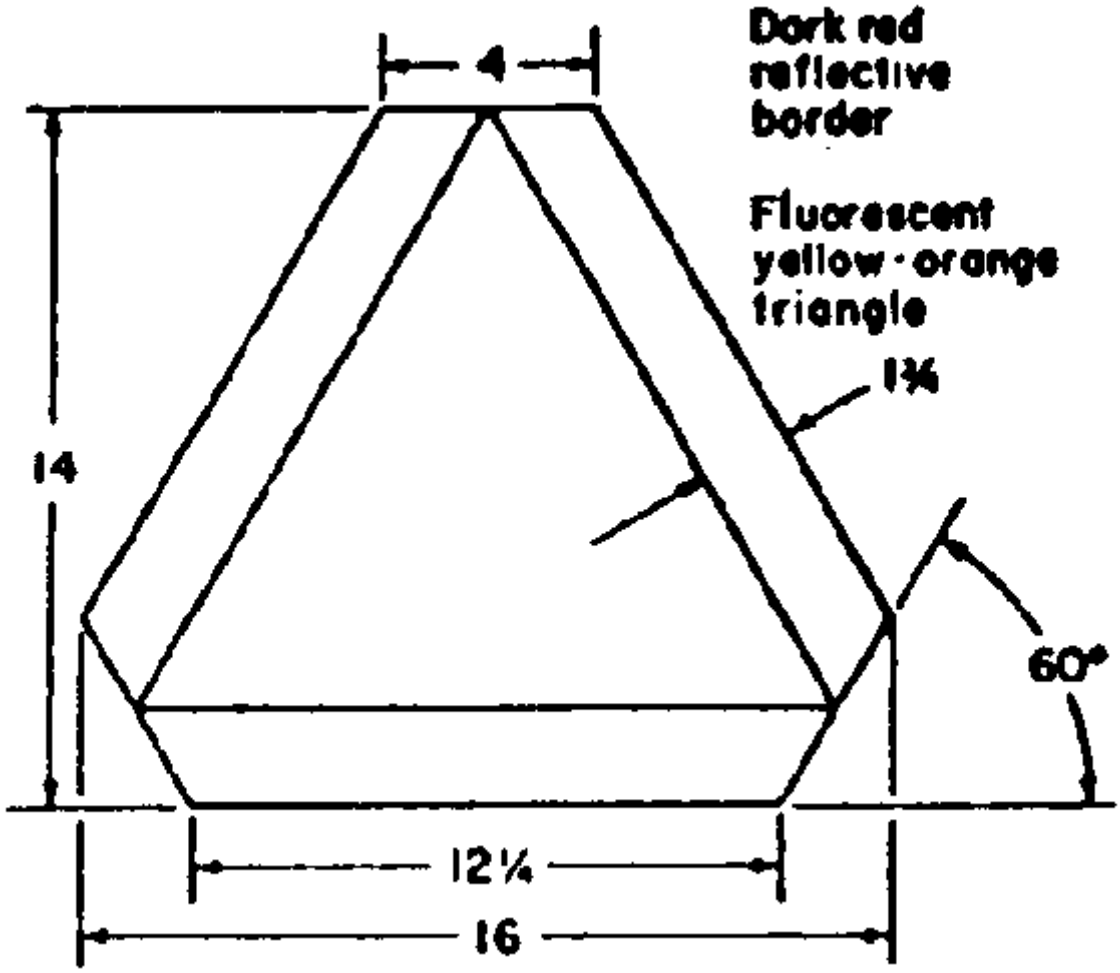
R 408.13716
Source: 1983 AACS.

R 408.13717
Source: 1997 AACS.

R 408.13718
Source: 1997 AACS.

R 408.13721 Emblem for slow-moving vehicles.
Rule 3721. (1) An emblem, as prescribed in figure 3, shall be used on the rear of a vehicle used on a public road which, by design, moves at 25 miles per hour or less outside a building.
(2) An emblem, described in subrule (1) of this rule, shall not be used as a clearance marker for wide machinery or as a replacement for required lighting.
(3) Advertising or other markings shall not be placed on the emblem.
(4) This slow-moving vehicle emblem shall consist of a fluorescent yellow-orange triangle with a dark red reflective border. (See figure 3.)
It shall be entirely visible in daylight and at night from all distances between 600 and 100 feet from the rear when directly in front of the lawful upper beam of the headlamps.
(5) The emblem shall be mounted, point up, in a plane perpendicular to the direction of travel, plus or minus 10 degrees. It shall be placed centrally at the rear of the vehicle, unobscured, and 2 to 6 feet above the ground measured from the lower edge of the emblem. It shall be securely attached to the vehicle.
(6) The material, location, mounting, and other elements, of the emblem shall be in accordance with the American Society of Agricultural Engineers Standard ASAE R276, "Emblem for Identifying Slow-Moving Vehicles," 1966 edition or ASAE S276.2 "Slow-Moving Vehicle Identification Emblem," 1968 edition, as adopted in R 408.13705.
(7) Figure 3 reads as follows:

Slow-Moving Vehicle Emblem



Note: All dimensions are in inches.
History: 1979 AC; 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13722
Source: 1997 AACS.

R 408.13723 Sign wordings.
Rule 3723. (1) The wording of any sign shall be easily read and concise. The sign shall contain sufficient information to be easily understood. The wording shall make a positive, rather than negative suggestion and shall be accurate in fact.
(2) The biological hazard warning signs shall be used to signify the actual or potential presence of a biohazard and to identify equipment, containers, rooms, materials, experimental animals, or combinations thereof, which contain, or are contaminated with, viable hazardous agents.
Note: For the purpose of this rule the term "biological hazard," or "biohazard," shall include only those infectious agents presenting a risk or potential risk to the well-being of man.
History: 2014 MR 7, Eff. April 11, 2014.

R 408.13724 Accident prevention tags.
Rule 3724. (1) These rules apply to all accident prevention tags used to identify hazardous conditions and provide a message to employees with respect to hazardous conditions, as set forth in R 408.13731, or to meet the specific tagging requirements of other Michigan Occupational Safety and Health Administration (MIOSHA) standards.
(2) This rule does not apply to construction or agriculture.

History: 2014 MR 7, Eff. April 11, 2014.

R 408.13731 Tags generally.
Rule 3731. (1) An accident prevention tag shall be used as a temporary means of warning an employee of an existing hazard, such as defective tools or equipment.
A tag shall not be used in place of an accident prevention sign or considered a complete warning method.
(2) A tag shall be affixed by string, wire, or adhesive.
(3) A tag shall be large enough to attract attention to the hazard, with the minimum letter size for the signal word in perspective to a safe viewing distance in accordance with R 408.13708.
(4) The signal word shall be in bolt type.
(5) There shall be no variation in the type of design of tags posted or hung to warn of a specific hazard.
(6) A tag shall be protected or be of such material to last and maintain legibility during the assignment of the tag.
(7) Tags shall be used as a means to prevent accidental injury or illness to employees who are exposed to hazardous or potentially hazardous conditions, equipment, or operations and which are out of the ordinary, unexpected, or not readily apparent.
(8) Tags shall be used until such time as the identified hazard is eliminated or the hazardous operation is completed.
(9) Tags need not be used where signs, guarding, or other positive means of protection are being used.
History: 1979 AC; 1983 AACS; 1988 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13731a General tag criteria.
Rule 3731a. All required tags shall meet the following criteria:
(a) Tags shall contain a signal word and a major message, like any of the following:
(i) The signal word shall be either "Danger," "Caution," "Biological Hazard," "BIOHAZARD," or the biological hazard symbol.
(ii) The major message shall indicate the specific hazardous condition or the instruction to be communicated to the employee.
(b) The signal word shall be readable at a minimum distance of five feet (1.52 m) or such greater distance as warranted by the hazard.
(c) The tag's major message shall be presented in either pictographs or written text, or both.
(d) The signal word and the major message shall be understandable to all employees who may be exposed to the identified hazard.
(e) All employees shall be informed as to the meaning of the various tags used throughout the workplace and what special precautions are necessary.
(f) Tags shall be affixed as close as is safely possible to their respective hazards by a positive means such as string, wire, or adhesive that prevents their loss or unintentional removal.
History: 2014 MR 7, Eff. April 11, 2014.

R 408.13732
Source: 1983 AACS.

R 408.13733 “Danger” tags.
Rule 3733. A “danger” tag shall be used only in major hazard situations where an immediate hazard presents a threat of death or serious injury to employees.
History: 1979 AC; 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13734 “Caution” tags.
Rule 3734. A “caution” tag shall be used only in minor hazard situations where a non-immediate or potential hazard or unsafe practice presents a lesser threat of employee injury.
History: 1979 AC; 1983 AACS; 2014 MR 7, Eff. April 11, 2014.

R 408.13734a Warning tags.
Rule 3734a. Warning tags may be used to represent a hazard level between "Caution" and "Danger," instead of the required "Caution" tag, provided that they have a signal word of "Warning," an appropriate major message, and otherwise meet the general tag criteria of R 408.13731a.

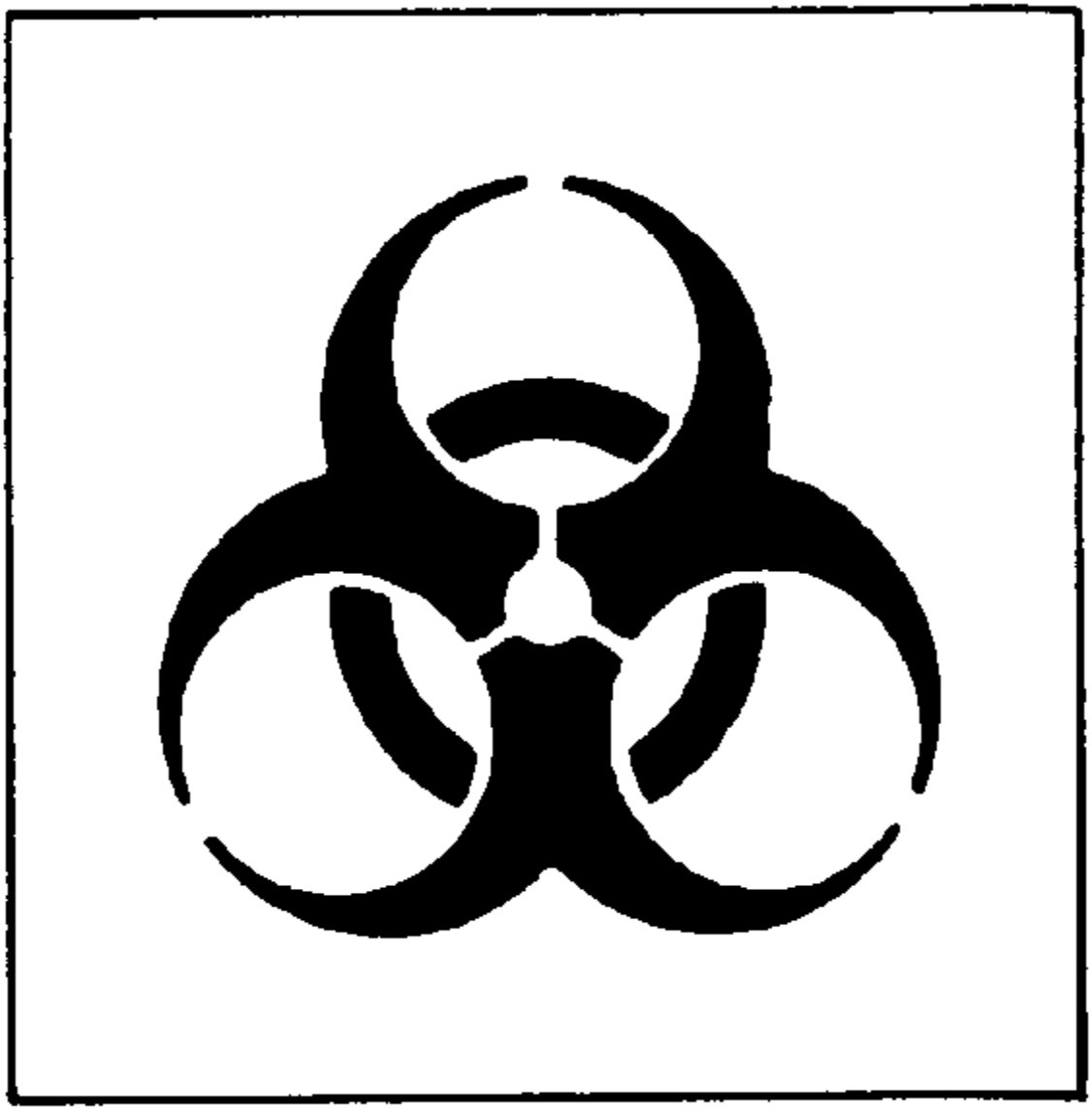
History: 2014 MR 7, Eff. April 11, 2014.

R 408.13735
Source: 1983 AACS.

R 408.13736
Source: 1997 AACS.

R 408.13737 Biological hazard tags.
Rule 3737. (1) Biological hazard tags shall be used to identify the actual or potential presence of a biological hazard and to identify equipment, containers, rooms, experimental animals, or combinations thereof that contain or are contaminated with hazardous biological agents.
(2) The symbol design for biological hazard tags shall conform to the design shown below in Figure 2:

FIGURE 2
BIOLOGICAL HAZARD SYMBOL CONFIGURATION



History: 2014 MR 7, Eff. April 11, 2014.

R 408.13738 Other tags.
Rule 13738. Other tags may be used in addition to those required by these rules or in other situations where these rules do not require tags, provided that they do not detract from the impact or visibility of the signal word and major message of any required tag.
History: 2014 MR 7, Eff. April 11, 2014.

Rule 4501 Rescinded.

PART 38. HAND AND PORTABLE POWERED TOOLS

R 408.13801
Source: 1979 AC.

R 408.13802
Source: 2013 AACS.

R 408.13804
Source: 1979 AC.

R 408.13805
Source: 1979 AC.

R 408.13806
Source: 1979 AC.

R 408.13807
Source: 1979 AC.

R 408.13808
Source: 1979 AC.

R 408.13811
Source: 2013 AACS.

R 408.13812
Source: 2013 AACS.

R 408.13821
Source: 1983 AACS.

R 408.13822
Source: 2013 AACS.

R 408.13823
Source: 1983 AACS.

R 408.13824
Source: 1979 AC.

R 408.13831
Source: 1979 AC.

R 408.13832
Source: 1997 AACS.

R 408.13833
Source: 1979 AC.

R 408.13834
Source: 1979 AC.

R 408.13835
Source: 1979 AC.

R 408.13836
Source: 1979 AC.

R 408.13838
Source: 1979 AC.

R 408.13839
Source: 1979 AC.

R 408.13840
Source: 1979 AC.

R 408.13841
Source: 1979 AC.

R 408.13843
Source: 1979 AC.

R 408.13844
Source: 1979 AC.

R 408.13845
Source: 1979 AC.

R 408.13846
Source: 1979 AC.

R 408.13847
Source: 2013 AACS.

R 408.13861
Source: 1983 AACS.

R 408.13863
Source: 1979 AC.

R 408.13864
Source: 1979 AC.

R 408.13865
Source: 2013 AACS.

R 408.13866
Source: 1979 AC.

R 408.13871
Source: 2013 AACS.

R 408.13872
Source: 1983 AACS.

R 408.13873

Source: 1983 AACS.

R 408.13874
Source: 1983 AACS.

R 408.13875
Source: 1983 AACS.

R 408.13876
Source: 1997 AACS.

R 408.13881
Source: 2013 AACS.

R 408.13882
Source: 1993 AACS.

PART 39. DESIGN SAFETY STANDARDS FOR ELECTRICAL SYSTEMS

R 408.13901
Source: 1994 AACS.

R 408.13902
Source: 2007 AACS.

PART 40. SAFETY-RELATED WORK PRACTICES

R 408.14001
Source: 1992 AACS.

R 408.14002
Source: 1992 AACS.

R 408.14003
Source: 1992 AACS.

R 408.14004
Source: 1992 AACS.

R 408.14005
Source: 1992 AACS.

R 408.14006
Source: 1992 AACS.

R 408.14007
Source: 1992 AACS.

R 408.14008
Source: 1992 AACS.

R 408.14009
Source: 1992 AACS.

PART 42. FORGING

R 408.14201
Source: 1979 AC.

R 408.14203
Source: 1979 AC.

R 408.14204
Source: 1989 AACS.

R 408.14205
Source: 1979 AC.

R 408.14207
Source: 1979 AC.

R 408.14208
Source: 1979 AC.

R 408.14221
Source: 1997 AACS.

R 408.14222
Source: 1979 AC.

R 408.14223
Source: 1979 AC.

R 408.14224
Source: 1979 AC.

R 408.14225
Source: 1997 AACS.

R 408.14226
Source: 1979 AC.

R 408.14227
Source: 1979 AC.

R 408.14231
Source: 2013 AACS.

R 408.14232
Source: 1989 AACS.

R 408.14241
Source: 1979 AC.

R 408.14242
Source: 1979 AC.

R 408.14243
Source: 1979 AC.

R 408.14244
Source: 1979 AC.

R 408.14245
Source: 1979 AC.

R 408.14246
Source: 2013 AACS.

R 408.14247
Source: 1979 AC.

R 408.14248
Source: 1979 AC.

R 408.14249
Source: 1979 AC.

R 408.14251
Source: 1979 AC.

R 408.14252
Source: 1979 AC.

R 408.14261
Source: 1979 AC.

R 408.14263
Source: 2013 AACS.

R 408.14265
Source: 1979 AC.

R 408.14267
Source: 2013 AACS.

R 408.14268
Source: 1979 AC.

R 408.14269
Source: 2013 AACS.

R 408.14271
Source: 1979 AC.

R 408.14273
Source: 2013 AACS.

PART 44. FOUNDRIES

R 408.14401
Source: 1979 AC.

R 408.14405
Source: 1979 AC.

R 408.14406
Source: 1979 AC.

R 408.14407
Source: 1979 AC.

R 408.14408
Source: 1979 AC.

R 408.14409
Source: 1979 AC.

R 408.14421
Source: 1988 AACS.

R 408.14423
Source: 1997 AACS.

R 408.14425
Source: 1997 AACS.

R 408.14426
Source: 1997 AACS.

R 408.14427
Source: 1997 AACS.

R 408.14431
Source: 1997 AACS.

R 408.14433
Source: 1988 AACS.

R 408.14434
Source: 1979 AC.

R 408.14436
Source: 1988 AACS.

R 408.14438
Source: 1997 AACS.

R 408.14439
Source: 1979 AC.

R 408.14441
Source: 1979 AC.

R 408.14443
Source: 1979 AC.

R 408.14445
Source: 1979 AC.

R 408.14447
Source: 1997 AACS.

R 408.14448
Source: 1979 AC.

R 408.14451
Source: 2013 AACS.

R 408.14453
Source: 1979 AC.

R 408.14455
Source: 1979 AC.

R 408.14457
Source: 1979 AC.

R 408.14461
Source: 1988 AACS.

R 408.14463
Source: 1988 AACS.

R 408.14465
Source: 1988 AACS.

R 408.14466
Source: 1988 AACS.

R 408.14468
Source: 1979 AC.

R 408.14471
Source: 1988 AACS.

R 408.14473
Source: 1979 AC.

R 408.14474
Source: 1997 AACS.

R 408.14475
Source: 1979 AC.

R 408.14476
Source: 2013 AACS.

R 408.14477
Source: 1997 AACS.

R 408.14478
Source: 1988 AACS.

R 408.14479
Source: 1997 AACS.

R 408.14481
Source: 1997 AACS.

R 408.14483
Source: 1997 AACS.

R 408.14485
Source: 1997 AACS.

R 408.14486
Source: 1997 AACS.

R 408.14488
Source: 1988 AACS.

R 408.14491
Source: 1979 AC.

R 408.14492

Source: 1988 AACS.

R 408.14493
Source: 1988 AACS.

R 408.14494
Source: 1997 AACS.

R 408.14495
Source: 1979 AC.

R 408.14496
Source: 1997 AACS.

R 408.14497
Source: 1979 AC.

R 408.14498
Source: 1979 AC.

PART 45. DIE CASTING

R 408.14501
Source: 1979 AC.

R 408.14503
Source: 1979 AC.

R 408.14504
Source: 1979 AC.

R 408.14505
Source: 1979 AC.

R 408.14507
Source: 2013 AACS.

R 408.14508
Source: 1979 AC.

R 408.14511
Source: 1983 AACS.

R 408.14513
Source: 1979 AC.

R 408.14515
Source: 1997 AACS.

R 408.14517
Source: 1997 AACS.

EQUIPMENT INSTALLATION AND MAINTENANCE

R 408.14521
Source: 2013 AACS.

R 408.14522

Source: 1979 AC.

R 408.14523
Source: 1979 AC.

R 408.14525
Source: 1979 AC.

R 408.14527
Source: 1979 AC.

R 408.14533
Source: 1979 AC.

R 408.14535
Source: 2013 AACS.

R 408.14541
Source: 1979 AC.

R 408.14543
Source: 1979 AC.

R 408.14544
Source: 1979 AC.

R 408.14545
Source: 1979 AC.

R 408.14551
Source: 1979 AC.

R 408.14552
Source: 1979 AC.

R 408.14553
Source: 1979 AC.

R 408.14554
Source: 1979 AC.

R 408.14555
Source: 2013 AACS.

R 408.14561
Source: 1979 AC.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF SAFETY AND REGULATION

GENERAL INDUSTRY SAFETY STANDARDS COMMISSION

PART 49. SLINGS

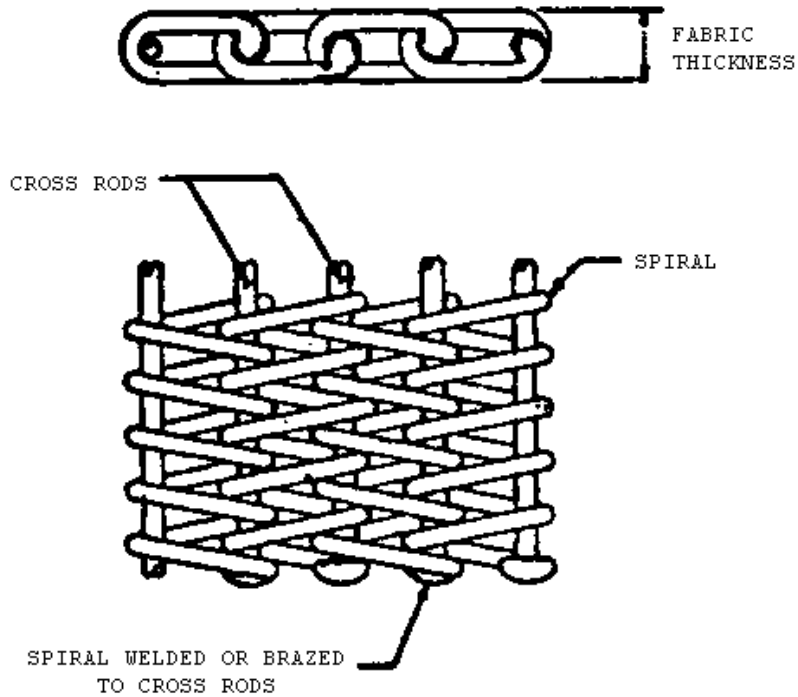
R 408.14901
Source: 1979 AC.

R 408.14903
Source: 1979 AC.

R 408.14902 Adoption of standard.
Rule 4902. (1) The following standard is adopted by reference in these rules, American Society of Mechanical Engineers Standard ASME B-30.9 “Slings,” 1990 edition. This standard may be purchased from IHS Global, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at web-site: http://global.ihs.com at a cost as of the time of adoption of these amendments of $93.00.
(2) The standard adopted in subrule (1) of this rule is also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.
(3) Copies of the standard adopted in subrule (1) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
History: 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14904 Definitions; C.
Rule 4904. (1) "Cable laid endless sling-mechanical joint" means a wire rope sling made endless by joining the ends of a single length of cable laid rope with 1 or more metallic fittings.
(2) "Cable laid grommet-hand tucked" means an endless wire rope sling made from 1 length of rope wrapped 6 times around a core formed by hand, tucking the ends of the rope inside the 6 wraps.
(3) "Cable laid rope" means a wire rope composed of 6 wire ropes wrapped around a fiber or wire rope core.
(4) "Cable laid rope sling-mechanical joint" means a wire rope sling made from a cable laid rope, with eyes fabricated by pressing or swaging 1 or more metal sleeves over the rope junction.
(5) "Choker hitch" means a sling configuration with 1 end of the sling passing under the load and through an end attachment, handle, or eye on the other end of the sling.
(6) "Coating" means an elastomer, or other suitable material, applied to a sling or to a sling component to impart desirable properties.
(7) "Cross rod" means a wire used to join spirals of metal mesh to form a complete fabric. (See figure 2 “Metal Mesh Construction”)

FIGURE 2
METAL MESH CONSTRUCTION



History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14905 Definitions; D to H.

Rule 4905. (1) "Designated" means to be selected or assigned by the employer or the employer's representative as being qualified to perform specific duties.

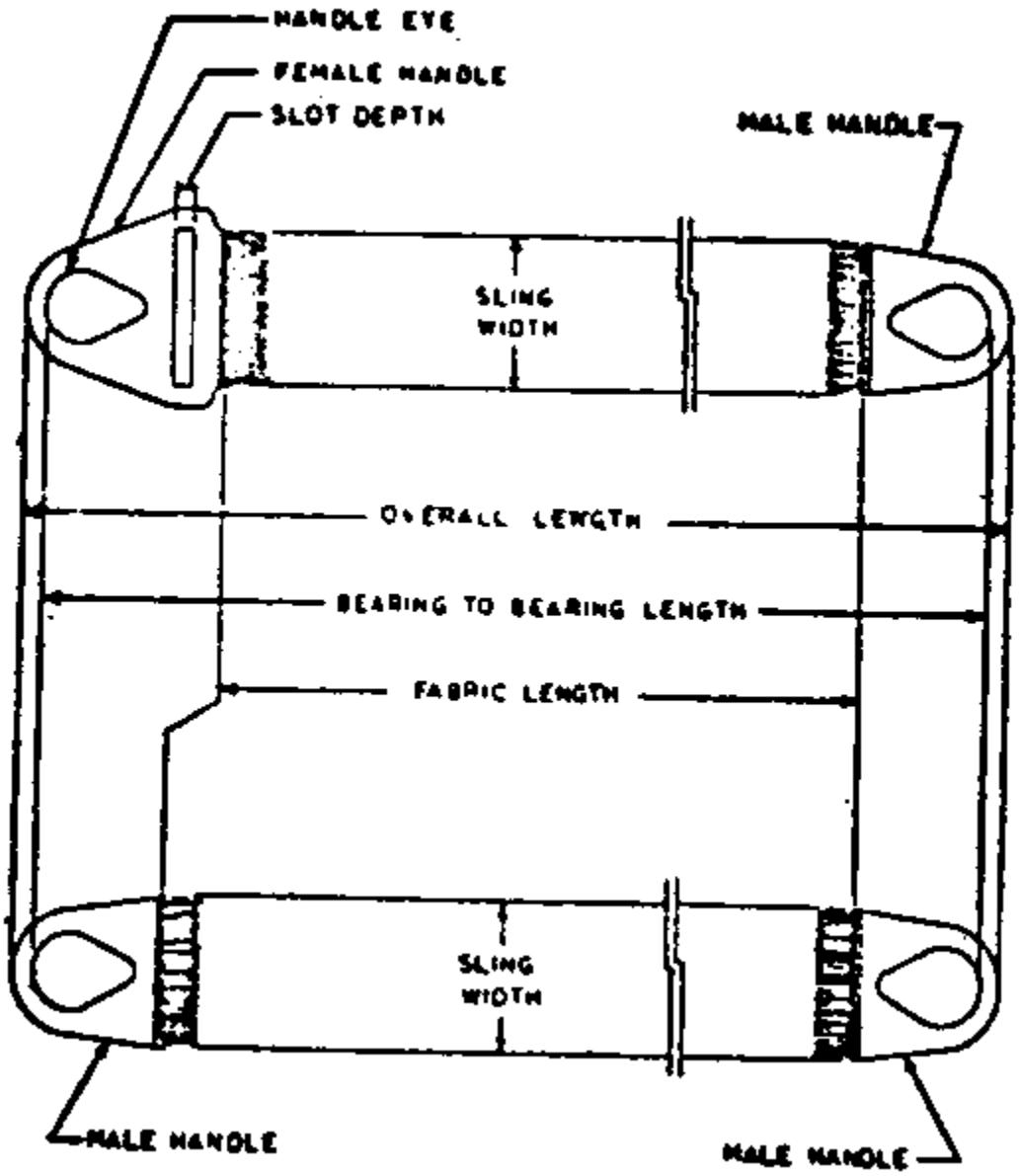
(2) "Female handle of a choker sling" means a handle with a handle eye and a slot of such dimension as to permit passage of a male handle, thereby allowing the use of a metal mesh sling in a choker hitch. (See figure 1 “Metal Mesh Sling”)

(3) "Handle" means a terminal fitting to which metal mesh fabric is attached. (See figure 1 “Metal Mesh Sling”)

(4) "Handle eye" means an opening in a handle of a metal mesh sling shaped to accept a hook, shackle, or other lifting device. (See figure 1 “Metal Mesh Sling”)

(5) "Hitch" means a sling configuration whereby the sling is fastened to an object or load, either directly to it or around it.

FIGURE 1
METAL MESH SLING (Typical)



History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14906 Definitions; L, M.

Rule 4906. (1) "Link" means a single ring of a chain.

(2) "Male handle" or "triangle" means a handle with a handle eye.

(3) "Master coupling link" means an alloy steel welded coupling link used as an intermediate link to join alloy steel chain to master links. (See figure 3 “Major Components of a Guadruple Sling”)

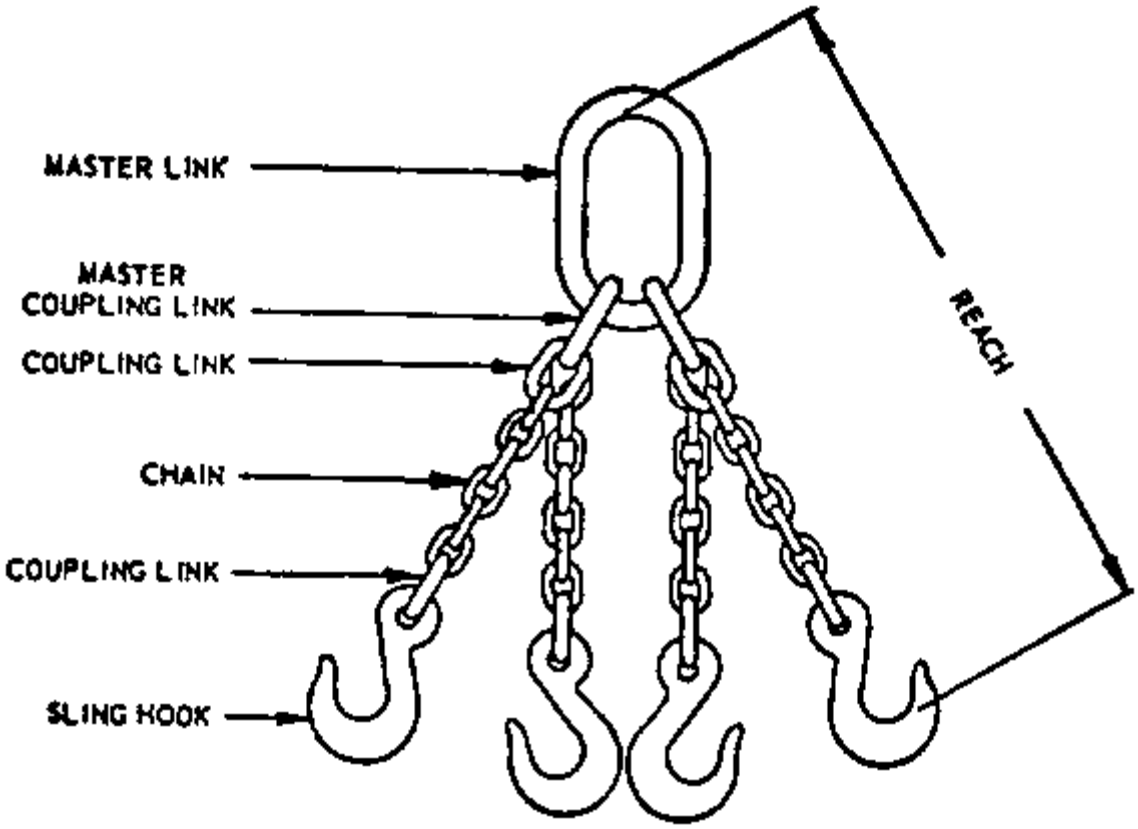
(4) "Master link" or "gathering ring" means a forged or welded steel link used to support all members (legs) of an alloy steel chain sling or wire rope sling. (See figure 3 “Major Components of a Guadruple Sling”)

(5) "Mechanical coupling link" means a nonwelded, mechanically closed steel link used to attach master links and hooks to alloy steel chain.

(6) "Metal mesh" or "fabric" means the flexible portion of a metal mesh sling, consisting of a series of

transverse coils and cross rods.

FIGURE 3
MAJOR COMPONENTS OF A GUADRUPLE SLING



History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14907
Source: 1979 AC.

R 408.14908 Definitions; S to V.
Rule 4908. (1) "Selvage edge" means the finished edge of synthetic webbing designed to prevent unraveling.
(2) "Sling" means an assembly which connects the load to the material handling equipment for the purpose of lifting or hoisting.
(3) "Sling manufacturer" means a person or organization that assembles sling components into their final form for sale to users.
(4) "Spiral" means a single transverse coil that is the basic element from which metal mesh is fabricated. (See figure 2 “Metal Mesh Construction”)
(5) "Strand laid endless sling-mechanical joint" means a wire rope sling made endless from 1 length of rope, with the ends joined by 1 or more metallic fittings.
(6) "Strand laid grommet-hand tucked" means an endless wire rope sling made from 1 length of strand wrapped 6 times around a core formed by hand tucking the ends of the strand inside the 6 wraps.
(7) "Strand laid rope" means a wire rope made with strands, usually 6 or 8, wrapped around a fiber core, wire strand core, or independent wire rope core.
(8) "Vertical hitch" means a method of supporting a load by a single, vertical part or leg of the sling. (See figure 4 “Basic Sling Configurations with Vertical Legs”)

FIGURE 4
BASIC SLING CONFIGURATIONS WITH VERTICAL LEGS

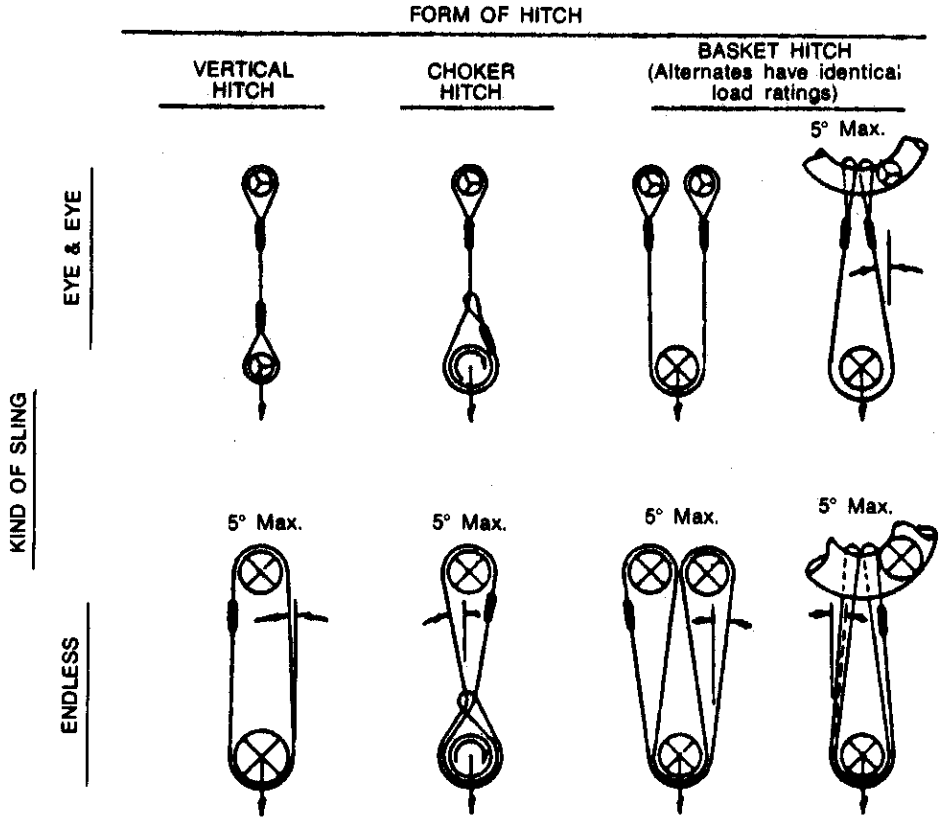
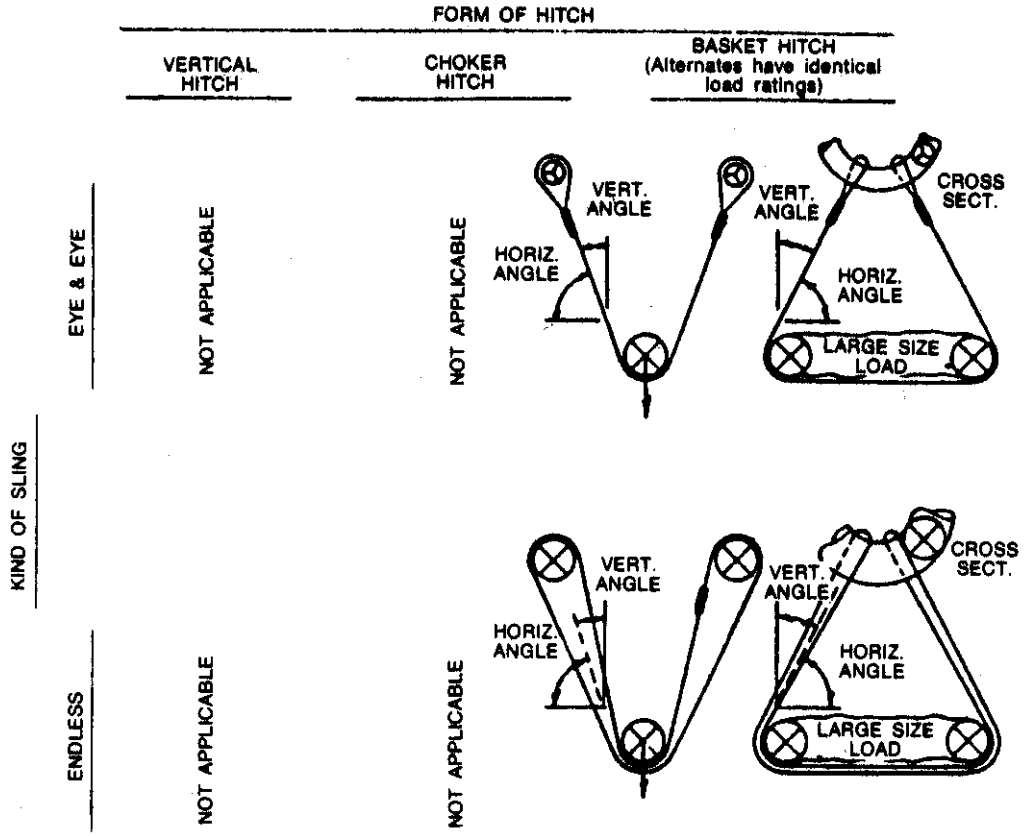


FIGURE 5
BLING CONFIGURATIONS WITH ANGLED LEGS



Notes: Angles 5 degrees or less from the vertical may be considered vertical angles.
For slings with legs more than 5 degrees off vertical, the actual angle as shown in Figure 5 must be considered.

EXPLANATION OF SYMBOLS: MINIMUM DIAMETER OF CURVATURE

Represents a contact surface which shall have a diameter of curvature at least double the diameter of the rope from which the sling is made

Represents a contact surface which shall have a diameter of curvature at least 8 times the diameter of the rope.

Represents a load in a choker hitch and illustrates the rotary force on the load and/or the slippage of the rope in contact with the load. Diameter of curvature of lead surface shall be at least double the diameter of the rope.

History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14911 General operating practices.
Rule 4911. (1) Whenever a sling is used, the following practices shall be followed:
(a) A damaged or defective sling, as described in this standard, shall not be used.
(b) A sling shall not be shortened with bolts, knots, or other makeshift devices.
(c) Sling legs shall not be kinked.
(d) A sling shall not be loaded in excess of its rated capacity.
(e) A sling used in a basket hitch shall have the load balanced to prevent slipping.
(f) A sling shall be securely attached to its load.
(g) A sling, other than an alloy steel chain, shall be padded or protected from the sharp corners of its load.
(h) A suspended load shall be kept clear of all obstructions.
(i) An employee shall be kept clear of a suspended load and a load about to be lifted.
(j) An employee's hand or finger shall not be placed between the load and sling while the sling is being tightened.
(k) Slack in a sling shall be removed gradually.
(l) A sling shall not be pulled from under a load when the load is resting on the sling.
(2) Employers shall not load a sling in excess of its recommended safe working load as prescribed by the sling manufacturer on the identification markings permanently affixed to the sling.
(3) Employers shall not use slings without affixed and legible identification markings.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14912
Source: 1979 AC.

R 408.14913
Source: 1998-2000 AACS.

R 408.14921 Sling identification.
Rule 4921. An alloy steel chain sling shall have a permanently affixed, durable identification, stating the size, grade, rated capacity, and reach.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14922 Rated capacity of attachments.
Rule 4922. (1) A hook, ring, oblong link, pear-shaped link, welded or mechanical coupling link, or other attachment shall have a rated capacity at least equal to that of the alloy steel chain with which they are used, or the sling shall not be used in excess of the rated capacity of the weakest component.
(2) A makeshift link or fastener formed from bolts or rods, or other such attachments, shall not be used.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14923 Inspections; records; removal from service; proof testing.
Rule 4923. (1) In addition to the inspection prescribed by R 408.14912, an employer shall designate an employee to make a thorough periodic inspection of an alloy steel chain sling in use on a regular basis. An employer shall determine the regularity of inspection based on all of the following factors:
(a) Frequency of sling use.
(b) Severity of service conditions.
(c) Nature of lifts being made.
(d) Experience gained on the service life of slings used in similar circumstances.
The designated employee shall inspect an alloy steel chain sling at least once every 12 months.
(2) The employer shall make and maintain a record of the most recent month in which each alloy steel chain sling was thoroughly inspected and shall make the record available for examination.
(3) The employee designated to make the inspection of an alloy steel chain sling shall make a thorough inspection for all of the following:
(a) Wear.
(b) Defective welds.
(c) Deformation.

(d) An increase in length beyond acceptable limits established in this part. If the defects or deteriorations are present, then the designated employee shall immediately remove the sling from service.
(4) The employer shall ensure that, before use, each new, repaired, or reconditioned alloy steel chain sling, including all welded components in the sling assembly, is proof-tested by the sling manufacturer in accordance with ASME B-30.9 "Slings," 1990 edition, as adopted in R 408.14902.
(5) The employer shall retain a certificate of the proof test and shall make it available for examination.
(6) If the chain size at any point of the link is less than that stated in Table 1, the employer shall remove the chain from service.

TABLE 1
MINIMUM ALLOWABLE CHAIN SIZE AT ANY POINT OF LINK

Chain size (inches)	Maximum allowable wear
1/4	13/64
3/8	19/64
1/2	25/64
5/8	31/64
3/4	19/32
7/8	45/64
1	13/16
1 1/8	29/32
1 1/4	1
1 3/8	1-3/32
1 1/2	1-3/16
1 3/4	1-13/32

History: 1979 AC; 1998-2000 AACS; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14924 Safe operating temperatures.
Rule 4924. Employers shall permanently remove an alloy steel-chain slings from service if it is heated above 1,000 degrees F. When exposed to service temperatures in excess of 600 degrees F, employers shall reduce the maximum working-load limits permitted by the chain manufacturer in accordance with the chain or sling manufacturer's recommendations.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14925 Repairing; reconditioning, and proof testing.
Rule 4925. (1) A worn or damaged alloy steel chain sling or attachment shall not be used until repaired.
(2) When welding or heat treating is performed, a sling shall not be used unless repaired, reconditioned, and proof tested by the sling manufacturer.
(3) A mechanical coupling link or low carbon steel repair link shall not be used to repair broken lengths of chain.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14926 Cracked or deformed links or hooks; removal from service.

Rule 4926. (1) Alloy steel chain slings with cracked or deformed master links, coupling links, or other components shall be removed from service.
(2) A sling shall be removed from service if the hook is cracked, has been opened more than 15% of the normal throat opening measured at the narrowest point, or twisted more than 10 degrees from the plane of the unbent hook.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

WIRE ROPE SLINGS

R 408.14931 Safe operating temperatures; sling use.
Rule 4931. (1) A wire rope sling shall not be used with loads in excess of the rated capacities. A sling shall be used only in accordance with the manufacturer's recommendations.
(2) A fiber core wire rope sling of any grade shall be permanently removed from service if it is exposed to a temperature in excess of 200 degrees Fahrenheit.
(3) When a nonfiber core wire rope sling of any grade is used at a temperature above 400 degrees Fahrenheit or below minus 60 degrees Fahrenheit, recommendations of the sling manufacturer regarding use at that temperature shall be followed.
(4) Employers shall use only wire-rope slings that have permanently affixed and legible identification markings as prescribed by the manufacturer and that indicate the recommended safe working load for the type of hitch used, the angle upon which it is based, and the number of legs if more than 1.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14932 Minimum sling lengths.
Rule 4932. (1) Cable laid and a 6 x 19 and 6 x 37 sling shall have a minimum clear length of wire rope 10 times the component rope diameter between splices, sleeves, or end fittings.
(2) A braided sling shall have a minimum clear length of wire rope 40 times the component rope diameter between the loops or end fittings.
(3) A cable laid grommet, strand laid grommet, and endless sling shall have a minimum circumferential length of 96 times their body diameter.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14933 Welded end attachment; certificate of proof test.
Rule 4933. (1) Welding of an end attachment, except covers to thimbles, shall be performed prior to the assembly of the sling.
(2) All welded end attachments shall not be used unless proof tested by the manufacturer at twice their rated capacity prior to initial use. The employer shall retain a certificate of the proof test, and make it available for examination.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14934 Removal from service.
Rule 4934. A wire rope sling shall be removed from service if any of the following conditions are present:
(a) Ten randomly distributed broken wires in 1 rope lay, or 5 broken wires in 1 strand in 1 rope lay.
(b) Wear or scraping of 1/3 the original diameter of outside individual wires.
(c) Kinking, crushing, bird caging, or any other damage resulting in distortion of the wire rope structure.
(d) Evidence of heat damage.
(e) End attachments that are cracked, deformed, or worn.
(f) Hooks that have been opened more than 15% of the normal throat opening measured at the narrowest point, or twisted more than 10 degrees from the plane of the unbent hook.
(g) Corrosion of the rope or end attachments.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14935 Forming eyes.
Rule 4935. An eye in a wire rope sling shall not be formed by using a knot or a wire rope clip.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

METAL MESH SLINGS

R 408.14941 Sling marking; rated capacity; coatings.
Rule 4941. (1) Each metal mesh sling shall have permanently affixed to it a durable marking that states the rated capacity for vertical basket hitch and choker hitch loadings.
(2) A handle shall have a rated capacity at least equal to the metal fabric and exhibit no deformation after proof testing.
(3) Coatings which diminish the rated capacity of a sling shall not be applied.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14942 Attachment of handle.
Rule 4942. The fabric and handles shall be joined to ensure all of the following:
(a) The rated capacity of the sling is not reduced.
(b) The load is evenly distributed across the width of the fabric.
(c) Sharp edges will not damage the fabric.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14943 Sling testing.
Rule 4943. All new and repaired metal mesh slings, including handles, shall not be used unless proof tested by the manufacturer at a minimum of 1 1/2 times their rated capacity. Elastomer impregnated slings shall be proof tested before coating.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14944 Sling use; safe operating temperatures.
Rule 4944. (1) A metal mesh sling shall not be used to lift loads in excess of their rated capacities.
(2) A sling shall be used only in accordance with the manufacturer's recommendations.
(3) A metal mesh sling which is not impregnated with elastomers may be used in a temperature range from minus 20 degrees Fahrenheit to plus 550 degrees Fahrenheit without decreasing the working load limit.
(4) A metal mesh sling impregnated with polyvinyl chloride or neoprene may be used only in a temperature range from zero degrees to plus 200 degrees Fahrenheit.
(5) For operations outside these temperature ranges in subrule (3) and (4) of this rule or for metal mesh slings impregnated with other materials, the sling manufacturer's recommendations shall be followed.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14945 Removal from service; repairs; records.
Rule 4945. (1) A metal mesh sling shall be immediately removed from service if any of the following conditions are present:
(a) A broken weld or broken brazed joint along the sling edge.
(b) Reduction in wire diameter of 25% due to abrasion or 15% due to corrosion.
(c) Lack of flexibility due to distortion of the fabric.
(d) Distortion of the female handle so that the depth of the slot is increased more than 10%.
(e) Distortion of either handle so that the width of the eye is decreased more than 10%.
(f) A 15% reduction of the original cross sectional area of metal at any point around the handle eye.
(g) Distortion of either handle out of its plane.
(2) A metal mesh sling which is repaired shall not be used unless repaired by a metal mesh sling manufacturer.
(3) Once repaired, each sling shall be permanently marked or tagged, or a written record maintained, to indicate the date and nature of the repairs and the person or organization that performed the repairs. Records of repairs shall be made available for examination.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

NATURAL AND SYNTHETIC FIBER ROPE SLINGS

R 408.14951 Sling use; rated capacity; diameter of curvature; safe operating temperatures.
Rule 4951. (1) A fiber rope sling made from conventional 3 strand construction fiber rope shall not be used with a load in excess of the rated capacities.
(2) A fiber rope sling shall have a diameter of curvature meeting not less than the minimums prescribed in

figures 4 and 5.
(3) A sling shall be used only in accordance with the manufacturer's recommendations.
(4) A natural or synthetic fiber rope sling, except for a wet frozen sling, may be used in a temperature range from minus 20 degrees Fahrenheit to plus 180 degrees Fahrenheit without decreasing the working load limit. For operations outside this temperature range and for wet frozen slings, the sling manufacturer's recommendations shall be followed.
(5) Employers shall use natural and synthetic fiber-rope slings that have permanently affixed and legible identification markings stating the rated capacity for the type of hitch used and the angle upon which it is based, type of fiber material, and the number of legs if more than 1.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14952 Splicing.
Rule 4952. A spliced fiber rope sling shall not be used unless it has been spliced in accordance with the following minimum requirements and in accordance with any additional recommendations of the manufacturer:
(a) In manila rope, an eye splice shall consist of at least 3 full tucks, and short splices shall consist of at least 6 full tucks, 3 on each side of the splice center line.
(b) In synthetic fiber rope, an eye splice shall consist of at least 4 full tucks, and short splices shall consist of at least 8 full tucks, 4 on each side of the center line.
(c) A strand end tail shall not be trimmed flush with the surface of the rope immediately adjacent to the full tucks. This applies to all types of fiber rope and both eye and short splices. For fiber rope under 1 inch in diameter, the tail shall project at least 6 rope diameters beyond the last full tuck. For fiber rope 1 inch in diameter and larger, the tail shall project at least 6 inches beyond the last full tuck. Where a projecting tail interferes with the use of the sling, the tail shall be tapered and spliced into the body of the rope, using at least 2 additional tucks, which will require a tail length of approximately 6 rope diameters beyond the last full tuck.
(d) A fiber rope sling shall have a minimum clear length of rope between eye splices equal to 10 times the rope diameter.
(e) A knot shall not be used in lieu of a splice.
(f) A clamp not designed specifically for fiber ropes shall not be used for splicing.
(g) For any eye splice, the eye shall be of a size to provide an included angle of not greater than 60 degrees at the splice when the eye is placed over the load or support.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14953 End attachments.
Rule 4953. A fiber rope sling shall not be used if an end attachment in contact with the rope has a sharp edge or projection.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14954 Removal from service; prohibition.
Rule 4954. (1) A natural and synthetic fiber rope sling shall be immediately removed from service if any of the following conditions are present:
(a) Abnormal wear.
(b) Powdered fiber between strands.
(c) Broken or cut fibers.
(d) Variations in the size or roundness of strands.
(e) Discoloration or rotting.
(f) Distortion of hardware in the sling.
(2) Only a fiber rope sling made from new rope shall be used. Use of a repaired or reconditioned fiber rope sling is shall not be used.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

SYNTHETIC WEB SLINGS

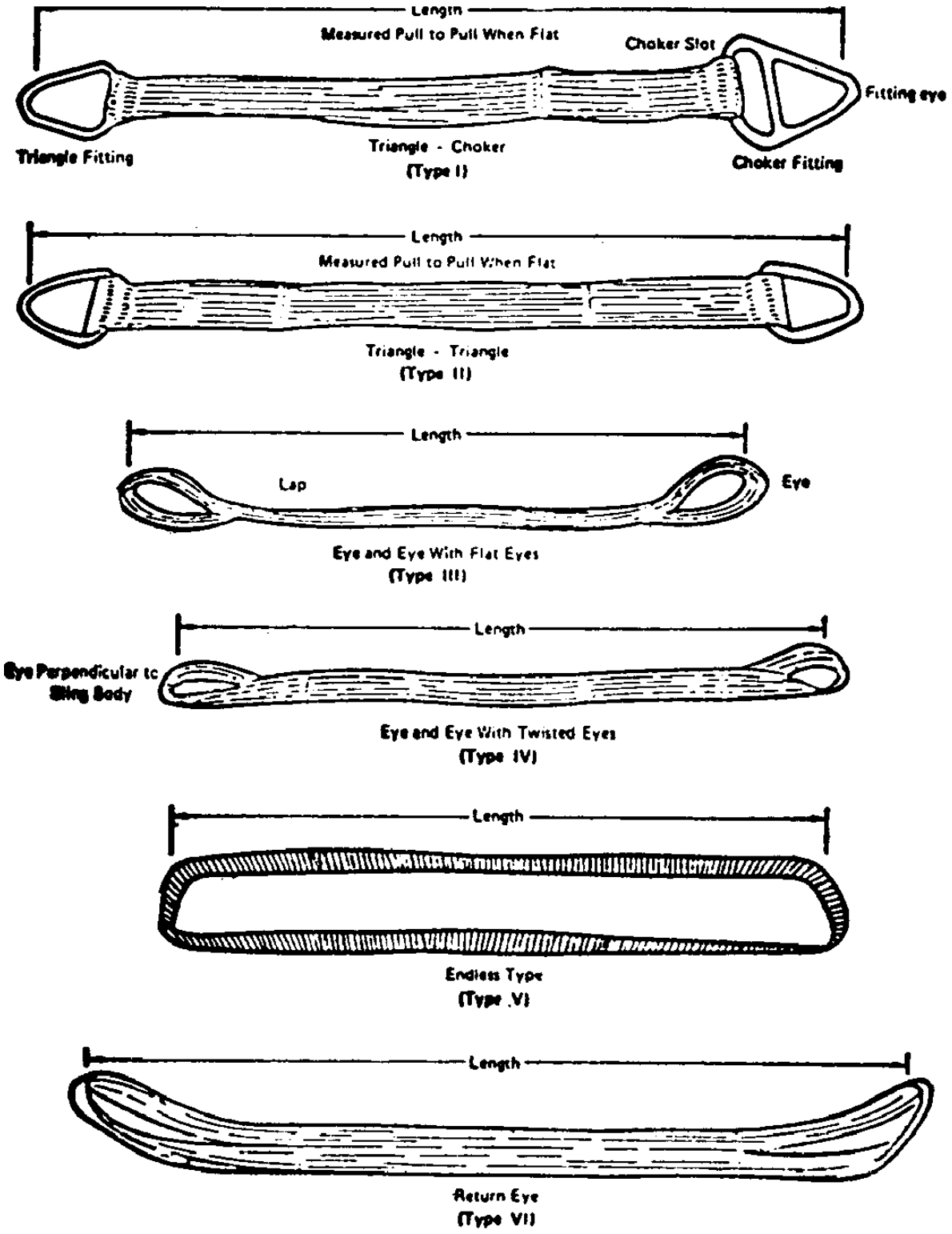
R 408.14961 Marking or coding rated capacities.
Rule 4961. Each sling shall be marked or coded to show the rated capacities for each type of hitch and type of synthetic web material.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14962 Webbing size and edges.
Rule 4962. Synthetic webbing shall be of uniform thickness and width, and selvage edges shall not be split from the webbing's width.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14963 Fittings.
Rule 4963. (1) Fittings shall be both of the following:
(a) Of a minimum breaking strength equal to that of the sling.
(b) Free of all sharp edges that could in any way damage the webbing.
(2) Stitching shall be the only method used to attach end fittings to webbing and to form eyes. The thread shall be in an even pattern and contain a sufficient number of stitches to develop the full breaking strength of the sling.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14964 Use; safe operating temperatures.
Rule 4964.
(1) When a synthetic web sling is used, the following precautions shall be taken:
(a) A nylon web sling shall not be used where fumes, vapors, sprays, mists, or liquids of acids or phenolics are present.
(b) A polyester and polypropylene web sling shall not be used where fumes, vapors, sprays, mists, or liquids of caustics are present.
(c) A web sling with aluminum fittings shall not be used where fumes, vapors, sprays, mists, or liquids of caustics are present.
(2) A synthetic web sling of polyester and nylon shall not be used at a temperature in excess of 180 degrees Fahrenheit.
(3) A polypropylene web sling shall not be used at a temperature in excess of 200 degrees Fahrenheit. (See figure 6 “Basic Synthetic Web Sling Constructions.”)

FIGURE 6
BASIC SYNTHETIC WEB SLING CONSTRUCTIONS



History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.14965 Removal from service; repairs; certificate of proof test; prohibition.
Rule 4965. (1) A synthetic web sling shall be immediately removed from service if any of the following conditions are present:
(a) Acid or caustic burns.
(b) Melting or charring of any part of the sling surface.
(c) Snags, punctures, tears, or cuts.
(d) Broken or worn stitches.
(e) Distortion of fittings.
(2) A synthetic web sling shall be repaired only by a sling manufacturer.
(3) Each repaired sling shall be proof tested by the manufacturer to twice the rated capacity prior to its return to service. The employer shall retain a certificate of the proof test and make it available for examination.
(4) A sling, including webbing and fittings, which has been repaired in a temporary manner shall not be used.
History: 1979 AC; 2014 MR 1, Eff. Jan. 17, 2014.

PART 50. TELECOMMUNICATIONS

R 408.15001
Source: 2005 AACS.

R 408.15002
Source: 2005 AACS.

R 408.15003
Source: 2005 AACS.

R 408.15004
Source: 2005 AACS.

R 408.15005
Source: 1979 AC.

PART 51. LOGGING

GENERAL PROVISIONS

R 408.15101 Scope and application.
Rule 5101. (1) These rules establish safety practices, means, methods, and operations for all types of logging, regardless of the end use of the wood, including pulpwood and timber harvesting and the logging of sawlogs, veneer bolts, poles, pilings, and other forest products. These rules do not apply to the construction or use of cable yarding systems.
(2) These rules apply to all logging operations as defined by R 408.15107(7).
History: 1979 AC; 1989 AACS; 1996 AACS.

R 408.15102 Adopted and referenced standards.
Rule 5102. (1) The following standards are adopted by reference in these rules and are available from IHS Global, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at website: http://global.ihs.com; at a cost as of the time of adoption of these rules, as stated in this subrule.
(a) American National Standard Institute (ANSI) Standard, ANSI B175.1 "Gasoline-Powered Chain Saws Safety Requirements," 1991 edition. Cost: $57.00.
(b) American Society of Mechanical Engineers (ASME) Standard, ASME B56.6 "Safety Standard for Rough Terrain Forklift Trucks," 1992 edition with addenda. Cost: $120.00.
(c) Society of Automotive Engineers (SAE) Standard, SAE J185 "Access Systems for Off-Road Machines," June 1988 edition. Cost: $98.00.
(d) SAE J231 "Minimum Performance Criteria for Falling Object Protective Structures (FOPS)," January 1981

edition. Cost: $98.00.
(e) SAE J386 "Operator Restraint Systems for Off-Road Work Machines," June 1985 edition. Cost: $98.00.
(f) SAE J397 "Deflection Limiting Volume-Protective Structures Laboratory Evaluation," April 1988 edition. Cost: $98.00.
(g) SAE J1040 "Performance Criteria for Rollover Protective Structures (ROPS) for Construction, Earthmoving, Forestry, and Mining Machines," April 1988 edition. Cost: $98.00.
(2) The standards adopted in subrule (1) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.
(3) Copies of the standards adopted in subrule (1) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
(4) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA standards section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
(a) General Industry Safety Standard Part 7 "Guards for Power Transmission," R 408.10701 to R 408.10765.
(b) General Industry Safety Standard Part 8 "Portable Fire Extinguishers," R 408.10801 to R 408.10839.
(c) General Industry Safety Standard Part 21 "Powered Industrial Trucks," R 408.12101 to R 408.12193.
(d) General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.
(e) General Industry Safety Standard Part 52 "Sawmills," R 408.15201 to R 408.15277.
(f) General Industry Safety Standard Part 55 "Explosives and Blasting Agents," R 408.15501.
(g) General Industry Safety Standard Part 58 "Aerial Work Platforms," R 408.15801 to R 408.15842.
History: 1979 AC; 1989 AACS; 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

R 408.15106 Definitions; D to H.
Rule 5106. (1) "Danger tree" means a standing tree that presents a hazard to an employee due to conditions such as deterioration or physical damage to the root system, trunk, stem, or limbs, and the direction and lean of the tree.
(2) "Debarker" means a machine that removes bark from logs.
(3) "Decking" means the act of piling logs or pulpwood on a skidway for temporary storage.
(4) "Disabling injury" or "lost time injury" means an injury which prevents a person from reporting for the next scheduled work shift or which causes a permanent partial impairment.
(5) "Designated person" means an employee who has the requisite knowledge, training, and experience to perform specific duties.
(6) "Domino felling" means the partial cutting of multiple trees which are left standing and which are then pushed over with a pusher tree.
(7) "Eye protection" means a device worn in front of the eyes, the predominant function of which is to protect the eyes from hazards.
(8) "Fell" or "fall" means to cut down trees.
(9) "Feller" or "faller" means a person who cuts a tree from its stump.
(10) "Felling" or "falling" means the act of cutting a tree from its stump.
(11) "Flammable liquid" means any liquid which has a flash point below 100 degrees Fahrenheit and which has a vapor pressure of not more than 40 pounds per square inch (absolute) at 100 degrees Fahrenheit.
(12) "Grapple" means a hinged clamping device which is at the working end of a line or boom, and which is used to grasp and release forest products during skidding, yarding, or loading.
(13) "Grounded" means the placement of a component of a machine on the ground or on a device where it is firmly supported.
(14) "Guarded" means that an object is covered, fenced, or surrounded so that it is not exposed to contact.
(15) "Guy line" means a line which is used to stay or support spar trees or booms or which is used for equipment that needs support.
(16) "Health care provider" means a health care practitioner operating within the scope of his or her license,

certificate, registration, or legally authorized practice.
(17) "Hinge wood" means the portion of a tree which is left uncut and which controls the direction of the fall. See figure 1 of R 408.15156.
(18) "Hydraulic ram log splitter" means a machine for splitting logs that uses pressurized fluid to cause a wedge to pass through a log.
History: 1979 AC; 1983 AACS; 1989 AACS; 1996 AACS.

R 408.15107 Definitions; L to P.
Rule 5107. (1) "Limb" or "limbing" means the act of cutting the limbs from felled or standing trees.
(2) "Limber" means a person or machine that limbs
(3) "Loader" means a mechanical device that loads logs.
(4) "Lodged tree" means a tree that is prevented by another tree from falling to the ground.
(5) "Log" means a segment sawed or split from a felled tree, such as a section, bolt, or tree length.
(6) "Logging equipment" means a mechanically powered device used in a logging operation.
(7) "Logging operations" means the operations that are associated with felling and moving trees and logs from the stump to the point of delivery, such as any of the following:
(a) Marking.
(b) Felling.
(c) Bucking.
(d) Limbing.
(e) Debarking.
(f) Chipping.
(g) Yarding.
(h) Loading.
(i) Unloading.
(j) Storing.
The term includes the transporting of machines, equipment, and personnel from one logging site to another.
(8) "Machine" means a piece of stationary or mobile equipment which is a self-contained powerplant, which is operated off the road and which is used for the movement of material. "Machine" includes any of the following:
(a) A tractor.
(b) A skidder.
(c) A front-end loader.
(d) A scraper.
(e) A grader.
(f) A bulldozer.
(g) A swing yarder.
(h) A log stacker.
(i) A mechanical felling device, such as tree shears or a feller-buncher.
"Machine" does not include an airplane or aircraft such as helicopters.
(9) "Mechanical felling device" or "feller buncher" means equipment used to harvest trees.
(10) "Mechanical ram log splitter" means a machine for splitting logs that uses a mechanical means to cause a wedge to pass through a log.
(11) "Mobile equipment" means equipment, except for an over-the-road vehicle, that is required to be mobile to perform a part of its work function.
(12) "Notch" or "undercut" means a notch made in a standing tree at the beginning of the felling operation that guides the direction of the fall of the tree. See figure 1 of R 408.15156.
(13) "Prehauling" or "forwarding" means the hauling of forest products, before highway or rail movement, by off-the-road vehicles, by nonhighway transport, or by any other means where the forest products travel clear of the ground.
(14) "Protective helmet," "hard hat," or "safety hat" means a rigid device which is designed to protect the head from flying and falling objects or electrical shock, or both, and which is held on the head by a suitable means of suspension.
History: 1979 AC; 1983 AACS; 1989 AACS; 1996 AACS.

R 408.15108 Definitions R to Y.

Rule 5108. (1) "Rated capacity" means the maximum load that a system, vehicle, machine, or piece of equipment was designed by the manufacturer to handle.

(2) "Root wad" means the ball of a tree root and dirt that is pulled from the ground when a tree is uprooted.

(3) "Serviceable condition" means a state or ability of a tool, machine, vehicle, or other device to operate as it was intended by the manufacturer to operate.

(4) "Skid" or "skidding" means the act of dragging logs on the ground.

(5) "Skidder" means a person or machine that skids logs.

(6) "Slasher saw" means a mechanical saw used for bucking.

(7) "Slope" means the increase or decrease in altitude over a horizontal distance expressed as a percentage. For example, a change of altitude of 20 feet (6m) over a horizontal distance of 100 feet (30m) is expressed as a 20% slope.

(8) "Snag" means a standing dead tree.

(9) "Spring pole" means a tree, sapling, or limb which is bent under tension and which springs out after the tension is released.

(10) "Tie down" means a chain, cable, steel strips, or fiber webbing and binders attached to a truck, trailer, or other conveyance as a means of securing loads and preventing them from shifting or moving when being transported.

(11) "Tractor" means a powered vehicle which is for off-the-road hauling or towing and which is equipped with crawler tracks or wheels.

(12) "Tree harvester" means a mechanized, self-propelled machine that is designed to perform 1 or several logging functions, such as felling, limbing, bucking, chipping, skidding or loading.

(13) "Undercut" means a notch cut in a tree to guide the direction of the tree fall and to prevent splitting or kickback.

(14) "Vehicle" means a car, bus, truck, trailer, or semitrailer which is owned, leased, or rented by an employer and which is used to transport employees or move material.

(15) "Winching" means the winding of cable or rope onto a spool or drum.

(16) "Yarding" means the movement of logs from the place they are felled to a landing.

History: 1979 AC; 1996 AACS.

EMPLOYER--EMPLOYEE RESPONSIBILITIES

R 408.15111 Rules; employers' duties.

Rule 5111. An employer shall review these rules with each new employee.

History: 1979 AC.

R 408.15112 New jobs; employer's duties.

Rule 5112. Before an employee starts work on a new job, an employer shall do all of the following:

(a) Familiarize the employee with the type of work to be performed in the job.

(b) Instruct the employee in the safeguards and hazards of the assigned job.

(c) Instruct the employee in the operation, adjustment, maintenance, and safe practices of equipment.

(d) Issue an operator's permit card of the type prescribed in General Industry Safety Standard Part 21 "Powered Industrial Trucks," as referenced in R 408.15102, if off-road mobile equipment is to be operated.

History: 1979 AC; 1989 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

R 408.15113 Supervision, maintenance, and inspection by employers.

Rule 5113. An employer shall do all of the following:

(a) Provide supervision necessary to enforce compliance with these rules.

(b) Maintain buildings, equipment, and workplaces in a safe and orderly condition.

(c) Conduct inspections as necessary to ensure compliance with these rules.

(d) Not permit an employee to work alone on felling or skidding operations.

(e) Not permit an employee to work in an area with equipment which is in a dangerous condition.

(f) Account for the presence of each employee at the end of each workday.

(g) Ensure that all safeguards are installed and functional before allowing equipment to be used.
(h) Only permit a designated and trained employee to operate logging equipment.
History: 1979 AC; 1989 AACS.

R 408.15114 Injuries, first aid, and first aid training.

Rule 5114. (1) An employer shall provide first aid kits at each worksite where trees are being cut, at each active landing, and on each employee transport vehicle. The number of first aid kits and the content of each kit shall reflect the degree of isolation, the number of employees, and the hazards reasonably anticipated at the worksite.

(2) The number and content of first aid kits may be reviewed and approved annually by a health care provider.

(3) An employer shall maintain the contents of each first aid kit in a serviceable condition.

(4) An employer shall have not less than 1 employee at a jobsite who is trained in red cross first aid or who has equivalent training.

(5) An employer shall assure that each employee, including supervisors, receives or has received first aid and cardiopulmonary resuscitation (CPR) training that is in compliance with the requirements specified in subrule (11) of this rule.

(6) An employer shall assure that each employee receives first aid training at least once every 3 years and receives CPR training at least annually.

(7) An employer shall assure that each employee's first aid and CPR training or certificate of training, or both, remain current.

(8) All training shall be conducted by a designated person.

(9) An employer shall assure that all training required by this rule is presented in a manner that the employee is able to understand. An employer shall assure that all training materials used are appropriate in content and vocabulary to the educational level, literacy, and language skills of the employees being trained.

(10) The contents of the first aid kit shall be adequate for small worksites, that consist of approximately 2 or 3 employees. When larger operations or multiple operations are being conducted at the same location, additional first aid kits shall be provided at the worksite or additional quantities of supplies shall be included in the first aid kits.

A first aid kit on a logging worksite shall contain at least all of the following items:

(a) Gauze pads that are not less than 4 inches by 4 inches.
(b) Two large gauze pads that are not less than 8 inches by 10 inches.
(c) Box adhesive bandages (band-aids).
(d) One package gauze roller bandage that is not less than 2 inches wide.
(e) Two triangular bandages.
(f) A wound cleaning agent, such as sealed, moistened towelettes.
(g) Scissors.
(h) At least 1 blanket.
(i) Tweezers.
(j) Adhesive tape.
(k) Latex gloves.
(l) Resuscitation equipment, such as a resuscitation bag, airway, or pocket mask.
(m) Two elastic wraps.
(n) Splint.
(o) Directions for requesting emergency assistance.

(11) At a minimum, for employees engaged in logging activities, first aid and CPR training shall be conducted using conventional methods of training, such as lecture, demonstration, practical exercise, and examination, both written and practical. In addition, the length of training shall be sufficient to assure that trainees understand the concepts of first aid and can demonstrate their ability to perform the various procedures required in subrule (12) of this rule.

(12) At a minimum, first aid and CPR training shall consist of instruction in all of the following areas:

(a) The definition of first aid.
(b) The legal issues of applying first aid (good samaritan laws).
(c) Basic anatomy.

(d) Patient assessment and first aid for all of the following:
(i) Respiratory arrest.
(ii) Cardiac arrest.
(iii) Hemorrhage.
(iv) Lacerations and abrasions.
(v) Amputations.
(vi) Musculoskeletal injuries.
(vii) Shock.
(viii) Eye injuries.
(ix) Burns.
(x) Loss of consciousness.
(xi) Extreme temperature exposure (hypothermia/hyperthermia).
(xii) Paralysis.
(xiii) Poisoning.
(xiv) Loss of mental functioning, such as psychosis and hallucinations.
(e) CPR.
(f) The application of dressings and slings.
(g) The treatment of strains, sprains, and fractures.
(h) The immobilization of injured persons.
(i) The handling and transporting of injured persons.
(j) The treatment of bites or stings or for contact with poisonous plants or animals.
History: 1979 AC; 1989 AACS; 1996 AACS.

R 408.15116 Employees; general duties.
Rule 5116. An employee shall do all of the following:
(a) Abide by the safety procedures pertaining to the job as prescribed by the employer and comply with these rules.
(b) Examine the work area and equipment that is going to be used before work begins and report a dangerous or unsafe condition in the work area or equipment to the immediate supervisor.
(c) Refrain from a reckless practice or action which could result in an accident or injury.
(d) Not operate a machine without experience, instruction, and authorization.
History: 1979 AC; 1989 AACS.

R 408.15117 Employee protection in certain weather conditions; stoppage of falling operation; employee spacing and duty organization; work area safety; contact with other employees.
Rule 5117. (1) All work shall stop and employees shall be moved to a place of safety when environmental conditions, such as, but not limited to, electrical storms, strong winds which may affect the fall of a tree, heavy rain or snow, extreme cold, dense fog, fires, mudslides, or darkness, or other hazardous weather conditions that would be dangerous to the employees occur.
(2) A falling operation shall stop if a wind prevents a tree from falling in the desired direction or if the faller's vision is impaired by a weather condition or darkness.
(3) Employees shall be spaced, and the duties of each employee shall be organized, so that the actions of one employee will not create a hazard for any other employee.
(4) Work area shall be assigned so that trees cannot fall into an adjacent occupied work area. The distance between adjacent occupied work areas shall be not less than 2 tree lengths of the trees being felled. The distance between adjacent occupied work areas shall reflect the degree of slope, the density of the growth, the height of the trees, the soil structure, and other hazards reasonably anticipated at the worksite. A distance of more than 2 tree lengths shall be maintained between adjacent occupied work areas on any slope where the rolling or sliding of trees or logs is reasonably foreseeable.
(5) Each employee shall work in a position or location that is within visual or audible contact of another employee.
(6) Hand signals or audible contact, such as, but not limited to, whistles, horns, or radios, shall be utilized whenever noise, distance, restricted visibility, or other factors prevent clear understanding of normal voice communications between employees.

History: 1979 AC; 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

R 408.15118 Fire prevention.

Rule 5118. (1) Smoking or an open flame is prohibited within 10 feet of an engine being refueled.

(2) Refueling shall not be done in an area where conditions are conducive to fire.

(3) An approved fire extinguisher, as prescribed in the General Industry Safety Standard Part 8 "Portable Fire Extinguishers," as referenced in R 408.15102, shall be provided and maintained on each machine and on each vehicle.

(4) Gasoline or other flammable liquid shall be stored in an approved container that is located not less than 25 feet from a source of ignition.

(5) Machinery shall be kept free of accumulations of flammable material.

(6) Flammable liquids shall not be transported on a personnel carrier unless a storage box is provided. Flammable and combustible liquids shall not be transported in the driver compartment or any passenger-occupied area of a machine or vehicle.

(7) Flammable liquids shall not be used to start a fire or as a cleaning solvent.

(8) The engine of a powered machine shall be shut off while being refueled and serviced.

History: 1979 AC; 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

R 408.15119 Training.

Rule 5119. (1) An employer shall provide training for each employee, including supervisors, at no cost to the employee.

(2) The training shall be provided as follows:

(a) As soon as possible after July 2, 1996, initial training for each current and new employee.

(b) Before initial assignment for each new employee.

(c) When an employee is assigned new work tasks, tools, equipment, machines, or vehicles.

(d) When an employee demonstrates unsafe job performance.

(3) At a minimum, training shall consist of all of the following elements:

(a) The safe performance of assigned work tasks.

(b) The safe use, operation, and maintenance of tools, machines, and vehicles that the employee uses or operates, including an emphasis on understanding and following the manufacturer's operating and maintenance instructions, warnings, and precautions.

(c) The recognition of safety and health hazards associated with the employee's specific work tasks, including the use of measures and work practices to prevent or control the hazards.

(d) The recognition, prevention, and control of other safety and health hazards in the logging industry.

(e) The procedures, practices, and requirements of the employer's worksite.

(f) The requirements of these rules.

(4) The training of an employee due to unsafe job performance or before the assignment of new work tasks, tools, equipment, machines, or vehicles may be limited to the elements in subrule (3) of this rule that are relevant to the circumstances giving rise to the need for training.

(5) Each current employee who has received training in the particular elements specified in subrule (3) of this rule shall not be required to be retrained in those elements.

(6) Each new employee who has received training in the particular elements specified in subrule (3) of this rule shall not be required to be retrained in those elements before initial assignment.

(7) An employer shall train each current and new employee in the elements for which the employee has not received training.

(8) Each new employee and each employee who is required to be trained shall work under the close supervision of a designated person until the employee demonstrates to the employer the ability to safely perform his or her new duties independently.

(9) An employer shall verify training by preparing a written certification record that contains all of the following information:

(a) The name or other identity of the employee trained.

(b) The date or dates of the training.

(c) The signature of the person who conducted the training or the signature of the employer.

If an employer relies on training conducted before the employee's hiring or completed before the effective date of

this rule, then the certification record shall indicate the date on which the employer determined the previous training was adequate.

(10) The employer shall maintain the most recent training certification for an employee.

(11) An employer shall hold safety and health meetings as necessary, but at least once each month for each employee. Safety and health meetings may be conducted individually, in crew meetings, in larger groups, or as part of other staff meetings.

History: 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

PROTECTIVE CLOTHING

R 408.15120 Personal protective equipment generally. Requirements.

Rule 5120. (1) An employer shall assure that personal protective equipment, including any personal protective equipment provided by an employee, is maintained in a serviceable condition.

(2) An employer shall assure that personal protective equipment, including any personal protective equipment provided by an employee, is inspected before initial use during each work shift. Defects or damage shall be repaired or the unserviceable personal protective equipment shall be replaced before work is commenced.

History: 1996 AACS.

R 408.15121 Clothing of workers near moving machinery.

Rule 1521. A person working near moving machinery shall wear close fitting, fastened clothing.

History: 1979 AC.

R 408.15122 Protective helmets.

Rule 5122. An employer shall provide, at no cost to the employee, and assure that each employee wears, a protective helmet on the jobsite as prescribed in General Industry Safety Standard Part 33 “Personal Protective Equipment,” as referenced in R 408.15102.

History: 1979 AC; 1983 AACS; 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

R 408.15123 Eye and face protection.

Rule 5123. (1) An employer shall provide, at no cost to the employee, and assure that each employee wears, eye protection as prescribed in General Industry Safety Standard Part 33 “Personal Protective Equipment,” as referenced in R 408.15102.

(2) A steel wire or nylon mesh screen that is strong enough to protect the face to below the nose from chips or sawdust from a chain saw or where there is potential for facial injury shall be provided by the employer and worn by the employee. Face protection shall be in compliance with the requirements of General Industry Safety Standard Part 33 “Personal Protective Equipment,” as referenced in R 408.15102.

History: 1979 AC; 1983 AACS; 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

R 408.15124 Gloves.

Rule 5124. (1) An employee on a logging operation who is working with a wire rope or sharp object that may cause an injury to the hand shall wear gloves of a suitable type. The gloves shall be provided by the employer at no expense to the employee and shall provide adequate protection from puncture wounds, cuts, and lacerations.

(2) Gloves that can be caught and pulled into a pinch point or rotating equipment shall not be worn.

History: 1979 AC; 1983 AACS; 1996 AACS.

R 408.15125 Foot and leg protection.

Rule 5125. (1) An employer shall assure that each employee wears foot protection, such as heavy-duty logging boots which are waterproof or water-repellent and which cover and provide support to the ankle. The employer shall assure that each employee who operates a chain saw wears foot protection that is constructed with cut-resistant material that will protect the employee’s foot against contact with a running chain saw. The employer shall assure that each employee wears sharp, calk-soled boots or other slip-resistant type boots where the employer demonstrates that they are necessary for the employee's job, the terrain, the timber type, and the weather

conditions, provided that foot protection otherwise required by this rule is met.

(2) The employer shall provide, at no cost to the employee, and assure that each employee who operates a chain saw wears leg protection made of cut-resistant material, such as ballistic nylon. The leg protection shall cover the full length of the thigh to the top of the boot on each leg to protect against contact with a moving chain saw. Exception: This requirement does not apply when an employee is working as a climber if the employer demonstrates that a greater hazard is posed by wearing leg protection in the particular situation, or when an employee is working from a vehicular mounted elevating and rotating work platform meeting the requirements of General Industry Safety Standard Part 58 "Aerial Work Platforms," as referenced in R 408.15102.

History: 1979 AC; 1983 AACS; 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

R 408.15126 Rescinded.

History: 1954 ACS 61, Eff. Feb. 16, 1970; rescinded 1954 ACS 79, Eff. May 16, 1974.

R 408.15127 Explosives and blasting agents generally.

Rule 5127. (1) Explosives and blasting agents shall be stored, handled, transported, and used in accordance with the requirements of General Industry Safety Standard Part 55 "Explosives and Blasting Agents," as referenced in R 408.15102.

(2) Only a designated person shall handle or use explosives and blasting agents.

(3) Explosives and blasting agents shall not be transported in the driver compartment or in any passenger-occupied area of a machine or vehicle.

History: 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

PROTECTIVE EQUIPMENT

HAND-HELD CHAIN SAWS

R 408.15130 Hand and portable powered tools generally.

Rule 5130. (1) An employer shall assure that each hand and portable powered tool, including any tool provided by an employee, is maintained in servicable condition.

(2) An employer shall assure that each tool, including any tool provided by an employee, is inspected before initial use during each work shift. At a minimum, all of the following items shall be inspected:

(a) Handles and guards, to assure that they are sound, tight-fitting, properly shaped, free of splinters and sharp edges, and in place.

(b) Controls, to assure proper function.

(c) Chain saw chains, to assure proper adjustment.

(d) Chain saw mufflers, to assure that they are operational and in place.

(e) Chain brakes and nose-shielding devices, to assure that they are in place and function properly.

(f) Heads of shock, impact-driven, and driving tools, to assure that there is no mushrooming.

(g) Cutting edges, to assure that they are sharp and properly shaped.

(h) All other safety devices, to assure that they are in place and function properly.

(3) An employer shall assure that each tool is used only for the purpose for which it has been designed.

(4) When the head of any shock, impact-driven, or driving tool begins to chip, it shall be repaired or removed from service.

(5) The cutting edge of each tool shall be sharpened in accordance with the manufacturer's specifications when it becomes dull during the work shift.

(6) A hand tool transported in the same compartment of a vehicle with an employee shall be secured to the vehicle in a rack, box, holster, or other means.

(7) When a hand tool is not being used, it shall be stored in a storage facility at a designated location.

(8) Defective hand tools that could cause injury shall be repaired or replaced.

History: 1996 AACS.

R 408.15131 Chain saws generally.
Rule 5131. (1) A hand-held chain saw shall be equipped with a positive-type, on-off ignition switch which is conveniently located on the saw so that the operator can move the switch into the off position without relinquishing a secure grip on the saw.
(2) A manual chain oiler control, if provided on a handheld chain saw, shall be located so that it can be operated without relinquishing a secure grip on the saw.
(3) A hand-held chain saw shall have a guard that protects the throttle lever from casual contact and from brush or other foreign objects.
(4) Each gasoline-powered chain saw shall be equipped with a continuous pressure throttle control system that will stop the chain when pressure on the throttle is released.
(5) A hand-held chain saw's moving parts, such as a flywheel, rotating screen, or clutch, shall be guarded.
(6) Each chain saw placed into initial service after July 2, 1996, shall be equipped with a chain brake and shall be in compliance with the requirements of ANSI B175.1 "Safety Requirements for Gasoline-Powered Chain Saws," 1991 edition, which is adopted by reference in R 408.15102.
History: 1979 AC; 1989 AACS; 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

R 408.15132 Rescinded.
History: 1979 AC; 1989 AACS.

R 408.15133 Rescinded.
History: 1979 AC; 1989 AACS.

R 408.15134 Rescinded.
History: 1979 AC; 1989 AACS.

R 408.15135 Rescinded.
History: 1979 AC; 1989 AACS.

R 408.15136 Hand-held chain saw operations.
Rule 5136. (1) A chain saw operator shall shut off a hand-held saw motor when carrying it for a distance of more than 50 feet (15.2m) or in a hazardous situation. A hand-held chain saw shall be carried so as to prevent an employee from coming in contact with the saw chain or muffler.
(2) A chain saw operator shall shut down a chain saw or engage the chain brake when carrying a saw less than 50 feet if conditions, such as the terrain, underbrush, and slippery surfaces, create a hazard for an employee.
(3) An approved container shall be used for refueling a hand-held chain saw. A hand-held chain saw shall not be started within 10 feet (3m) of a refueling area.
(4) A chain saw shall be fueled not less than 10 feet (3m) from any open flame or other source of ignition.
(5) A chain saw operator shall hold a hand-held chain saw with both hands during its use, with thumbs firmly locked around the handles.
(6) Before starting a cut, a chain saw operator shall clear away brush and other items that would interfere with the cutting operation or the retreat path.
(7) A chain saw operator shall be certain of his or her footing before starting to cut. A chain saw shall not be used in a position or at a distance that could cause the operator to become off-balance, to have insecure footing, or to relinquish a firm grip on the saw.
(8) A chain saw operator shall not use a hand-held chain saw to cut directly overhead or in a position which could cause him or her to relinquish a secure grip on the saw.
(9) A hand-held chain saw which is purchased after July 2, 1996, and which is used by an employee to perform logging operations shall be equipped with both of the following:
(a) A chain brake and a chain designed to reduce kickback.
(b) A safety bar and a chain designed to reduce kickback.
(10) A chain saw shall be operated and adjusted in accordance with the manufacturer's instruction.
(11) A chain saw shall be started on the ground or where otherwise firmly supported. A chain saw shall not be drop started.
(12) A chain saw shall be shut off or the throttle released before a feller starts to retreat.

History: 1979 AC; 1989 AACS; 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

OTHER SAWS

R 408.15137 Slasher saws; guards.
Rule 5137. (1) A slasher saw blade shall be guarded by a fixed or adjustable barrier guard which protects the operator or other employees from inadvertently coming into contact with the saw teeth from the back side.
(2) The fixed or adjustable barrier guard shall be constructed to keep an employee from coming into contact with the saw blade and shall be capable of retaining any blocks which are cut off and which may be thrown by the blade.
History: 1979 AC; 1989 AACS.

R 408.15138 Buzz saws; guards.
Rule 5138. (1) A buzz saw shall have a hood-type guard which covers the upper half of the blade, arbor, and nut at all times. The lower part of the blade shall be guarded by 1 of the following:
(a) A fixed or adjustable barrier guard which protects the operator from inadvertently coming into contact with the saw teeth.
(b) A self-adjusting guard which will prevent employee exposure to the front of the saw blade by dropping onto the workpiece before the blade starts the cut and remaining in contact with the workpiece until the saw table returns to the forward position.
(c) Movement of the saw table into the saw by use of constant pressure controls located so that the operator cannot come into contact with the saw blade.
(d) Any other type of guarding that provides equal protection.
(2) A limit chain or other equally effective device shall be provided to prevent the buzz saw blade from extending past the front of the saw table.
History: 1989 AACS.

LOGGING EQUIPMENT

R 408.15141 Flying particles.
Rule 5141. The working parts of a machine shall be guarded to prevent flying particles from injuring the operator or any other person in the immediate area.
History: 1979 AC.

R 408.15142 Operator stands.
Rule 5142. A machine operator stand or station shall have a slip-resistant walking and working surface, which shall be kept clean of slippery substances and clear of obstructions, waste, debris, and any other material that might result in fire, slipping, or falling. A stand shall have a means of access, such as steps, a ladder, or footholds and handholds. If the stand is totally enclosed, it shall be ventilated.
History: 1979 AC; 1989 AACS; 1996 AACS.

R 408.15143 Controls.
Rule 5143. (1) A machine control shall be located within easy reach of the operator.
(2) Each control shall be identified as to its function by a durable label which is visible to the operator when in the operator zone.
History: 1979 AC; 1989 AACS.

R 408.15144 Rollover protection and cab guards.

Rule 5144. (1) Each tractor, skidder, swing yarder, log stacker, and mechanical felling device, such as a tree shears or feller-buncher, that is placed into initial service after February 9, 1995, shall be equipped with falling object protective structure (FOPS) or rollover protective structure (ROPS), or both. The employer shall replace FOPS or ROPS that have been removed from any machine.

Exception: This requirement does not apply to machines that are capable of 360 degree rotation.

(2) For each machine manufactured after August 1, 1996, the FOPS shall be installed, tested, and maintained in accordance with SAE J231, "Minimum Performance Criteria for Falling Object Protective Structures (FOPS)," January 1981 edition, which is adopted by reference in R 408.15102.

(3) For each machine manufactured after August 1, 1996, the ROPS shall be installed, tested, and maintained in accordance with SAE J1040, "Performance Criteria for Rollover Protective Structures (ROPS) for Construction, Earthmoving, Forestry, and Mining Machines," April 1988 edition, which is adopted by reference in R 408.15102.

(4) For each machine manufactured after August 1, 1996, the ROPS and FOPS shall be in compliance with the requirements of SAE J397, "Deflection Limiting Volume- ROPS/FOPS Laboratory Evaluation," April 1988 edition, which is adopted by reference in R 408.15102.

(5) A protective structure shall not impede the operator's normal movements.

(6) In addition to the rollover protection, the upper portion of the cab of mobile equipment shall have both of the following:

(a) A screen brush guard on all 4 sides, except for doorways. The front, rear, and side brush screen shall be 1/4-inch wire, or equivalent, and have not more than a 2-inch mesh.

(b) An overhead canopy guard or solid material that extends the full width and length of the canopy.

(7) The lower portion of a cab of mobile equipment shall be enclosed with solid material, except at an entrance, to prevent objects from entering the cab. The entrance shall be not less than 52 (1.3m) inches in vertical height from the floor of the cab.

(8) An enclosure of the upper portion of each cab shall allow maximum visibility. Where glass is used on a cab, it shall be safety glass or an equivalent.

An additional metal screen shall be used where there is exposure to falling or flying objects. Provision shall be made to clean glass to assure adequate visibility.

(9) Transparent material that may create a hazard for the operator, such as cracked, broken, or scratched safety glass, shall be replaced.

(10) A deflector shall be installed in front of each cab to deflect whipping saplings and branches. A deflector shall be located so as not to impede visibility and access to the cab.

(11) Each machine operated near cable yarding operations shall be equipped with sheds or roofs that are strong enough to provide protection from breaking lines.

(12) Each forklift shall be equipped with an overhead guard that is in compliance with the requirements of ASME B56.6 "Safety Standard for Rough Terrain Forklift Trucks," 1992 edition with addenda, which is adopted by reference in R 408.15102.

(13) Machine access systems that are in compliance with the specifications of SAE J185, "Recommended Practice for Access Systems for Off-Road Machines," June 1988 edition, as adopted in R 408.15102, shall be provided for each machine where the operator or any other employee must climb onto the machine to enter the cab or to perform maintenance.

(14) Each machine cab shall have a second means of egress.

(15) ROPS shall be tested, installed, and maintained in serviceable condition.

History: 1979 AC; 1989 AACS; 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

R 408.15145 Rescinded.

History: 1979 AC; 1989 AACS.

R 408.15146 Equipment, maintenance of mufflers; seating and seatbelts; design and construction of skidding and hauling equipment; towing; prehaulers and forwarders; crane or clam turning; trucks; operation of loading devices; alteration of logging equipment; insulation or shielding or surfaces of logging equipment.

Rule 5146. (1) Equipment originally equipped with a muffler shall have the muffler maintained when the equipment is in operation.

The exhaust pipes on each machine shall be located so exhaust gases are directed away from the operator and

mounted or guarded to protect each employee from accidental contact.
An exhaust pipe shall be equipped with a spark arrester. An engine equipped with turbochargers does not require a spark arrester.
(2) Equipment shall be operated only from the position or seat intended for that purpose. A seat belt shall be provided on mobile equipment, including any vehicle or machine provided by an employee. An employer shall assure all of the following:
(a) That a seat belt is provided for each vehicle or machine operator.
(b) That each employee uses the available seat belt while the vehicle or machine is being operated.
(c) That each employee securely and tightly fastens the seat belt to restrain the employee within the vehicle or machine cab.
(d) That each machine seat belt is in compliance with the requirements of SAE J386, "Operator Restraint Systems for Off-Road Work Machines," June 1985 edition, as adopted in R 408.15102, which was equipped with seat belts at the time of manufacture.
(e) That seat belts are not removed from any vehicle or machine. The employer shall replace each seat belt that has been removed from any vehicle or machine that was equipped with seat belts at the time of manufacture.
(f) That each seat belt is maintained in a serviceable condition.
(3) Skidding and prehauling equipment shall be designed and constructed to allow a minimum radius vehicle turn without the load contacting the rear wheel or the rear track assembly.
(4) Towed equipment shall be attached in a manner that will allow a full 90-degree turn, prevent overrunning, and assure control of the towed equipment.
(5) A prehauler or forwarder shall have a means of retaining loads and a means for securing the load during transport.
(6) A crane or clam that has a turning house shall have not less than 2 feet of clearance between the turning radius of the house and a fixed object.
(7) A truck shall have a guard that protects the operator in the cab from a load shift.
(8) A truck shall be driven by a licensed driver and have, in its cab, flares and flags and an approved multipurpose fire extinguisher that has a rating of not less than 2a-4bc.
(9) A loading device shall not be operated so that the load passes over the operator or employees.
(10) Logging equipment shall not be altered to exceed the rated capacity, unless the alterations are approved by the manufacturer.
(11) All hot surfaces on logging equipment that have a temperature of more than 150 degrees Fahrenheit and that could be contacted by the operator during normal starting and operating shall be thermally insulated or shielded.
History: 1979 AC; 1989 AACS; 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

R 408.15147 Rescinded.
History: 1979 AC; 1996 AACS.

R 408.15148 Logging equipment; operations.
Rule 5148. (1) The engine of a powered logging machine shall be shut off while being serviced or adjusted, except where operation is required for adjustment.
(2) If an operator leaves the seat of any logging equipment that has its engine running, then the transmission shall be placed in the park position and the brakes set. If equipment is to be left unattended, then the operator shall apply the brake locks, ground moving elements, and turn the power off.
(3) A person, except the operator, shall not ride on mobile logging equipment unless the equipment is provided with a passenger seat belt located under a canopy that is in compliance with the requirements of R 408.15144 and R 408.15146.
(4) A logging equipment operator shall do all of the following:
(a) Operate the equipment within the rated capacity and stability limitations.
(b) Ensure, before start-up and during operation of the equipment, that employees and other objects are not in danger of being struck. Moveable objects, such as a boom, grapple, or load, shall not be moved close to or over an employee.
(c) Check all controls for function and response before starting a work shift.
(d) When a signalman is used, operate the equipment only on a clearly understood signal by the designated signalman.

(e) When operating near other employees, signal intent to move before moving.
(f) Dismount from the equipment, stand clear, and be visible when forest products or equipment is loaded or unloaded on or from the equipment by other equipment.
(g) Not place undue shock loads on wire rope.
(h) Position or secure all moveable elements not in use for safe operation.
(5) When transporting logging equipment from one job location to another, the carrying vehicle shall be capable of sustaining the load and the load shall be secured against movement.
(6) Any overhead electrical distribution or transmission line shall be considered energized until the owner or utility indicates otherwise and the line has been visibly grounded. Where a line cannot be de-energized, the following clearances shall be observed:

Voltage	Clearance boom raised	Clearance boom lowered and no load
to 50 kV	10 feet	4 feet
51 to 345 kV	10 feet plus .4 inch per kV over 50 kV	10 feet
346 to 750 kV	10 feet plus .4 inch per kV over 50 kV	15 feet

(7) When winching, the logging equipment shall be positioned so that the winch line is near the alignment with the long axis of the equipment.
(8) If natural light is inadequate during a logging, decking, or loading operation, the loader or loading areas shall be artificially lighted.
(9) A person involved in logging operations shall not work under a suspended load.
(10) When logging operations involve manual loading, the carrier shall be positioned to provide an area free of recognized hazards between the carrier and the pile, and the log or pole shall be placed in a manner so that it will not roll or slip.
(11) When logging operations involve machine loading, all of the following provisions apply:
(a) The piles shall be located in an area free of recognized hazards.
(b) Only the operator shall be in the work area.
(c) The load shall be balanced and secured to prevent slippage and loss.
(12) A person shall not ride a logging crane load, grapple, or hook.
(13) Truck-mounted loading equipment used in logging operations shall be secured before leaving a loading area. A protruding object on a load shall be removed or caution flags shall be installed.
(14) A truck driver shall stop a logging vehicle, dismount, and check and tighten loose load binders either just before or immediately after leaving a woods road to enter a public road.
(15) A logging operator shall use care in driving under limbs, trees, and other overhanging obstructions.
History: 1989 AACS; 1996 AACS.

R 408.15149 Machines generally.
Rule 5149. (1) An employer shall assure that each machine, including any machine provided by an employee, is maintained in serviceable condition. An employer shall assure that each machine, including any machine provided by an employee, is inspected before initial use during each work shift. Defects or damage shall be repaired or the unserviceable machine shall be replaced before work is commenced.
(2) An employer shall assure that operating and maintenance instructions are available on the machine or in the area where the machine is being operated. To maintain stability, the machine shall be operated within the limitations imposed by the manufacturer as described in the operating and maintenance instructions. Each machine operator and maintenance employee shall comply with the operating and maintenance instructions.
(3) A stationary logging machine and its components shall be anchored or otherwise stabilized to prevent movement during operations.
(4) An employee shall not ride on any load.
(5) After a machine engine is shut down, pressure or stored energy from hydraulic and pneumatic storage devices shall be discharged if the storage device can move the moving elements. Each moving element, such as blades, buckets, saws, or shears, shall be lowered to the ground or otherwise secured. The machine's transmission shall be placed in the manufacturer's specified park position and the brake or brake locks shall be applied.
(6) A machine shall be loaded, secured, and unloaded so that it will not create a hazard for an employee.
(7) Brakes shall be sufficient to hold each machine and its rated load capacity on the slopes over which it is being

operated.
(8) Each machine placed into initial service on or after September 8, 1995, shall be equipped with a secondary braking system, which shall be effective in stopping the machine and maintaining parking performance regardless of the direction of travel or whether the engine is running and parking brakes that are capable of holding a stopped machine stationary are employed.
(9) Each machine shall be equipped with guarding to protect employees from exposed moving elements, such as shafts, pulleys, belts on conveyors, and gears, in accordance with the requirements of General Industry Safety Standard Part 7 "Guards for Power Transmission," as referenced in R 408.15102.
(10) Each machine used for debarking, limbing, and chipping shall be equipped with guarding to protect employees from flying wood chunks, logs, chips, bark, limbs, and other material.
(11) The guarding on each machine shall be in place when the machine is in operation.
History: 1996 AACS; 2014 MR 15, Eff. Aug. 12, 2014.

R 408.15150 Vehicles
Rule 5150. (1) An employer shall assure that each vehicle used to perform any logging operation, including any vehicle provided by an employee, is maintained in serviceable condition.
(2) An employer shall assure that each vehicle used to perform any logging operation is inspected before initual use during each work shift. Vehicle defects or damage shall be repaired or the unserviceable vehicle shall be replaced before work is commenced.
(3) The employer shall assure that operating and maintenance instructions are available in each vehicle. Each vehicle operator and maintenance employee shall comply with the oprtating and maintenance instructions.
(4) The employer shall aassure that each vehicle operator has a valid operator's license for the class of vehicle being operated.
(5) Mounting steps and handholds shall be provided for each vehicle when necessary to prevent an employee from being injured when entering or leaving the vehicle.
(6) The seats of each vehicle shall be securely fastened.
(7) The rated capacity of a machine shall not be exceeded.
(8) The requirements of R 408.15148(2) and (4)(a), (b), and (h) and R 408.15149(7), (8), and (9) shall also apply to each vehicle used to transport an employee off public roads or to perform a logging operation, including a vehicle provided by an employee.
History: 1996 AACS.

FELLING, LIMBING, BUCKING, AND SKIDDING

R 408.15151 Felling.
Rule 5151. (1) An employee, except the faller, shall not be closer to a manual or mechanical felling operation than twice the height of the tallest tree being cut.
(2) Before a cut is started, a feller shall check for the location of all of the following and plan and clear a path of retreat:
(a) Other employees.
(b) Dead limbs.
(c) Lean of the tree.
(d) Wind condition.
(e) Location of other trees and other hazards.
(f) Snow or ice accumulation.
(3) The retreat path shall extend diagonally away from the expected felling line, unless the employer demonstrates that such a retreat poses a greater hazard than an alternate retreat path. Once the backcut has been made, the feller shall immediately move a safe distance away on the retreat path and away from the tree being felled.
(4) If a tree falls on a power line, the utility shall be notified immediately and all employees shall remain clear until the utility advises that conditions are safe.
(5) The immediate supervisor shall be consulted when unfamiliar or unusually hazardous conditions necessitate the supervisor's approval before cutting is commenced.
(6) While manual felling is in progress, a yarding machine shall not be operated within 2 tree lengths of trees

being manually felled. This subrule does not apply to yarding machines performing tree-pulling operations.

(7) Each danger tree shall be felled, removed, or avoided. Each danger tree, including lodged trees and snags, shall be felled or removed using mechanical or other techniques that minimize employee exposure before work is commenced in the area of the danger tree. If the danger tree is not felled or removed, it shall be marked and work shall not be conducted within 2 tree lengths of the danger tree, unless the employer demonstrates that a shorter distance will not create a hazard for an employee.

(8) Each danger tree shall be carefully checked for signs of loose bark, broken branches and limbs, or other damage before it is felled or removed.

Accessible loose bark and other damage that may create a hazard for an employee shall be removed or held in place before felling or removing the tree.

(9) Felling on any slope where the rolling or sliding of trees or logs is reasonably foreseeable shall be done uphill from, or on the same level as, previously felled trees.

(10) Domino felling of trees is prohibited.

(11) Accumulations of snow and ice that may create a hazard for an employee shall be removed before felling is commenced in the area or the area shall be avoided.

History: 1979 AC; 1989 AACS; 1996 AACS.

R 408.15152 Working alone.

Rule 5152. A faller or bucker shall not work beyond hearing range of another employee unless a procedure has been established for periodically checking on the faller or bucker during the course of the work day.

History: 1979 AC.

R 408.15153 Lodged tree removal.

Rule 5153. A person shall not work under a lodged tree. A lodged tree shall be pulled or pushed down as soon as possible by mobile equipment in a manner which keeps an employee from being struck by the tree.

History: 1979 AC; 1989 AACS.

R 408.15154 Dangerous trees and snags.

Rule 5154. A dead, rotten, or broken limb or tree that is a hazard to road traffic woods operations, landings, or camps shall be felled before operations begin. Where such a tree may fall on a public road, a flagman shall direct traffic during felling operation.

History: 1979 AC; 1989 AACS.

R 408.15155 Springpoles; and other trees under stress.

Rule 5155. (1) When a springpole or other tree under stress is cut, an employee, other than the feller, shall not be closer than 2 tree lengths when the stress is released.

(2) An employee shall check for springpoles before making a bucking cut or limbing.

History: 1979 AC; 1996 AACS.

R 408.15156 Notch or undercut; back cut; hinge wood.

Rule 5156. (1) A notch or undercut shall be large enough, about 1/3 of the diameter, to safely guide the tree and reduce the possibility of the tree splitting. Side cuts shall also be used where appropriate.

(2) A back cut shall be made in each tree being felled. A back cut shall leave sufficient hinge wood to guide the tree's fall in the desired direction and to hold the tree to the stump during most of its fall. A back cut shall be about 2 inches above the undercut and as level as possible; however the back cut may be at or below the horizontal cut in tree-pulling operations.

(3) Before starting a back cut, a faller shall determine that the impact area is clear of other employees.

(4) The saw chain shall be stopped before the feller starts to retreat.

(5) Where a tree is likely to slide or roll, a feller shall cut from the uphill side and keep uphill from previously felled trees.

History: 1979 AC; 1989 AACS; 1996 AACS.

R 408.15157 Bucking or limbing positions; chipping.

Rule 5157. (1) If possible, a limber shall stand on the opposite side of the tree trunk from a limb being removed.
(2) If working on a slope, a bucker shall work from the uphill side.
When the employer demonstrates that it is not feasible to buck or limb on the uphill side, the tree shall be secured with chocks to prevent it from rolling, sliding, or swinging.
(3) Trees piled for bucking and logs in a deck shall be piled in a manner that is not hazardous.
(4) Before bucking or limbing wind-thrown trees, precautions shall be taken to prevent the root wad, butt, or logs from striking an employee.
The precautions include chocking or moving the tree to a stable position.
History: 1979 AC; 1996 AACS.

R 408.15158 Skidding; yarding.
Rule 5158. (1) A person shall not ride on a log being skidded.
(2) A skidder operator shall use caution if operating near another person.
(3) If on a hill, a skidder shall not be operated parallel to the contour of the slope.
(4) If skidding equipment equipped with blades is moving, then the blades shall be carried high enough to avoid objects. If skidding equipment is parked, the blades on the skidding equipment shall be lowered to the ground.
(5) A person shall not hook, adjust, or cross winch lines that are under tension.
(6) A choker setter shall do both of the following:
(a) Work on the uphill side of a log.
(b) Position the choker near the end of the log or tree length to allow turning of the prehaul or skidding vehicle, to prevent the penetration of the operator station, and to reduce the possibility of striking the wheel or track.
(7) A knot shall not be allowed in a wire rope; however, looping the wire rope around the log for purposes of skidding is not considered a knot.
(8) Only the loading or unloading machine operator and other employees the employer demonstrates are essential shall be in the loading or unloading area during the skidding operation.
(9) A yarding line shall not be moved unless the yarder operator has clearly received and understood the signal to do so. When in doubt, the yarder operator shall repeat the signal and wait for a confirming signal before moving any line.
(10) A load shall not exceed the rated capacity of the pallet, trailer, or other carrier.
(11) Towed equipment shall be attached as specified in R 408.15146(4).
(12) The yarding machine or vehicle, including its load, shall be operated at a safe distance from all obstructions that may create a hazard for an employee.
(13) Each yarded tree shall be placed in a location that does not create a hazard for an employee and in an orderly manner so that the trees are stable before bucking or limbing is commenced.
History: 1979 AC; 1989 AACS; 1996 AACS.

R 408.15159 Rescinded.
History: 1979 AC; 1989 AACS.

LOADING AND DECKING

R 408.15161 Rescinded.
History: 1979 AC; 1989 AACS.

R 408.15162 Rescinded.
History: 1979 AC; 1989 AACS.

R 408.15163 Rescinded.
History: 1979 AC; 1989 AACS.

R 408.15164 Rescinded.
History: 1979 AC; 1989 AACS.

R 408.15165 Water.
Rule 5165. A person working in or around water shall wear a life jacket and shall not work alone.
History: 1979 AC.

R 408.15166 Storage.
Rule 5166. (1) Logs and poles shall be piled in a stable manner.
(2) When steel banding is used, it shall be capable of containing the imposed load and shall be placed when the bundle is close to the ground.
(3) An employee shall not place his body underneath a bundle of logs or poles.
History: 1979 AC.

R 408.15167 Chipping.
Rule 5167. Chipping shall be accomplished as prescribed in R 408.15231 (1), (3) and (5) of General Industry Safety Standard Part 52, "Sawmills," as referenced in R 408.15102.

History: 1979 AC; 2014 MR 15, Eff. Aug. 12, 2014.

TRUCK EQUIPMENT AND OPERATION

R 408.15171 Rescinded.
History: 1979 AC; 1989 AACS.

R 408.15172 Side, end, and trip stakes.
Rule 5172. (1) A side or end stake used in hauling logs shall be made of steel or dense hardwood of sufficient strength to remain at a 90 degree angle from the bed of a loaded truck.
(2) A trip stake shall be released from the side of the truck or trailer opposite the location of the trip stake.
History: 1979 AC.

R 408.15173 Rescinded.
History: 1979 AC; 1989 AACS.

R 408.15174 Rescinded.
History: 1979 AC; 1989 AACS.

R 408.15175 Transport vehicles
Rule 5175. (1) A transport vehicle shall be positioned to provide working clearance between the vehicle and the deck.
(2) Only the loading or unloading machine operator and other personnel the employer demonstrates are essential shall be in the work area during loading and unloading.
(3) A transport vehicle operator shall not remain in the cab during loading and unloading if the logs are carried or moved over the truck cab, unless the employer demonstrates that is necessary for the operator to do so. If the transport vehicle operator remains in the cab, then the employer shall provide protection for the operator, such as reinforcement of the cab.
(4) Each log shall be placed on a transport vehicle in an orderly manner and be tightly secured.
(5) The lad shall be positioned to prevent log slippage or loss during handling and transport.
(6) Each stake and chock which is used to trip loads shall be constructed so that the tripping mechanism is activated on teh side opposite the release of the load.
(7) Each tie down shall be left in place over the peak log to secure all logs until the unloading lines or other employer demonstrated equivalent protection has been put in place. A stake that is strong enough to withstand the

forces of shifting or moving logs shall be considered equivalent protection if the logs are not loaded higher than the stake.

(8) Each tie down shall be released only from the side on which the unloading machine operates, except as follows:

(a) When the tie down is released by a remote control device.

(b) When the employee making the release is protected by racks, stachions, or other protection that the employer demonstrates is capable of withstanding the force of the logs.

(9) The transport vehicle operator shall assure that each tie down is tight before transporting the load. While enroute, the operator shall check and tighten the tie down if there is reason to believe that the tie downs have loosened or the load has shifted.

(10) Each deck shall be constructed and located so that it is stable and provides each employee with enough room to safely move and work in the area.

History: 1996 AACS.

R 408.15180 Firewood and log-splitting operations.

Rule 5180. (1) An employee who operates a log splitter shall also load the logs into the splitter.

(2) The bed of a hydraulic or mechanical ram splitter shall be constructed so that the log or firewood is in a stable position without being held by the operator or any other employee at the beginning of the splitting operations.

(3) Wood shall be split only in the direction of the grain.

(4) When loading the splitter, an employee shall hold logs or firewood on the sides and not on the ends.

(5) An employee shall keep his or her hands away from the ram, wedge, and partly split logs and firewood.

(6) A splitter shall not be left unattended while running.

(7) A splitter engine shall not be refueled while running.

(8) A splitter shall be set up so that the operator is not standing on a slope or a slippery surface.

(9) With the ram fully extended, a clearance of at least 1 inch, but not more than 2 inches, shall be maintained between the pressure plate and the wedge.

(10) An auger log splitter shall include a permanently attached means to prevent log rotation.

(11) The operating control on a splitter shall be of the deadman type, which automatically returns to the off or neutral position if the operator removes his or her hands from the control.

(12) The splitting control for ram-type splitters shall move in the same direction as the splitting action.

(13) The operating controls of a log splitter shall be located so the operator can operate the log splitter without being exposed to unexpected contact with a log or moving machinery.

History: 1989 AACS.

R 408.15181 Power takeoff.

Rule 5181. (1) Power takeoff-driven equipment shall be guarded to prevent employee contact with the positively driven, rotating member of the power-driven system. Where power takeoff-driven equipment is of a design requiring the removal of the master shield, the attaching equipment shall include protection from the portion of the tractor power takeoff shaft that protrudes from the tractor.

(2) A tractor having a power takeoff shaft shall be equipped with a master shield on the power takeoff shaft, except as permitted in subrule (1) of this rule. The shield shall be strong enough to prevent permanent deformation when a 250-pound operator mounts or dismounts the tractor and uses the shield as a step.

History: 1989 AACS.

PART 52. SAWMILLS

R 408.15201 Scope.

Rule 5201. This part provides for the safe maintenance and operation of machinery and equipment by the employer and their safe use by the employees for sawmills, including wood pallet and wood box making plants, in or about places of employment in this state.

History: 1979 AC.

R 408.15202 Definitions; B.

Rule 5202. (1) “Binder” means a chain, cable, or rope used to bind loads.
(2) “Bolt” means a log which is cut to a length of 8 feet or less and which is ready for sawing into boards.
(3) “Bolt saw” means a saw that is used to cut bolts into cants or boards.
(4) “Boom” means logs or timbers fastened together end-to-end and used to contain floating logs. The term includes enclosed logs.
(5) “Boom sticks” means logs or timbers used in making up a boom.
(6) “Brow log” means a log placed parallel to a roadway at a landing or dump to protect vehicles while loading or unloading.
(7) “Bunk” or “dunnage” means a cross support for a load.
History: 1979 AC; 1989 AACS; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15203 Definitions; C.

Rule 5203. (1) "Cant" means a log slabbed on 1 or more sides.
(2) "Carrier" means an industrial truck which is designed and constructed so that it straddles the load to be transported and is equipped with mechanisms to pick up the load and support it during transportation.
(3) "Chipper" means a machine which cuts material into chips of a predetermined size.
(4) "Chock" or "bunk block" means a wedge that prevents logs or loads from moving.
History: 1979 AC; 1989 AACS.

R 408.15204 Definitions; D to G.

Rule 5204. (1) "Debarker" or "barker" means a machine which removes the bark from a log.
(2) "Dog" means a steel tooth, 1 or more of which are attached to each carriage to hold a log in place on a carriage.
(3) "Edger" means a machine consisting of 2 or more circular saws used to cut boards to width.
(4) "Gang saw" means a machine consisting of 2 or more saw blades used to break down sawmill materials into multiple widths.
(5) "Green chain" means 2 or more endless runs of chain used to carry boards from the final saw.
History: 1979 AC; 1989 AACS.

R 408.15205 Definitions; H.

Rule 5205. (1) “Head block” means a part of a carriage that holds a log and upon which the log rests. It generally consists of base, knee, taper set, and mechanism.
(2) “Head rig” means a combination of a headsaw and carriage used for the initial breakdown of a log into timbers, cants, and boards.
(3) “Headsaw” means a saw, either circular or band type, used for the initial breakdown of a log into timbers, cants, and boards.
(4) “Hog” means a machine used for cutting, chipping, or grinding slabs, bark, and other coarse residue.
(5) “Husk” means the framework of a circular headsaw.
(6) “Head sawyer” means an operator of a headsaw.
(7) “Kiln tender” means the operator of a kiln.
History: 1979 AC; 1989 AACS; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15206 Definitions: L to R.

Rule 5206. (1) "Live rolls" means cylinders of wood or metal mounted on horizontal axes or shafts and rotated by power, which are used to convey slabs, lumber and other wood products.
(2) "Log deck" means a platform on which logs lay awaiting debarking or sawing.
(3) "Log haul" means a conveyor for transferring logs to the mill.
(4) "Log turner" means a device used to turn logs for head sawing.

(5) "Package" means a unit of lumber.
(6) "Personal protective equipment" means the apparel worn by the employee to protect his person from injury.
(7) "Pike pole" means a long pole whose end is shod with a sharp pointed spike.
(8) "Point of operation" means the area of a machine where material is actually worked.
(9) "Reeving" means to pass or thread a rope through a hole or block.
(10) "Resaw" means circular, band, or gang saw used to break down slabs or cants to boards.
(11) "Roll case" means a horizontal or inclined conveyor comprised of cylindrical rolls, which are sometimes powered, and which are used for the transfer of logs or lumber from 1 work station to another.
History: 1979 AC.

R 408.15207 Definitions; S.
Rule 5207. (1) "Safety factor" means the ratio of the breaking strength of a piece of material or object to the actual safe load when in use.
(2) "Safety hook" means a hoisting hook with means to retain a hoisted object on the hook.
(3) "Saw guide" means a device for steadying a circular or band saw.
(4) "Sawmill carriage" means framework mounted on wheels which runs on tracks or in grooves in a direction parallel to the face of a saw and which contains apparatus to hold a log and advance it toward a saw.
(5) "Setworks" means a mechanism on a carriage used to move a log into position for another cut.
(6) "Splitter" means a knife-type, nonrotating spreader.
(7) "Spreader" means a wheel that separates a board from a log in back of a circular saw to prevent binding.
(8) "Sticker" means a strip of material used in stacking to separate courses of boards.
History: 1979 AC; 1989 AACS.

R 408.15208 Definitions; T.
Rule 5208. (1) "Tailer" means an employee who stands opposite the feed end of a machine and removes the processed stock.
(2) "Telltales" means a device such as pieces of rope used to serve as a warning for overhead objects.
(3) "Top saw" means the upper of 2 circular saws on a head rig, both being on the same husk.
(4) "Transfer deck" means an area where boards are transferred from head saw or edger to the trim saw.
(5) "Trimmer saw" means a machine consisting of 2 or more circular saws used to cut boards to length.
History: 1979 AC.

R 408.15209 Adoption of standards by reference; access to other MIOSHA rules.
Rule 5209. (1) The following standards are adopted by reference in these rules and are available from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado, USA, 80112, telephone number: 1-800-854-7179 or via the internet at web-site: http://global.ihs.com; at a cost, as of the time of adoption of these rules, as stated in these rules:
(a) American National Standard Institute (ANSI) Standard ANSI A11.1 “Industrial Lighting,” 1965 edition. Cost $153.00.
(b) ANSI Z21.30 “Installation of Gas Appliances and Gas Piping,” 1964 edition. Cost: $90.00.
(2) The following standards are adopted by reference in these rules and are available from the National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, Massachusetts, USA, 02169-7471, telephone number: 1-617-770-3000 or via the internet at website: www.nfpa.org; at a cost, as of the time of adoption of these rules, as stated in these rules:
(a) NFPA 91 “Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying,” 1961 edition. Cost $27.00.
(b) NFPA 302 “Fire Protection Standard for Pleasure and Commercial Motor Craft,” 1968 edition. Cost $27.00.
(3) The standards adopted in subrules (1) and (2) of this rule, are also available for inspection at the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.
(4) Copies of the standards adopted in subrules (1) and (2) of this rule, may be obtained from the publisher or may also be obtained from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00

for shipping and handling.
(5) The following Michigan Occupational Safety and Health Standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at web-site: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.
(a) General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241.
(b) General Industry Safety Standard Part 7 "Guards for Power Transmission," R 408.10701 to R 408.10765.
(c) General Industry Safety Standard Part 21 "Powered Industrial Trucks," R 408.12101 to R 408.12193.
(d) General Industry Safety Standard Part 27 "Woodworking Machinery," R 408.12701 to R 408.12799
(e) General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.
(f) Occupational Health Standard Part 301 "Air Contaminants for General Industry," R 325.51101 to R 325.51108.
(g) Occupational Health Standard Part 433 "Personal Protective Equipment," R 325.60001 to R 325.60013.
History: 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15211 Employer responsibilities.
Rule 5211. (1) An employer shall do all of the following:
(a) Provide training to each employee as to hazards and safe operation of the assigned job.
(b) Maintain machinery, equipment, buildings, ramps, platforms, and aisles in a hazard-free condition. When a hazardous condition develops concerning floors, docks, and passageways that cannot be immediately repaired, the area shall be guarded until adequate repairs are made.
(c) Provide head protection which shall be used by all employees outside the office, including those in the dry storage area, as prescribed in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.15209.
(d) Provide, and an employee shall use, eye protection as prescribed in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.15209. If impact resistance is not required, the employee may wear a steel wire or nylon mesh screen, or equivalent, mounted on a protective helmet. The screen shall be of sufficient strength to protect the face to below the nose from chips or sawdust from the saw.
(e) Provide an approved life jacket to an employee working over water, at no expense to the employee.
(f) Install all gas piping and appliances as prescribed in ANSI standard Z21.30 "Installation of Gas Appliances and Gas Piping," 1964 edition, as referenced in R 408.15209.
(2) Physical hazard color identification marking shall be in accordance with the following requirements:
(a) Red shall be the basic color for the identification of any of the following:
(i) Fire protection equipment and apparatus.
(ii) Danger, such as any of the following:
(A) Safety cans or other portable containers of flammable liquids having a flash point at or below 80º F.
(B) Table containers of flammable liquids, open cup tester, excluding shipping containers, shall be painted red with some additional clearly visible identification either in the form of a yellow band around the can or the name of the contents conspicuously stenciled or painted on the can in yellow.
(C) Red lights shall be provided at barricades and at temporary obstructions.
(D) Danger signs shall be painted red.
(iii) Stop, shall apply to both of the following:
(A) Emergency stop bars on hazardous machines such as rubber mills, wire blocks, flat work ironers, and others, shall be red.
(B) Stop buttons or electrical switches where letters or other markings appear, and are used for emergency stopping of machinery shall be red.
(b) Yellow shall be the basic color for designating caution and for marking physical hazards for as any of the following:
(i) Striking against.
(ii) Stumbling.
(iii) Falling.
(iv) Tripping.

(v) "Caught in between."
History: 1979 AC; 1983 AACS; 1989 AACS; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15212 Employees general duties.
Rule 5212. An employee shall do all of the following:
(a) Abide by the safety procedures pertaining to the job as prescribed by the employer and comply with these rules.
(b) Examine the work area and equipment that is going to be used before work begins and report a dangerous or unsafe condition in the work area or equipment to the immediate supervisor.
(c) Refrain from a reckless practice or action which could result in an accident or injury.
(d) Not operate a machine without prior training, instruction, and authorization.
History: 1979 AC; 1989 AACS.

R 408.15212a Protective equipment.
Rule 5212a. The use of chemicals shall be controlled so as to protect employees from harmful exposure to toxic materials. Where necessary, employees shall be provided with and required to wear protective equipment that will afford adequate protection against harmful exposure as required by General Industry Safety Standard Part 33 "Personal Protective Equipment," and Occupational Health Part 433 "Personal Protective Equipment," as referenced in R 408.15209.
History: 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15213 Burners.
Rule 5213. (1) If the burner stack is not self-supporting, it shall be guyed or otherwise supported.
(2) The conveyor runway to the burner shall be equipped with a standard handrail. If the runway crosses a roadway or thoroughfare, standard toeboards shall be provided in addition.
History: 1979 AC.

R 408.15221 Illumination.
Rule 5221. (1) Illumination shall be provided at the operator's work station to maintain a minimum of 30 foot candle intensity, except at a debarker, head saw or trim saw. A minimum of 30 foot candle intensity shall be provided at the point of operation of a debarker, head saw or trim saw.
(2) Work areas under mills shall be as evenly surfaced as local conditions permit. Work areas under mills shall not have unnecessary obstructions and shall have lighting facilities in accordance with ANSI A11.1 "Industrial Lighting" 1965 edition, as adopted in R 408.15209
(3) Log dumps, booms, ponds, or storage areas used at night shall be illuminated in accordance with the requirements of ANSI A11.1 "Industrial Lighting" 1965 edition, as adopted in R 408.15209
(4) An employer shall ensure that illumination is provided and designed to supply adequate general and local lighting to rooms, buildings, and work areas when in use.
(5) The adequacy and effectiveness of illumination shall be determined using all of the following factors:
(a) The quantity of light in foot-candle intensity is sufficient for the work being done.
(b) The quality of the light is free from glare, and has correct direction, diffusion, and distribution.
(c) Shadows and extreme contrasts are avoided or kept to a minimum.
(6) All stairways shall be adequately lighted as prescribed in subrules (4) and (5) of this rule.
(7) Fuel houses, bunkers, hoppers, and bins shall have adequate exits and lighting, and all necessary safety devices shall be provided. Persons entering fuel houses, bunkers, hoppers, and bins shall use the safety devices.
History: 1979 AC; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15222 Floors, aisles, roadways, and docks.
Rule 5222. (1) An aisle or floor work area shall be kept free of protruding objects, holes, and loose boards.
(2) A floor at the operator's station of a machine shall be maintained free of any slip or trip hazard.
(3) A floor shall be capable of sustaining the imposed load.
(4) An aisle, passageway, roadway, or dock shall be of such width as to provide for the safe passage of employees or vehicles, or both. A dock where powered industrial trucks are used shall be provided with a

guard or bumper along its perimeter, except at loading or unloading points, to prevent overrun.
(5) A swinging door shall be provided with a window in each section. The window shall be of clear safety glass or equivalent material or protected against breakage.
(6) Where a doorway opens upon a railroad track or upon a tramway or dock over which vehicles travel, a barrier or other warning device shall be placed to prevent employees from stepping into moving traffic.
History: 1979 AC; 1989 AACS.

R 408.15223 Power control.
Rule 5223. (1) A machine shall be equipped with an emergency stop device, red in color, which can be activated from the operator's work station.
(2) A machine attended by more than 1 operator shall be equipped with a control for each operator exposed to a point of operation hazard. These controls shall be interlocked to prevent operation until each operator activates his control.
(3) A machine control shall be designed and installed to prevent unintentional activation by contact with objects or part of the body.
(4) A written lockout procedure shall be established by an employer and used by an employee. A power source of any equipment to be repaired, serviced or set up shall be locked out by each employee while doing work. Any residual pressure shall be relieved prior to and during work.
(5) Upon power failures, provisions shall be made to prevent machines from automatically restarting upon restoration of power.
History: 1979 AC; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15224 Hydraulic safety.
Rule 5224. (1) A hydraulic system shall have a designed safety factor of not less than 4.
(2) A hydraulic, air or steam line shall be bled before opening it for maintenance work.
(3) Equipment supported by hydraulic, air or steam pressure shall be blocked or otherwise secured before maintenance work is begun.
History: 1979 AC.

R 408.15225 Chain, chain slings, and chain fittings.
Rule 5225. (1) A chain and its component parts, other than alloy steel chain having a minimum tensile strength of 125,000 pounds per square inch, shall have a safety factor of not less than 5. Alloy chain shall not be used in excess of the working load in straight tension for its size as prescribed in table 1.
(2) A chain used in load-carrying service shall be inspected before initial use and weekly thereafter. Chain with bent, twisted, or elongated links or hook which has been open more than 15% at the throat from the original set or twisted more than 10% from the plane of the unbent hook shall not be used until the defective part is replaced.
(3) A bolt or nail shall not be used to shorten or join links together.
(4) Installation, inspection, maintenance, repair, and testing of chains shall be done only by an employee qualified to do such work.
(5) Proper storage shall be provided for slings while not in use.
(6) If, at any time, any 3-foot length of chain is found to have stretched 1/3 the length of a link, it shall be discarded.
(7) Table 1 reads as follows:

TABLE 1
WORKING LOAD - SINGLE CHAIN

Nominal size, chain bar, in.	Work Load, lb. max
1/4	3,250
3/8	6,600
1/2	11,250
5/8	16,500
3/4	23,000
7/8	28,500
1	38,750
1 1/8	44,500
1 1/4	57,500
1 3/8	67,000
1 1/2	80,000
1 3/4	100,000

History: 1979 AC; 1989 AACS.

R 408.15226 Cable, wire rope, and wire rope slings.

Rule 5226. (1) Cable, wire rope, and wire rope slings shall have a designed safety factor of not less than 5.

(2) Wire rope and cable in load-carrying or hoist service and their fittings shall be visually inspected when installed and once each day thereafter when in use.

(3) Wire rope shall not be used if, within a segment of 8 diameters in length, the total number of visible broken wires exceeds 10% of the total number of wires or if the rope shows other signs of excessive wear, corrosion, or defects.

(4) Wire rope and cable removed from service due to defects shall be plainly marked or identified as being unfit for further use on a crane, hoist, or other load-carrying device.

(5) When U-type cable clips are applied, they shall comply with figure 1.

(6) Cable clips shall be spaced approximately 6 rope diameters apart.

(7) Wire rope and cable shall be protected at sharp or tight bends by use of corner irons or blocks.

(8) A safety hook shall be used where there is a hazard created if the tension on the hook could be relieved by fouling or catching.

(9) Installation, inspection, maintenance, repair, and testing of ropes, cables, and slings shall be done only by persons qualified to do such work.

(10) Proper storage shall be provided for a sling while not in use.

(11) Connections, fittings, fastenings, and other parts used in connection with ropes and cables shall be of good quality and of proper size and strength and shall be installed in accordance with the manufacturer's recommendations.

(12) Hooks, shackles, rings, pad eyes, and other fittings that show excessive wear or that have been bent, twisted, or otherwise damaged shall be removed from service.

(13) Running lines of hoisting equipment located within 6 feet 6 inches of the ground or working level shall be boxed off or otherwise guarded or the operating area shall be restricted.

(14) There shall be not less than 2 full wraps of hoisting cable from slipping off.

(15) A drum shall have a flange at each end to prevent the cable from slipping off.

(16) A bottom sheave shall be protected by a close-fitting guard to prevent the cable from jumping the sheave.

(17) The reeving of a rope shall be so arranged as to minimize the chafing or abrading while in use.

(18) Multiple-part lines shall not be twisted around each other. If there is a slack rope condition, the rope shall be properly seated on the drum and in the sheaves.

(19) Knots shall not be allowed in a wire rope.

(20) Figure 1 reads as follows:

Figure for 408.15226

FIGURE 1

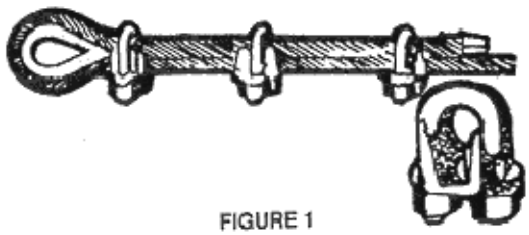


FIGURE 1

NOTE: There is only one correct method of installing wire rope clips. They should be attached to rope ends as shown in photograph above. The base of each clip should bear against the live, or long rope end, and the U-Bolt should bear against the dead or short rope end.

NUMBER AND SPACING OF CLIPS
FOR ROPES OF VARIOUS SIZES

Diameter of rope (in.)	Number of clips	Center-to-center space between clips (in.)	Length of rope turned back exclusive of eye (in.)
1/4	2	1 1/2	3
5/16	2	1 7/8	4
3/8	2	2 1/4	5
7/16	2	2 5/8	6
1/2	3	3	9
5/8	3	3 3/4	12
3/4	4	4 1/2	18
7/8	4	5 1/4	21
1	4	6	24
1 1/8	5	6 3/4	34
1 1/4	5	7 1/2	38
1 3/8	6	8 1/4	50
1 1/2	6	9	54
1 5/8	6	9 3/4	60
1 3/4	7	10 1/2	74
1 7/8	8	11 1/4	90
2	8	12	96
2 1/8	8	13	104
2 1/4	8	14	112

History: 1979 AC; 1989 AACS.

R 408.15227 Housekeeping.

Rule 5227. (1) Chips, sawdust and other debris shall be removed from working areas to prevent an accumulation which would constitute a hazard.

(2) Pipes, beams and other overhead objects in the operating area of a sawmill shall be cleaned off a minimum of once a month to remove dust accumulations.

History: 1979 AC.

R 408.15228 Pressure feed rolls.
Rule 5228. Pressure feed rolls shall be guarded to prevent the hands of an operator when at his regular work station from coming in contact with the in-running rolls. A guard shall be made of a minimum of 14 gauge sheet metal or material of equivalent or greater strength.
History: 1979 AC.

R 408.15229 Bins, bunkers, hoppers, and fuel houses.
Rule 5229. (1) An open bin, bunker, or hopper extending less than 36 inches above the working level shall be provided with a standard barrier as prescribed in General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways and Skylights," as referenced in R 408.15209, or the opening shall be covered with a grating with openings small enough to prevent an employee from falling through.
(2) Where wheeled equipment is used to move materials to a bin, bunker or hopper, a bumper stop shall be provided where the bin, bunker or hopper is at floor level. An employee shall be protected from the open side by a standard barrier installed along each side of the wheeled equipment runway.
History: 1979 AC; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15230 Fiber rope.
Rule 5230. (1) Frozen fiber rope shall not be used in load carrying service.
(2) Fiber rope that has been subjected to acid or excessive heat shall not be used for load carrying purposes.
(3) Fiber rope shall be protected from abrasion by padding where it is fastened or drawn over square corners or sharp or rough surfaces.
History: 1979 AC.

SPECIFIC EQUIPMENT

R 408.15231 Chippers and hogs.
Rule 5231. (1) A whole log chipper or a hog shall have the feed system arranged so that an employee does not stand in direct line with the chipper hopper.
(2) A guard shall be installed over the chipping or hog throat to prevent slab and wood particles from being discharged at an operator.
(3) To prevent an employee from falling onto a chipper or hog belt-type, feed-in conveyor, the belt-type conveyor shall be guarded for the entire length of the conveyor by
an enclosure or standard barrier as prescribed in General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.15209.
(4) A safety belt and lanyard shall be used by an employee when feeding at or near the hopper of a drop feed chipper or drop feed hog. The lanyard shall be adjusted to prevent an employee from falling into the chipper or hog.
(5) A board chipper or hog shall have the feed spout enclosed not less than 40 inches from the blade to the opening or the operator shall wear a safety belt and lanyard. The lanyard shall be short enough to prevent any portion of the operator's body from touching the blade.
(6) Where jam-ups cannot be cleared with a stick, the in-feed equipment shall be stopped and locked out and the employee clearing the jam shall be provided with, and use, a safety belt and lanyard, as prescribed in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.15209, which is adjusted to prevent contact with the chipper blade before additional cleaning is done.
(7) A chipper on a head rig or edger shall be enclosed to protect the employee.
History: 1979 AC; 1983 AACS; 1989 AACS; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15232 Log deck.
Rule 5232. (1) A log deck shall be provided with a stop or other safeguard to prevent logs from inadvertently advancing onto the carriage of its runway.
(2) A barricade or other positive stop of such strength to hold back a log shall be erected between a log deck and a head sawyer.
(3) Drag, swing, circular cutoff saws, and spiked rolls shall be so located and guarded to allow access to and from the building without endangering passing employees.

(4) Loose chain from overhead equipment shall not hang over the log deck so as to be struck by an employee.
(5) Logs shall be arranged in a manner to prevent their accidental falling or rolling from the deck.
(6) Overhead protection shall be provided for an employee working below logs being moved to the log deck.
History: 1979 AC; 1989 AACS.

R 408.15233 Debarkers.
Rule 5233. (1) A debarker shall be guarded by an enclosure or by location so as to protect an employee from flying bark and other debris.
The enclosure shall have a window between the operator and debarker of 3/8-inch plexiglass or material of equivalent or greater strength.
(2) Hold-down rolls shall be used at the in-feed and out-feed sections of mechanical ring debarkers to control the movement of a log.
(3) Where an elevating ramp or gate is used, a means such as a chain or blocking shall be used to insure its suspension when an employee is required to work under it.
(4) A bumper pillar or post of adequate strength to contain a log when passing through a stationary debarker head shall be in place.
History: 1979 AC; 1989 AACS.

R 408.15234 Sawmill carriages.
Rule 5234. (1) A stop or bumper with shock-absorptive qualities shall be installed at the ends of a carriage runway to prevent its leaving the track limits.
(2) Dogs shall hold a log, cant, or board in such manner that the log, cant, or board cannot escape from the carriage. Safeguards shall be installed to insure that if the electrical power fails, the pressure of the dog on the log will not release a log until the headsaw has stopped.
(3) A carriage track sweeping device shall be used to keep track rails clear of debris.
(4) A barrier shall be provided to prevent the entry of employees in the carriage travel area during sawing operations.
(5) When a sawyer leaves the operating station, the carriage controls shall be placed and held in the off position by a mechanical device.
(6) When a powered carriage is returned to the end of the runway for maintenance work, a device shall be provided to prevent movement of the carriage.
(7) A means of egress shall be provided from the operator's station.
History: 1979 AC; 1989 AACS.

R 408.15241 Head band saws and band resaws.
Rule 5241. (1) A head band saw and band resaw shall not be operated at a speed in excess of the manufacturer's rating. The rating shall be permanently marked on the wheel.
(2) A band saw blade shall not be used if it has a crack greater than 1/10 of the blade width.
(3) A head band saw and band resaw shall be inspected monthly for defects which would affect their safe operation. A head band saw and band resaw shall not be used if a wheel has a loose hub, loose spokes, or a cracked rim. A head band saw and band resaw shall have both wheels enclosed, except for that portion where the blade leaves and returns to the wheel. Materials used to enclose the wheels shall be not less than 14-gauge sheet metal or material of equivalent or greater strength.
(4) A head band saw shall be provided with a saw catcher constructed to catch a runaway blade.
(5) An operator work station for a head band saw shall have an enclosure on not less than 3 sides, not including the back, to protect the operator from flying debris. Above this enclosure there shall be a piece of 3/8-inch plexiglass or material of equivalent or greater strength and of such height between the sawyer and the saw blade to protect the sawyer from flying objects.
History: 1979 AC; 1989 AACS.

R 408.15242 Circular head saw.
Rule 5242. (1) A circular headsaw shall not be operated at a speed in excess of the manufacturer's rating, which shall be etched on the blade. A circular headsaw shall be equipped with guides to prevent blade wobble.
(2) Horizontal distance from a circular headsaw blade to the nearest vertical husk part shall be at least 1 inch

greater than the distance from the blade collar to the tip of the blade.
(3) Behind a circular head saw blade, the saw shall be equipped with a spreader wheel or a splitter.
(4) A splitter shall be constructed of tempered steel or its equivalent and shall not be thinner than the saw kerf.
(5) The work station of an off-bearer shall be constructed to prevent the off-bearer from working closer than 42 inches from the saw blade.
(6) The work station of the operator of a circular saw shall be enclosed as prescribed in R 408.15241(5).
(7) If a circular headsaw has setworks that are manually operated or a carriage that is manually loaded, both of the following provisions shall be complied with:
(a) A barricade or other positive stop of such strength to hold back a log shall be erected between the log deck and the sawyer.
(b) The guard required at the sawyer station shall be a shield which is 36 inches high and which is between the operator and the saw with an extension of 3/8-inch plexiglass or material of equivalent strength of such height and width to protect the sawyer from flying objects.
History: 1979 AC; 1989 AACS.

R 408.15243 Double circular head saw.
Rule 5243. A double circular head saw shall comply with R 408.15242 and in addition, have a movable guard or hood made of a minimum of 14 gauge sheet metal or material of equivalent or greater strength over the upper blade.
History: 1979 AC; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15244 Self-feed circular gang saws.
Rule 5244. (1) A bank of circular gang saws and their feed rolls, if so equipped, shall be enclosed by a cover over the top, front, and open ends, except where guarded by location. A drive mechanism to feed rolls shall be enclosed. The cover shall be made of a minimum of 14 gauge sheet metal, or material of equivalent or greater strength, and the bottom of the cover shall come within 3/8 inch of the plane formed by the bottom of the working surfaces of the feed rolls.
(2) A circular gang saw shall be equipped with an anti-kickback device. A circular gang saw shall be equipped with a live roll or other tailing device on the off side or shall be provided with a splitter as prescribed in R 408.15242(4).
(3) The carriage cradle of a whole log sash gang saw shall be of such height as to prevent a log from kicking out while being loaded.
History: 1979 AC; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15245 Trimmer saw.
Rule 5245. (1) A trimmer saw shall be guarded by a barrier made of 11 gauge metal, or material of equivalent or greater strength, to contain the trimmings flying from the point of operation and to prevent an employee from coming in contact with any saw blade on the trimmer. The barrier shall be securely bolted to a substantial frame. This guard for a series of saws shall be set as close to the top of the trimmer table as practical.
(2) An automatic trimmer saw shall be provided with a safety stop or hanger to prevent saws from dropping on the table.
(3) The rear of a trimmer saw shall have a guard the full width of the saws and as much wider as practical.
(4) A trimmer saw shall not be run at peripheral speeds in excess of those recommended by the manufacturer.
History: 1979 AC.

R 408.15246 Edger saws.
Rule 5246. (1) An edger shall not be located in the main roll case behind the headsaw. Edger saw blades shall be guarded against unintentional contact.
(2) A control device shall be installed and located so that the operator can stop the pressure feed rolls without releasing their tension.
(3) An edger shall be equipped with both of the following:
(a) Anti-kickback fingers designed to provide holding power for all thicknesses of material being cut.
(b) Live rolls or other tailing device on the off side of the headsaw, which is so guarded that an employee

cannot contact any part of the edger saw from his or her work station.
History: 1979 AC; 1989 AACS.

R 408.15247 Bolt, cant, or slat saw.

Rule 5247. (1) A bolt, cant, or slat saw shall have the point of operation guarded or the work stations of the tailer and operation shall be constructed to prevent the tailer or operator from working closer than 42 inches from the saw blade.

(2) A feeding mechanism, such as powered live rolls or carriage, shall be used to feed materials through a bolt, cant, or slat saw.

(3) Behind a bolt, cant, or slat saw blade, the saw shall be equipped with a spreader wheel or a splitter.

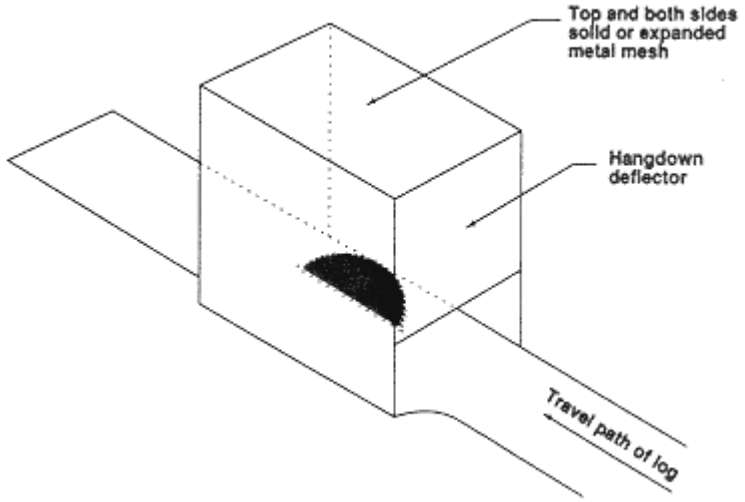
(4) The blade of a bolt, cant, or slat saw shall be guarded to cover the top and both sides. Hangdown deflectors of 3/8-inch plexiglass or equivalent protection shall be installed on the in-feed end and extend to the top of the saw blade. See figure 2.

(5) Figure 2 reads as follows:

Figure for 408.15247

FIGURE 2

Blade Guard (Bolt, cant, or slat saw)



History: 1979 AC; 1989 AACS.

R 408.15251 Woodworking machines.
Rule 5251. An employer using machines and equipment more commonly found in a woodworking shop, including but not limited to, jointers, planers, mitre saws and swing cutoff saws, shall follow the General Industry Safety Standard Part 27 "Woodworking Machinery," as referenced in R 408.15209.
History: 1979 AC; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15252 Kilns.
Rule 5252. (1) A kiln door shall have a device to hold it open during a loading or unloading cycle. A counterweight for the kiln door shall be guarded as prescribed in General Industry Safety Standard Part 7 "Guards and Power Transmission," as referenced in R 408.15209. Installation of a kiln door shall be such that it will not topple if it becomes disengaged from the carriers or hangers.
(2) If procedures require access to a kiln, then either of the following applies:
(a) The kiln shall be provided with an escape hatch that opens from the inside, swings with the direction of travel, and is located in or near the main kiln door.
(b) A passageway shall be provided on not less than 1 side or in the center of an end piled kiln, or on 2 sides of a cross piled kiln.
(3) A steam line less than 7 feet from the floor and in or by a walkway shall be covered with an insulating material or protected by a barrier.
(4) A kiln car shall be blocked by chocks to prevent unintentional movement.
(5) A kiln shall be constructed on a foundation capable of preventing the sagging of the racks.
(6) Where a pit is provided, it shall be ventilated, drained, and lighted and large enough to give the operator safe working space with operating devices such as valves, dampers, damper rods, and traps.
(7) A warm room shall be provided for kiln employees to stay in during cold weather after leaving a hot kiln.
History: 1979 AC; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15253 Storage and transfer of lumber.
Rule 5253. (1) Lumber shall be stacked on foundations constructed to support the maximum load without sinking, sagging or permitting the pile to topple. A pile of lumber which is not stable shall be restacked at once or the area guarded by a barrier.
(2) Long packages of lumber shall not be placed on short packages except where a stable pile can be made by use of package separators.
(3) Where necessary to insure stability, a package of lumber shall be provided stickers. A sticker shall extend to within 2 inches, plus or minus, of the full width of the package. Stickers shall be aligned 1 above the other.
(4) A load of lumber shall be built and secured to insure stability during transit.
History: 1979 AC.

R 408.15254 Stackers and unstackers.
Rule 5254. (1) A stacker or unstacker shall be blocked whenever an employee goes beneath the hoisting platform.
(2) The lifting device on a stacker or unstacker shall be constructed or equipped with safety devices to minimize the potential of lumber falling.
(3) Guarding of a stacker hoistway openings and lower landing shall be pursuant to General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways and Skylights," as referenced in R 408.15209.
(4) Where an operator has no clear view of the discharge path from a stacker, or in case of a discharge path of an automatic stacker, a barrier guard shall be provided to prevent an employee from entering the discharge path. In either case, a warning device shall be installed to alert an employee of the hazard.
History: 1979 AC; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15256 Cleaning pits.
Rule 5256. An employer shall provide safe means of entrance and exit to permit cleaning of pits.

History: 2014 MR 17, Eff. Sept. 23, 2014.

PALLET EQUIPMENT

R 408.15261 Nailers.

Rule 5261. (1) A hand-held, power operated nailer or stapler shall be equipped and maintained with a safety switch at the point of operation as well as a finger control switch.

(2) An automatic nailer or stapler shall have the point of operation guarded or enclosed to within 1/4 inch of the material.

(3) Where a nailer or stapler has more than 1 operator, each operator shall be supplied with a control which shall be activated concurrently or the machine will not operate.

(4) A foot control shall be provided with a cover or guard to prevent accidental activation. The construction of the cover or guard shall be as prescribed in rule 2351 of the occupational safety standards commission standard, Part 23. Power Presses, being R 408.12351 of the Michigan Administrative Code.

History: 1979 AC.

R 408.15262 Pallet notchers.

Rule 5262. A pallet notcher shall be equipped with a hood designed to contain flying pieces and chips and controls to prevent the hands of the operator from entering the point of operation. A method of feeding shall be provided to prevent kickbacks.

History: 1979 AC; 1989 AACS.

R 408.15271 Hauling trucks, egress, and pickup points.

Rule 5271. (1) A truck used to haul lumber or logs shall have a bulkhead extending to the top of the operator's compartment and capable of containing the movement of the load caused by a sudden stop.

(2) Stakes, stake pockets, binders and tighteners shall be provided on the truck to secure the load against movement. Where rollers are provided, not less than 2 shall be equipped with locks which shall be locked during transit.

(3) An area of restricted width or height shall be posted with a warning sign.

(4) Where accurate spotting is required to load and unload packages of lumber, those points shall be marked and wheel stop provided.

History: 1979 AC.

R 408.15272 Securing of truck loads.

Rule 5272. (1) A trip stake shall be released from the side of the truck or trailer opposite the location of the trip stake.

(2) When the entire load of logs are unloaded by a device or sling from a truck or trailer, in a single operation, the following shall apply:

(a) A binder shall not be released until the unloading lines or other unloading device secures the load.

(b) Binders shall be released only from the side on which the unloader operates, except when released by remote control devices or except when the person making the release is protected by racks or stanchions or other equivalent means.

(c) When a binder is fouled by the unloader, the load shall be secured by an extra binder of equivalent strength or otherwise secured until the fouled binder is removed.

History: 1979 AC.

R 408.15273 Log and material handling equipment.

Rule 5273. (1) Equipment used for handling logs and material shall be equipped with a braking system capable of holding the imposed load of equipment and material.

(2) A hydraulic system of log and material handling equipment shall be equipped with a valve capable of preventing uncontrolled descent of the load in case of failure of the system.

(3) Log and material handling equipment shall be equipped with a limit switch to prevent over-travel of the lift arms if the control device is not released in time.

(4) When a forklift-type handling machine is used, a means shall be used to secure a loading attachment to the forks.

(5) Where log and material handling mobile equipment lifts the load higher than the operator's head, overhead protection shall be provided not less than equivalent to that prescribed in General Industry Safety Standard Part 21 "Powered Industrial Trucks," as referenced in R 408.15209.
(6) Mobile log and material handling mobile equipment shall be equipped with head and rear running lights when used during periods of darkness.
(7) Unloading devices shall have their movements coordinated by audible or hand signals when the operator's vision is obstructed or when operating near another employee.
(8) Wood pike poles shall be straight-grained, select material. Defective or blunt poles shall not be used. A handle for a pike pole used near conductors shall be of an insulating type material.
(9) An ungrounded electrically powered hoist operated by a handheld remote control at grounded locations, such as a log dump or a mill log lift, shall be actuated by not more than 50 volts to ground.
(10) Where the operator is exposed to a hazard from backing a vehicle into objects, an approved platform guard shall be provided and so arranged as to not impede the exiting of the driver from the vehicle.
(11) All vehicles shall be equipped with audible warning signals and backup alarm and, where practicable, shall have spark arrestors.
(12) Carriers shall be designed and constructed so that the operator's field of vision is not unnecessarily restricted. Carriers shall be provided with an access ladder or equivalent.
(13) Railroad tracks and other hazardous crossings shall be plainly posted.
(14) Periodic inspection of cable or dogging lines shall be made to determine when repair or removal from service is necessary.
(15) A vehicle shall not be operated with a load exceeding its safe load capacity.
History: 1979 AC; 1989 AACS; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15274 Log unloading and storage, general.
Rule 5274. (1) A log unloading area and road beds will be arranged and maintained to allow a safe operation.
(2) Signs prohibited unauthorized foot traffic shall be posted in the log unloading and storage area.
(3) A brow log or equivalent shall be provided at a water log dump to prevent overrun of mobile equipment.
(4) Where skids are used, space adequate to clear an employee's body shall be maintained between the top of the skids and the ground.
History: 1979 AC; 1983 AACS.

R 408.15275 Water log dumps.
Rule 5275 (1) Ungrounded electrically powered hoists using handheld remote control in grounded locations, such as log dumps or mill log lifts, shall be actuated by circuits operating at less than 50 volts to ground.
(2) Roadbeds at log dumps shall be of sufficient width and evenness to ensure safe operation of equipment.
(3) An adequate brow log or skid timbers or the equivalent shall be provided where necessary. Railroad-type dumps, when located where logs are dumped directly into water or where entire loads are lifted from a vehicle, may be exempted providing such practice does not create a hazardous exposure of personnel or equipment.
(4) Unloading lines shall be arranged so that it is not necessary for the employees to attach them from the pond or dump side of the load except when entire loads are lifted from the log-transporting vehicle.
(5) Unloading lines, crotch lines, or equally effective means shall be arranged and used in a manner to minimize the possibility of any log from swinging or rolling back.
(6) When logs are unloaded with peavys or similar manual methods, means shall be provided and used that will minimize the danger from rolling or swinging logs.
(7) Guardrails, walkways, and standard handrails shall be installed as prescribed in General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.15209.
(8) An employer shall provide approved life rings with line attached and maintained to retain buoyancy.
History: 1979 AC; 1983 AACS; 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15276 Dry deck storage.
Rule 5276. (1) A dry deck storage area shall be maintained in a condition to allow safe operation of mobile equipment.
(2) Logs shall be stored in a safe and orderly manner. Logs shall be piled in the yard and arranged on the deck in a manner to prevent rolling.

(3) Roadways shall be maintained at such width that log and material handling equipment can move without creating a hazard to employees.
History: 1979 AC.

R 408.15277 Rescinded.
History: 1979 AC; 1989 AACS.

R 408.15280 Air requirements.
Rule 5280. (1) Ventilation shall be provided to supply adequate fresh healthful air to rooms, buildings, and work areas.
(2) Employees shall not be exposed to airborne concentration of toxic dusts, fumes, vapors, mists, or gases that exceed the threshold limit values in Occupational Health Standard Part 301 "Air Contaminants for General Industry," as referenced in R 408.15209.
History: 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15282 Blower, collecting, and exhaust systems.
Rule 5282. (1) Blower, collecting, and exhaust systems shall be designed, constructed, and maintained in accordance with NFPA 91 "Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying," 1961 edition, as adopted in R 408.15209.
(2) All mills containing 1 or more machines that create dust, shavings, chips, or slivers during a period of time equal to or greater than 1/4 of the working day, shall be equipped with a collecting system. The collection system may be either continuous or automatic, and shall be of sufficient strength and capacity to enable it to remove such refuse from points of operation and immediate vicinities of machines and work areas.
(3) Each woodworking machine that creates dust, shavings, chips, or slivers shall be equipped with an exhaust or conveyor system located and adjusted to remove the maximum amount of refuse from the point of operation and immediate vicinity.
(4) Exhaust pipes shall not discharge into an unconfined outside pile if uncontrolled fire or explosion hazards are created. The exhaust pipes may empty into settling or dust chambers designed to prevent the dust or refuse from entering any work area. The chambers shall be constructed and operated to minimize the danger of fire or dust explosion.
History: 2014 MR 17, Eff. Sept. 23, 2014.

R 408.15284 Pond boats and rafts.
Rule 5284. (1) Pond boats and rafts shall comply with the provisions of NFPA 302 "Fire Protection Standard for Pleasure and Commercial Motor Craft," 1968 edition, as adopted in R 408.15209.
(2) Decks of pond boats shall be covered with nonslip material.
(3) Powered pond boats or rafts shall be provided with at least 1 approved fire extinguisher, and 1 life ring with line attached.
(4) Boat fuel shall be transported and stored in approved safety containers such as Underwriters' Laboratories, Inc..
(5) An employer shall provide inspection, maintenance, and ventilation of the bilge area to prevent accumulation of highly combustible materials.
(6) An employer shall provide adequate ventilation for the cabin area on enclosed cabin-type boats to prevent accumulation of harmful gases or vapors.
History: 2014 MR 17, Eff. Sept. 23, 2014.

PART 53. TREE TRIMMING AND REMOVAL

R 408.15301
Source: 1979 AC.

R 408.15303
Source: 1979 AC.

R 408.15304
Source: 1979 AC.

R 408.15311
Source: 1979 AC.

R 408.15312
Source: 1979 AC.

R 408.15313
Source: 1983 AACS.

R 408.15314
Source: 1979 AC.

R 408.15315
Source: 1979 AC.

R 408.15321
Source: 1979 AC.

R 408.15331
Source: 1979 AC.

R 408.15332
Source: 1979 AC.

R 408.15333
Source: 1979 AC.

R 408.15334
Source: 1979 AC.

R 408.15335
Source: 1979 AC.

R 408.15336
Source: 1979 AC.

R 408.15337
Source: 1979 AC.

R 408.15338
Source: 1979 AC.

R 408.15341
Source: 1979 AC.

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R 408.15358
Source: 1979 AC.

R 408.15359
Source: 1979 AC.

R 408.15360
Source: 1979 AC.

R 408.15361
Source: 1979 AC.

R 408.15362
Source: 1979 AC.

R 408.15363
Source: 1979 AC.

PART 54. POWERED GROUNDSKEEPING EQUIPMENT

R 408.15401
Source: 1979 AC.

R 408.15403
Source: 1979 AC.

R 408.15404
Source: 1979 AC.

R 408.15405
Source: 1979 AC.

R 408.15406
Source: 1979 AC.

R 408.15411
Source: 1983 AACS.

R 408.15412
Source: 1979 AC.

R 408.15413
Source: 1983 AACS.

R 408.15414
Source: 1979 AC.

R 408.15415
Source: 1983 AACS.

R 408.15416
Source: 1983 AACS.

R 408.15421
Source: 1997 AACS.

R 408.15422
Source: 1983 AACS.

R 408.15423
Source: 1997 AACS.

R 408.15424
Source: 1997 AACS.

R 408.15425
Source: 1997 AACS.

R 408.15426
Source: 1979 AC.

R 408.15427
Source: 1979 AC.

R 408.15428
Source: 1979 AC.

R 408.15429
Source: 1983 AACS.

R 408.15431
Source: 1997 AACS.

R 408.15442
Source: 1979 AC.

R 408.15443
Source: 1979 AC.

R 408.15444
Source: 1979 AC.

R 408.15451
Source: 1979 AC.

R 408.15452
Source: 1983 AACS.

R 408.15461
Source: 1983 AACS.

PART 55. EXPLOSIVES

R 408.15501
Source: 1998-2000 AACS.

PART 56. STORAGE AND HANDLING OF LIQUEFIED PETROLEUM GASES

R 408.15601
Source: 1998-2000 AACS.

PART 57. OIL AND GAS DRILLING AND SERVICING OPERATIONS

R 408.15701
Source: 1989 AACS.

R 408.15703
Source: 1989 AACS.

R 408.15704
Source: 1989 AACS.

R 408.15705
Source: 1989 AACS.

R 408.15706
Source: 1989 AACS.

R 408.15707
Source: 1989 AACS.

R 408.15708
Source: 1989 AACS.

R 408.15711
Source: 1989 AACS.

R 408.15712
Source: 2013 AACS.

R 408.15713
Source: 2013 AACS.

R 408.15714
Source: 1979 AC.

R 408.15715
Source: 1989 AACS.

R 408.15716
Source: 1979 AC.

R 408.15717
Source: 2013 AACS.

R 408.15718
Source: 1989 AACS.

R 408.15719
Source: 1989 AACS.

R 408.15721
Source: 2013 AACS.

R 408.15722
Source: 1989 AACS.

R 408.15723
Source: 2013 AACS.

R 408.15725
Source: 2013 AACS.

R 408.15726
Source: 2013 AACS.

EQUIPMENT

R 408.15731
Source: 1989 AACS.

R 408.15732
Source: 1989 AACS.

R 408.15733
Source: 1979 AC.

R 408.15734
Source: 1989 AACS.

R 408.15735

Source: 1979 AC.

R 408.15736
Source: 1989 AACS.

R 408.15737
Source: 1994 AACS.

R 408.15738
Source: 1979 AC.

R 408.15739
Source: 2013 AACS.

R 408.15740
Source: 1979 AC.

R 408.15741
Source: 1989 AACS.

R 408.15742
Source: 1979 AC.

R 408.15743
Source: 1989 AACS.

R 408.15744
Source: 1989 AACS.

R 408.15745
Source: 1989 AACS.

R 408.15751
Source: 1979 AC.

R 408.15752
Source: 1979 AC.

R 408.15753
Source: 1989 AACS.

R 408.15754
Source: 1989 AACS.

R 408.15755
Source: 1997 AACS.

R 408.15756
Source: 1989 AACS.

R 408.15757
Source: 1989 AACS.

OTHER SPECIAL SERVICE OPERATIONS

R 408.15761
Source: 1989 AACS.

R 408.15762
Source: 1989 AACS.

R 408.15763
Source: 1997 AACS.

R 408.15764
Source: 1989 AACS.

R 408.15765
Source: 1997 AACS.

R 408.15766
Source: 1997 AACS.

R 408.15767
Source: 1997 AACS.

R 408.15768
Source: 1989 AACS.

R 408.15769
Source: 1997 AACS.

R 408.15770
Source: 1979 AC.

R 408.15771
Source: 1989 AACS.

PART 58. AERIAL WORK PLATFORMS
GENERAL PROVISIONS

R 408.15801
Source: 2008 AACS.

R 408.15802
Source: 2013 AACS.

R 408.15803
Source: 2008 AACS.

R 408.15804
Source: 2008 AACS.

R 408.15805
Source: 2008 AACS.

R 408.15810
Source: 2013 AACS.

R 408.15811
Source: 2013 AACS.

R 408.15812
Source: 2013 AACS.

R 408.15815

Source: 2013 AACS.

R 408.15817
Source: 2013 AACS.

CONSTRUCTION, TESTING, AND USE PROVISIONS

R 408.15821
Source: 2013 AACS.

R 408.15823
Source: 2008 AACS.

R 408.15824
Source: 2008 AACS.

R 408.15825
Source: 2013 AACS.

R 408.15830
Source: 2008 AACS.

R 408.15831
Source: 2013 AACS.

R 408.15832
Source: 2008 AACS.

R 408.15833
Source: 2013 AACS.

R 408.15836
Source: 2013 AACS.

R 408.15839
Source: 2013 AACS.

R 408.15842
Source: 2008 AACS.

PART 59. HELICOPTERS

R 408.15901
Source: 1979 AC.

R 408.15911
Source: 1979 AC.

R 408.15915
Source: 1983 AACS.

R 408.15916
Source: 1979 AC.

R 408.15921

Source: 1979 AC.

R 408.15922
Source: 1979 AC.

R 408.15923
Source: 1979 AC.

R 408.15931
Source: 1979 AC.

PART 62. PLASTIC MOLDING

R 408.16201
Source: 1992 AACS.

R 408.16204
Source: 1992 AACS.

R 408.16205
Source: 1979 AC.

R 408.16206
Source: 1992 AACS.

R 408.16207
Source: 1979 AC.

R 408.16208
Source: 1979 AC.

R 408.16211
Source: 2013 AACS.

R 408.16212
Source: 1979 AC.

R 408.16215
Source: 1979 AC.

R 408.16216
Source: 1979 AC.

R 408.16217
Source: 2013 AACS

R 408.16221
Source: 1979 AC.

R 408.16222
Source: 2013 AACS.

R 408.16223
Source: 1992 AACS.

R 408.16224

Source: 1979 AC.

R 408.16225
Source: 1992 AACS.

R 408.16226
Source: 1992 AACS.

R 408.16227
Source: 2013 AACS.

SPECIFIC EQUIPMENT

R 408.16231
Source: 1992 AACS.

R 408.16232
Source: 1992 AACS.

R 408.16233
Source: 1979 AC.

R 408.16234
Source: 1998-2000 AACS.

R 408.16235
Source: 1992 AACS.

R 408.16236
Source: 2013 AACS.

R 408.16237
Source: 1979 AC.

R 408.16241
Source: 1979 AC.

R 408.16242
Source: 1992 AACS.

R 408.16243
Source: 1992 AACS.

R 408.16244
Source: 1979 AC.

R 408.16245
Source: 1992 AACS.

R 408.16246
Source: 1992 AACS.

R 408.16247
Source: 1979 AC.

R 408.16251
Source: 1992 AACS.

PART 63. PULP, PAPER, AND PAPERBOARD MILLS

R 408.16301 Scope.
Rule 6301. (1) This part sets forth rules to protect the life, limb, and health of the employee in, about, or around places of employment where pulp, paper, and paperboard are manufactured and converted.
(2) These rules apply to establishments where pulp, paper, and paperboard are manufactured and converted. These rules do not apply to logging and the transportation of logs to pulp, paper, and paperboard mills
(3) Respiratory protection shall be in compliance with Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.16302.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16302 Adopted and referenced standards.
Rule 6302. (1) This standard is adopted by reference in these rules, National Fire Protection Association NFPA 91 "Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying," 1961 edition. This standard is available from NFPA, **1** Batterymarch Park, Quincy, Massachusetts, USA, 02169-7471, telephone number: 1-617-770-3000 or via the internet at website: www.nfpa.org; at a cost as of the time of adoption of these rules of $27.00.
(2) The following standards are adopted by reference in these rules and are available from IHS Global, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at website: http://global.ihs.com; at a cost as of the time of adoption of these rules, as stated in this subrule.
(a) American National Standard Institute (ANSI) Standard Z9.1 "Open Surface Tanks-Ventilation and Operations," 1951 edition. Cost: $20.00.
(b) ANSI Z9.2 "Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems," 1960 edition. Cost $32.00.
(c) American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section VIII, "Unfired Pressure Vessels," 1989 edition with addenda. Cost: $514.00.
(3) The standards adopted in subrules (1) and (2) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.
(4) Copies of the standards adopted in subrules (1) and (2) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
(5) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA regulatory services section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
(a) General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241.
(b) General Industry Safety Standard Part 7 "Guards for Power Transmission," R 408.17201 to R 408.10765.
(c) General Industry Safety Standard Part 23 "Hydraulic Power Presses," R 408.12301 to R 408.12373.
(d) General Industry Safety Standard Part 27 "Woodworking Machinery," R 408.12701 to R 408.12799.
(e) General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.
(f) General Industry Safety Standard Part 52 "Sawmills," R 408.15201 to R 408.15277.
(g) Occupational Health Standard Part 301 "Air Contaminants," R 325.51101 to R 325.51108.
(h) Occupational Health Standard Part 380 "Occupational Noise Exposure in General Industry," R 325.60101 to R 325.60128.
(i) Occupational Health Standard Part 451 "Respiratory Protection," R 325.60051 to R 325.60052.
History: 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16303
Source: 1979 AC.

R 408.16304

Source: 1979 AC.

R 408.16305
Source: 1993 AACS.

R 408.16306
Source: 1979 AC.

R 408.16307
Source: 1979 AC.

R 408.16308
Source: 1979 AC.

R 408.16309
Source: 1979 AC.

R 408.16311. Employer responsibility.
Rule 6311. An employer shall do all of the following:
(a) Provide training to each employee regarding the hazards and safeguards before starting an assigned job.
(b) Provide personal protective equipment that is necessary to protect an employee from the hazards of the job according to the requirements of R 408.16313 and General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.16302.
(c) Prevent the operation of a machine that is not guarded according to Michigan Occupational Safety and Health Administration (MIOSHA) standards, that has a defective guard, or that is otherwise unsafe.
(d) Establish and maintain a lockout procedure as prescribed in R 408.16323(4).
(e) Comply with the requirements of this part.
History: 1979 AC; 1993 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16312
Source: 1979 AC.

R 408.16313 Personal protective equipment.
Rule 6313. (1) A deluge shower and eye fountain shall be provided within 25 feet of an area where caustics or acids are used or mixed at a strength that could cause injury to an exposed employee.
(2) An approved life jacket shall be provided to the employee, at no expense to the employee, and shall be used when an employee works above water where a protective standard barrier or lifeline and safety belt is not provided.
(3) Personal protective equipment used by more than 1 employee shall be cleaned or sanitized after each usage where body contact has been made.
(4) Eye protection, as specified in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.16302, shall be provided to, and used by, employees who are in the wood yard and employees who are involved in any of the following operations:
(a) Maintenance.
(b) Barking.
(c) Knot cleaning.
(d) Digesting.
(e) Pulp grinding.
(f) Banding.
(g) Chemical handling
(5) Head protection, as specified in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.16302, shall be provided to, and used by, employees who are in the wood yard and employees who are included in any of the following operations:
(a) Barking.
(b) Maintenance.
(c) Digesting.

(d) Pulp grinding.
(6) Foot protection, as specified in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.16302 shall be provided to, and used by, employees who are in the wood yard and employees who are involved in any of the following operations:
(a) Pulp grinding.
(b) Maintenance.
(c) Hazardous chemical handling and mixing operations
(7) Personal protective equipment such as aprons, gloves, rubber boots, and metal or plastic toe or metatarsal foot protection shall be provided and used as prescribed in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.16302.
(8) Respiratory equipment shall be provided to the employee, at no expense to the employee, and shall be available and maintained in an operable and sanitary condition where toxic fumes may be encountered above the maximum threshold limits prescribed by Occupational Health Standard Part 301 "Air Contaminants," and Part 451 "Respiratory Protection," as referenced in R 408.16302.
History: 1979 AC; 1983 AACS; 1993 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16321 Illumination.
Rule 6321. (1) Natural or artificial lighting shall be furnished to provide the following:
(a) A minimum of 25 foot candles intensity at the machine operator's work station.
(b) A minimum of 5 foot candles along a means of egress.
(c) A minimum of 2 foot candles in an inside active storage area.
(2) An employee who is entering a vessel for the purpose of cleaning or inspecting the vessel shall be provided with an appropriate and intrinsically safe emergency portable illumination device.
(3) Emergency lighting shall be provided where it is necessary for employees to remain at their machines or stations to shut down equipment in case of power failure. Emergency lighting shall be provided at stairways and passageways or aisle ways used by employees for emergency exit in case of power failure. Emergency lighting shall be provided in all plant first aid and medical facilities.
History: 1979 AC; 1983 AACS; 1993 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16322. Floors, aisles and catwalks.
Rule 6322. (1) An aisle or floor work area shall be free of protruding objects, holes, and loose boards.
(2) An aisle shall be 3 feet wider than the widest load transported in the aisle and the outline of the aisle marked.
(3) A slip-resistant surface shall be provided on platforms, at work stations, on walk ramps, plank walks, and catwalks.
(4) A stair tread leading to a catwalk or platform shall have a slip-resistant surface.
(5) A catwalk 4 feet or more above the floor, ground, or platform shall be guarded by a standard barrier and toeboard on the open side as prescribed in R 408.10211, R 408.10231 and R 408.10233 of General Industry Safety Standard, Part 2 "Floor and Wall Openings, Stairways and Skylights," as referenced in R 408.16302. However, a catwalk, regardless of height, above or adjacent to dangerous equipment shall be guarded with a standard barrier and toeboard.
History: 1979 AC; 1983 AACS; 1993 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16323
Source: 1979 AC.

R 408.16324
Source: 1979 AC.

R 408.16325. Lubrication.
Rule 6325. (1) Lubrication shall be accomplished by 1 of the following:
(a) Manually, when the machine can be shut off and locked out.
(b) Automatic pressure or gravity feed system.
(c) Extension pipe leading to an area outside of guards or away from any hazards.

(d) A means which would provide equal or greater protection than subdivision (a), (b) or (c) of this subrule for the employee.
(2) General Industry Safety Standard Part 7 "Guards for Power Transmission," as referenced in R 408.16302, shall be followed.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16326
Source: 1979 AC.

R 408.16327
Source: 1979 AC.

R 408.16328
Source: 1993 AACS.

R 408.16331 Material handling.
Rule 6331. (1) A mechanical lifting device shall be provided and used to place and remove rolls of paper and paperboard from a machine.
(2) An escape hatch shall be provided where doors on an enclosed cab provided on a powered industrial truck may be blocked by special equipment.
(3) A crane, powered industrial truck, or other wood handling equipment, except over the road vehicles, having a cab with windows shall have all windows protected by a screen made of steel rods not less than 7/16 inch in diameter with openings not more than 4 by 4 inches or 2 by 6 inches.
(4) Where a hooker or hatch tender is used, the operator of a cab style crane shall respond to the hooker's or hatch tender's signals. The signals for an overhead crane shall be as prescribed in Table 1 'Standard Hand Signals For Controlling Overhead And Gantry Cranes.' The signals for a boom type crane shall be as prescribed in Table 2 'Hand Signals for Boom-Type Cranes.'
(5) A blower used to transport rags shall be provided a feed hopper with the opening not less than 48 inches from the fan. The blower outlet shall not allow material to fall on an employee.
(6) Railroad cars shall not be spotted on tracks adjacent to the locomotive cranes unless a 24-inch clearance is maintained, as prescribed in R 408.16342(1).
(7) The handling and storage of other materials shall conform to R 408.16342(1) and (2) with respect to clearance.
(8) Handles of wood hooks shall be locked to the shank to prevent them from rotating.
(9) An employee shall not ride on a powered hand truck unless it is so designed by the manufacturer. A limit switch shall be on the operating handle —30 degrees each way from a 45-degree angle up and down beyond which the drive motor is electrically disconnected and braking action commences.
(10) Whenever possible, all dust, fumes, and gases incident to handling materials shall be controlled at the source, in accordance with ANSI Standard Z9.2 "Fundamentals Governing The Design and Operation of Local Exhaust Ventilation Systems," 1960 edition, as adopted in R 408.16302. Where control at the source is not possible, respirators with goggles or protective masks shall be provided, and employees shall wear them when handling alum, clay, soda, ash, lime, bleach powder, sulfur, chlorine, and similar materials, and when opening rag bales.
(11) Hoods of cutters, shredders, and dusters shall have exhaust ventilation in accordance with ANSI Standard Z9.2 "Fundamentals Governing The Design and Operation of Local Exhaust Ventilation Systems," 1960 edition, as adopted in R 408.16302.

TABLE 1
STANDARD HAND SIGNALS FOR CONTROLLING OVERHEAD AND GANTRY CRANE

TABLE 1
STANDARD HAND SIGNALS FOR CONTROLLING OVERHEAD AND GANTRY CRANE

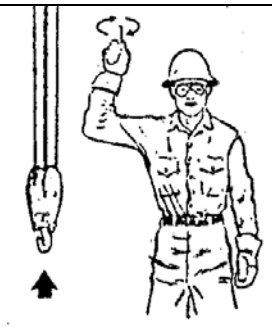
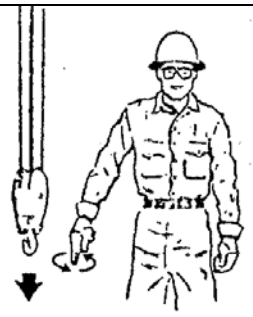
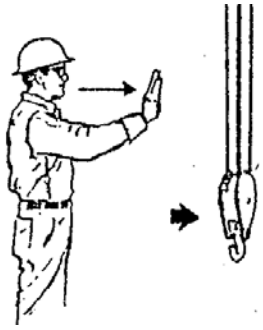
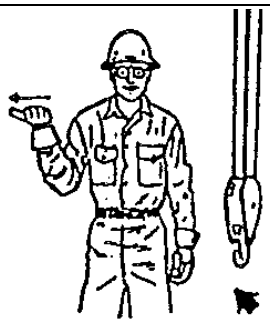
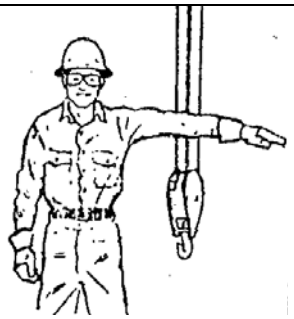
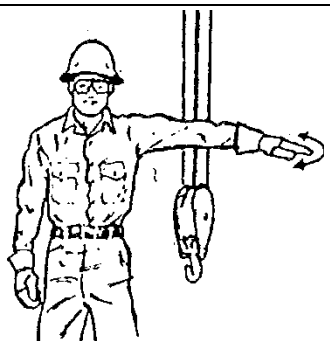
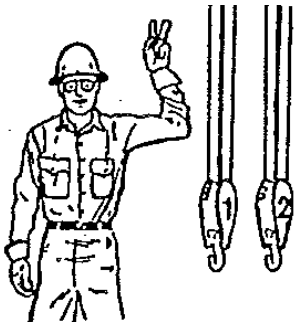
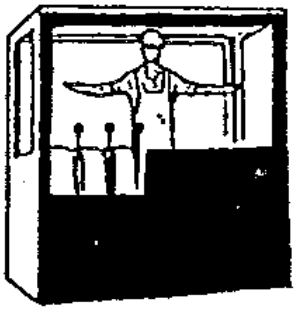
 HOIST. With forearm vertical, forefinger pointing up, move hand in small horizontal circle.	 LOWER. With arm extended downward, forefinger pointing down, move hand in small horizontal circles.	 BRIDGE TRAVEL. Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel.
 TROLLEY TRAVEL. Palm up, fingers closed, thumb pointing in direction of motion, jerk hand horizontally.	 STOP. Arm extended, palm down, hold position rigidly.	 EMERGENCY STOP. Arm extended, palm down, move hand rapidly right and left.
 MULTIPLE TROLLEYS. Hold up one finger for block marked “1” and two fingers for block marked “2”, Regular signals follow.	 MOVE SLOWLY. Use one hand to give any motion signal and place other hand motionless in front of hand giving the motion signal. (Hoist slowly shown as example.)	 MAGNET IS DISCONNECTED. Crane operator spreads both hands apart – palms up.

TABLE 2
HAND SIGNALS FOR BOOM-TYPE CRANES

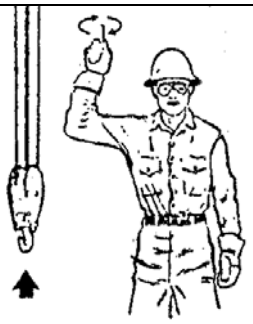
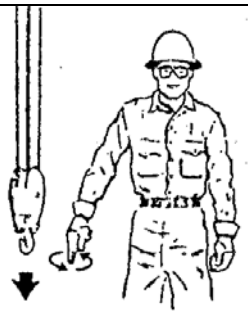
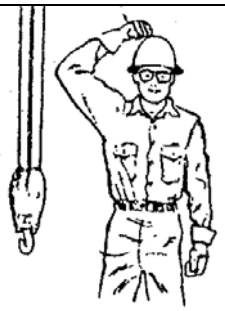
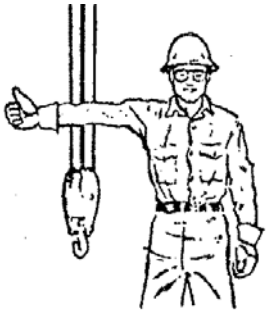
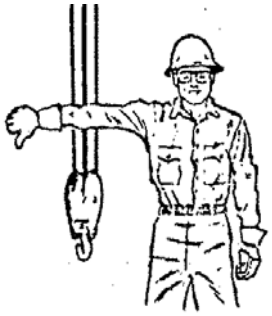
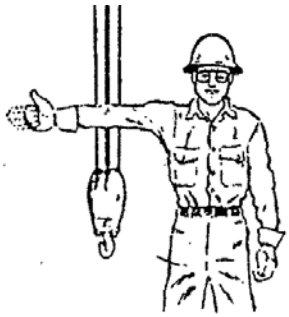
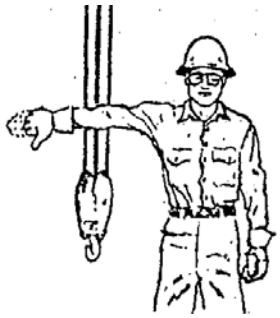
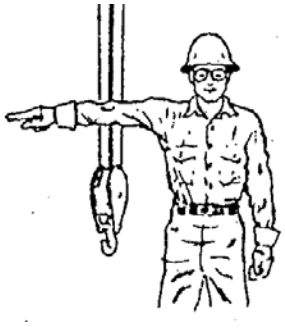
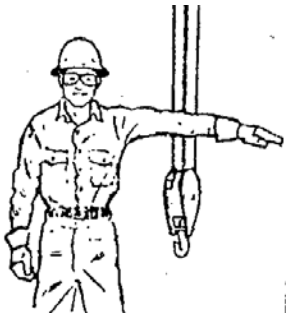
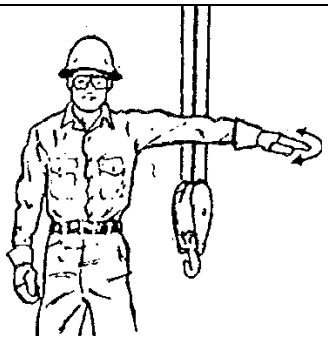
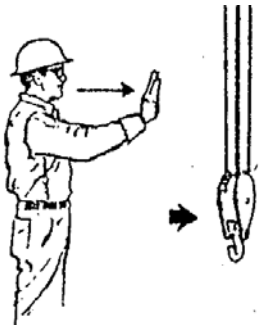
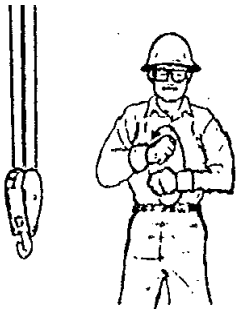
 HOIST. With forearm vertical, forefinger pointing up, move hand in small horizontal circle.	 LOWER. With arm extended downward, forefinger pointing down, move hand in small horizontal circles.	 USE MAIN HOIST. Tap fist on head; then use regular signals.
USE WHIPLINE. (Auxiliary Hoist). Tap elbow with one band; then use regular signals.	 RAISE BOOM. Arm Extended, fingers closed, thumb pointing upward.	 LOWER BOOM. Arm extended, fingers closed, thumb pointing downward.
MOVE SLOWLY. Use one hand to give any motion signal and place other hand motionless in front of hand giving the motion signal. (Hoist slowly shown as example.)	 RAISE THE BOOM AND LOWER THE LOAD. With arm extended, thumb pointing up, flex fingers in and out as long as load movement is desired.	 LOWER THE BOOM AND RAISE THE LOAD. With arm extended, thumb pointing down, flex fingers in and out as long as load movement is desired.

TABLE 2
HAND SIGNALS FOR BOOM-TYPE CRANES

 SWING. Arm extended, point with finger in direction of swing of boom.	 STOP. Arm Extended, palm down, hold position rigidly.	 EMERGENCY STOP. Arm extended, palm down, move hand rapidly right and left.
 TRAVEL. Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel.	 DOG EVERYTHING. Clasp hand in front of body.	 TRAVEL. (Both Tracks) Use both fists in front of body, making a circular motion about each other, indicating direction of travel, forward or backward. (For crawler cranes only.)
 TRAVEL. (One Track.) Lock the track on side indicated by raised fist. Travel opposite track in direction indicated by circular motion of other fist, rotated vertically in front of body. (For crawler cranes only.)	Extracted from American National Standard, Safety Code for Crawler, Locomotive and Truck Cranes, B 30.5-1968 with the permission of the publisher, The American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017.	

History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16332
Source: 1979 AC.

R 408.16333 Vessels, bin, and cooker entry.
Rule 6333. (1) A lifeline and safety harness or safety belt shall be provided and used by an employee entering a vessel, tank, digester, bin, or cooker without an access door at ground or floor level, as prescribed in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.16302. An employee shall be stationed outside with a self-contained respirator in a position to handle the lifeline and summon assistance.
(2) The air inside the vessel, tank, or bin shall be tested prior to entry. Atmospheres containing toxic gas or vapor, or which are deficient in oxygen shall be purged and fresh air forced inside while the tank or vessel is occupied, or a self-contained or a constant-flow type supplied air respirator shall be worn. An employee shall not enter a vessel or tank containing an explosive atmosphere
(3) Controls to equipment supplying or operating a closed vessel, tank, digester, bin, or cooker shall be locked out or blanked before entry by an employee.
(4) Valves to supply pipes for a closed vessel, tank, digester, bin, or cooker shall be closed and locked out or blanked before entry by an employee.
(5) Tanks shall be free of acid and shall be washed out with water, and fresh air shall be blown into them, before allowing an employee to enter. An employee entering the tanks shall be provided with a supplied air respirator, lifebelt, and attached lifeline by the employer, at no expense to the employee.
(6) Any lines or sewers shall be blanked off to protect workers from air contaminants.
(7) When cleaning, inspection, or other work requires that employees must enter the cooker, 1 employee shall be stationed outside in a position to observe and assist in case of emergency.
(8) All intake valves to a tank shall be blanked off or disconnected.
History: 1979 AC; 1983 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16334
Source: 1979 AC.

R 408.16335
Source: 1979 AC.

R 408.16336 Chains; cables; wire ropes.
Rule 6336. (1) A chain used for material handling and its component parts, other than alloy steel chain having a minimum tensile strength of 125,000 pounds per square inch, shall have a designed safety factor of not less than 5. Alloy chain shall not be used in excess of the working load in straight tension for its size as prescribed in Table 3 'Working Load.'
(2) Chain with bent, twisted, or elongated links, or a hook that has been opened more than 15% at the throat from the original set or twisted more than 10% from the plane of the unbent hook, shall not be used until the defective links or hook is replaced.
(3) Cable, wire rope, and wire rope slings shall have a designed safety factor of not less than 5.
(4) Wire rope or cable shall be inspected when installed, and not less than monthly thereafter, when in use.
(5) Wire rope shall not be used if, in any length of 8 diameters, the total number of visible broken wires exceeds 10% of the total number of wires, or if the rope shows other signs of excessive wear, corrosion, or defects.

TABLE 3
WORKING LOAD

Nominal Size, Chain Bar, inch	Work Load, lb. Max.
1/4	3,250
3/8	6,600

1/2	11,250
5/8	16,500
3/4	23,000
7/8	28.500
1	38,750
1 1/8	44,500
1 1/4	57,500
1 3/8	67,000
1 1/2	80,000
1 3/4	100,000

History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16337. Boom cranes.
Rule 6337. (1) A boom crane shall bear a sign or tag in the cab and on the outside showing the maximum rated capacity in pounds or tons as related to the boom angle. The rated capacity shall not be exceeded.
(2) The designed safety factor for all boom crane parts shall be not less than 5.
(3) A boom crane shall be equipped with a warning device which shall be used during lifting and moving of a load if an employee other than the crane crew is in the loading or unloading path.
(4) A boom crane load shall not pass over the head of any employee.
(5) Only 1 member of a boom crane crew may give signals to the crane operator. The signals shall conform to Table 2 'Hand Signals for Boom-Type Cranes.'
(6) A crane boom shall not be operated within 10 feet of overhead power lines unless the power lines have been deenergized. The boom shall be painted a bright yellow from, and including, the head sheave to a point 6 feet down the boom towards the cab.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16338
Source: 1979 AC.

R 408.16339
Source: 1979 AC.

R 408.16341
Source: 1979 AC.

R 408.16342
Source: 1979 AC.

R 408.16343. Flumes, runways and jack ladders.
Rule 6343. (1) A flume or water runway used to transport logs shall have a standard barrier along the exposed sides. The height of the sides of a flume or runway extending above ground, floor, or platform level may be counted as part of the 42 inches as prescribed for a standard barrier in R 408.10231 of General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways and Skylights," as referenced in R 408.16302.
(2) An inclined walkway along an inclined portion of a jack ladder shall have cleats or a slip-resistant surface and the walkway shall be equipped with a stair railing on both sides as prescribed in R 408.10221 of ~~the~~ General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways and Skylights," as referenced in R 408.16302.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16344. Log jams.
Rule 6344. Where it is necessary for an employee to stand on a conveyor for the purpose of clearing a log jam, the conveyor shall be stopped and locked out as prescribed in R 408.16323(4) before the work is started.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16345. Saws.
Rule 6345. (1) A guard shall be provided in front of a slasher saw to protect an employee from thrown pieces.
(2) An employee shall not mount a slasher saw table unless the machine is stopped and locked out as prescribed in R 408.16323(4).
(3) The exposed portion of a slasher saw blade below the table shall be enclosed.
(4) A saw and other equipment more commonly found in a sawmill shall be guarded and used as prescribed in General Industry Safety Standard, Part 52 "Sawmills," as referenced in R 408.16302.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16346. Barkers.
Rule 6346. (1) An employee shall not hold or have physical contact with the pulpwood during the barking operation.
(2) Barrier guards or enclosures shall be provided to protect an employee in the area from flying particles from the barker.
(3) Two or more continuous barking drums installed side by side shall be provided with a walkway between each set with a standard barrier as prescribed in R 408.10231 of General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways and Skylights," as referenced in R 408.16302.
(4) When a platform or floor allows access to the sides of a drum barker, a standard barrier shall be installed as prescribed in R 408.10231 of General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways and Skylights," as referenced in R 408.16302.
(5) In-running nip points exposed to contact of trunnion rollers on a drum barker shall be guarded.
(6) An intermittent barking drum shall be equipped with a device that locks the drum while being loaded or unloaded.
(7) The loading and unloading ends of a hydraulic barker shall be equipped with baffles. The operator shall be protected by a barrier of 1/2 inch plexiglas or material of equivalent strength. A high pressure hose to a hydraulic barker shall be secured at the hose connection ends to prevent whipping if a connection fails.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16347 Chippers.
Rule 6347. (1) An employee feeding a chipper shall not have a work station in direct line with the chipper hopper.
(2) The in-feed conveyor shall be guarded for its entire length by an enclosure or standard barrier as prescribed in R 408.10231 and R 408.10233 of General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways and Skylights," as referenced in R 408.16302.
(3) The chipper hopper shall be enclosed not less than 40 inches from the blades to the opening and be baffled to prevent wood from being thrown from the hopper.
(4) An employee feeding a chipper within 42 inches of the hopper shall wear a safety belt and line designed to prevent falling into the hopper.
(5) Where jam-ups cannot be cleared, the in-feed equipment shall be stopped and locked out. The employee clearing the jam shall wear a safety belt and line which will prevent contact with the blades before additional clearing is done. If it is necessary to remove or loosen a blade hood, the power shall be shut off and locked out.
(6) Chipper knives shall be transported on a carrier.
(7) Hearing protection equipment shall be worn by the operator and others in the immediate area if there is any possibility that the noise level may be harmful and shall be in compliance with Occupational Health Standard Part 380 "Occupational Noise Exposure," as referenced in R 408.16302.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16348
Source: 1979 AC.

R 408.16349
Source: 1979 AC.

R 408.16350 Bleaching.

Rule 6350. (1) The bleach-mixing rooms in which the bleach powder is mixed shall be provided with adequate exhaust ventilation, located at the floor level, as prescribed in ANSI Standard Z9.1 "Open Surface Tanks-Ventilation And Operations," 1951 edition, as adopted in R 408.16302
(2) Chlorine gas shall be carried away from the work place and breathing area by an exhaust system. The gas shall be rendered neutral or harmless before being discharged into the atmosphere as prescribed in ANSI Standard Z9.2 "Fundamentals Governing The Design and Operation of Local Exhaust Ventilation Systems," 1960 edition, as adopted in R 408.16302.
(3) For emergency and rescue operations, the employer must provide employees with self-contained breathing apparatuses or supplied-air respirators and ensure that employees use these respirators as prescribed in Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.16302.
History: 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16351 Acid rooms, acid towers, and acid tanks.
Rule 6351. (1) During inspection, repairs, or maintenance of acid towers, the employees shall be provided with eye protection, a supplied air respirator, a safety belt, and an attached lifeline. The line shall be extended to an attendant stationed outside the tower opening. Personal protective equipment as prescribed in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.16302, shall be worn.
(2) Walkways, stairs, and other equipment in acid rooms, acid towers, and acid tanks shall be inspected monthly for corrosion and replaced or repaired where any part shows a defect affecting employee safety.
(3) Where hoops are used on acid tanks, they shall be made of rods rather than flat strip stock and shall be inspected and maintained as prescribed in subrule (2) of this rule.
(4) Pressure tanks-accumulators shall be inspected semiannually as prescribed in the ASME Boiler And Pressure Vessel Code, Section VIII, "Unfired Pressure Vessels," 1989 with addenda, as adopted in R 408.16302.
(5) When lead burning is performed within tanks, fresh air shall be forced into the tanks so that fresh air will reach the face of the employee first and the direction of the current will never be from the source of the fumes toward the face of the employees. Supplied air respirators (constant-flow type) shall be provided as required in Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.16302.
History: 1979 AC; 1993 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16352 Chlorine, chlorine dioxide and sodium chlorate.
Rule 6352. (1) Only a trained and authorized employee shall be permitted into a chlorine dioxide generating room.
(2) A room used for storage or generating of chlorine gases shall have not less than 2 exits.
(3) Storage facilities and handling operations shall eliminate possible contact of sodium chlorate and chlorine dioxide with wood or other materials that would cause a fire, explosion, or other chemical reaction.
(4) Smoking and other sources of fire and spark producing equipment shall not be permitted in a chlorine dioxide generating room when it is in operation. Warning signs shall be posted.
(5) Tanks of liquid chlorine, when stored inside, shall be stored in an unoccupied adequately ventilated room, where their possible leakage cannot affect workers, and the exhaust pickup shall be at floor level.
(6) A water hose and supply shall be available where spills of chlorine and chlorine dioxide may occur.
(7) A tank car containing chlorine and connected to a pipe or hose line shall be protected by a derail device and the blue flag as prescribed in R 408.16338.
(8) A pipe or hose line carrying chlorine, caustic or acid, shall be identified by a sign at each valve and yellow color banding.
(9) Gas masks capable of absorbing chlorine shall be supplied, conveniently placed, and regularly inspected, and employees who may be exposed to chlorine gas shall be instructed in their use.
(10) For emergency and rescue work, independent self-contained oxygen-type masks or supplied-air equipment shall be provided.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16353 Sulfur burning and drying.
Rule 6353. (1) A sulfur burning or drying house shall be safely and adequately provided with an exhaust system as prescribed by ANSI Standard Z9.2 "Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems," 1960 edition, as adopted in R 408.16302, to reduce the chance of dust explosion hazards and fires.

(2) Pipes, beams, and other overhead objects shall be cleaned off not less than once a month to remove dust accumulations.
(3) Sulfur storage bins shall be kept free of sulfur dust accumulation, in accordance with ANSI Standard Z9.2 "Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems," 1960 edition, as adopted in R 408.16302.
(4) Exhaust ventilation shall be provided where niter cake is fed into a rotary furnace and shall be so designed and maintained as to keep the concentration of hydrogen sulfide gas below the parts per million listed in Occupational Health Standard Part 301 "Air Contaminants," as referenced in R 408.16302.
(5) Non-sparking tools and equipment shall be used in handling dry sulfur. Smoking shall be prohibited and "No Smoking" signs shall be posted.
(6) Sulfur melting equipment shall not be located in the burner room.
(7) Explosion-proof electric equipment shall be used where dry sulfur burning is done.
(8) Supplied-air respirators shall be strategically located for emergency and rescue use.
(9) Gas masks shall be available. These masks shall furnish adequate protection against sulfurous acid and chlorine gases, and shall be inspected and repaired in accordance with Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.16302.
(10) Where as the processes of the sulfate and soda operations are similar to those of the sulfite processes, subrules (8) and (9) of this rule apply.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16354 Digesters and blow pits, general.
Rule 6354. (1) A means of egress shall be provided at each end of the room at every floor level of a digester building.
(2) A batch type digester shall have all of the following:
(a) A blowoff valve located so it can be operated from another room, remote from safety valve.
(b) Blow valves on rotary digesters pinned or locked in a closed position during the cooking period.
(c) Pipes, valves, and fittings classified as heavy duty between the digester and blow pit. These pipes, valves, and fittings shall be inspected at least semiannually to determine the degree of deterioration~~,~~ and shall be replaced when necessary.
(d) Through bolts instead of cap bolts on pipe joints.
(3) A side opening to a blow pit is preferred. If the opening is on top, the opening shall be protected by a standard barrier as prescribed in General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.16302. Access to a blow pit shall be by a ladder designed to keep the door open when the ladder is in place, or an employee is within the pit.
(4) Blow-pit hoops shall be maintained in a safe condition.
(5) Personal protective equipment as prescribed in R 408.16313 and General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.16302, shall be provided and worn when repairing or removing old brick lining from a digester.
(6) Fresh air shall be blown constantly into the digester while employees are inside. Supplied-air respirators shall be available if the fresh air supply fails or is inadequate.
(7) An inspector shall not enter a digester unless a lifeline is securely fastened to his or her body by means of a safety belt and at least 1 other experienced employee is stationed outside the digester to handle the line and to summon assistance. All ladders and lifelines shall be inspected before each use.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16355
Source: 1979 AC.

R 408.16356 Safety valves.
Rule 6356. (1) A safety valve shall be installed between the steam regulating valve and the vessel on a separate pipe line for each pressure vessel. The safety device shall conform to paragraph U-2 in the ASME Boiler and Pressure Vessel Code, Section VIII, "Unfired Pressure Vessels," 1989, with addenda, as referenced in R 408.16302. Also see Rule R 408.4025 of the Michigan Boiler Rules.

(2) A safety valve shall be checked between each cook to ensure it has not become plugged or corroded to the point of being inoperative.
(3) A safety valve shall be inspected not less than annually and repaired if necessary to ensure its ability to operate, and shall be set at not more than the rated capacity of the pressure vessel.
(4) The vent for a safety valve shall discharge into an area that does not create a hazard for an employee.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16357
Source: 1979 AC.

R 408.16358
Source: 1979 AC.

R 408.16359
Source: 1979 AC.

R 408.16360
Source: 1979 AC.

R 408.16361 Pulpers and beaters.
Rule 6361. (1) The top of a pulper vessel or beater tub less than 42 inches from the floor or platform shall have a barrier erected around the exposed edge to a height of 42 inches to guard the opening, or a beater or pulper fed from a floor above by a chute shall have the chute extend to a height of 42 inches or the opening guarded by the standard barrier as prescribed in General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.16302.
(2) Beater rolls shall be provided with covers.
(3) The floor around a beater shall be provided with sufficient drainage to remove wastes.
(4) When cleaning, inspecting, or other work requires that employees enter the pulpers, they shall be equipped with safety belt and lifeline, and 1 employee shall be stationed outside at a position to observe and assist in case of emergency.
(5) When cleaning, inspecting, or other work requires that employees enter pulpers, all steam, water, or other control devices shall be locked or tagged out. Blank flanging and tagging of pipe lines is acceptable in place of closed and locked or tagged valves. Blank flanging of steam and water lines is acceptable in place of valve locks.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16362 Bleaching.
Rule 6362. A bleaching engine, except the Bellmer type, shall have the top covered with the exception of an opening large enough to permit filling but too small to admit an employee. This opening shall be covered with a door. The opening and a platform connecting 1 engine with another shall be guarded with standard barriers as prescribed in General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways and Skylights," as referenced in R 408.16302.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16363
Source: 1979 AC.

R 408.16364 Dust.
Rule 6364. (1) Measures for the control of dust shall be provided, in accordance with General Industry Safety Standard Part 33 "Personal Protective Equipment" and Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.16302.
(2) Installation of blower and exhaust systems for dust, stock, and vapor removal or conveying, shall be provided, in accordance with NFPA 91 "Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying," 1961 edition, as adopted in R 408.16302.
History: 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16371
Source: 1979 AC.

R 408.16372 Dryer.
Rule 6372. (1) A barrier guard or a standard barrier, as prescribed in General Industry Safety standard, Part 2. "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.16302, shall be installed in front of the first dryer of each section of a paper machine, if the area is accessible to an employee.
(2) In starting a dryer section, steam to heat the drums shall be introduced slowly while the drums are turning.
(3) A broken carrier rope shall not be removed from a dryer while the section is running at operating speed.
(4) The end of a "yankee" type dryer exposed to contact shall be guarded by a barrier to prevent entry to the turning drum.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16374
Source: 1979 AC.

R 408.16375 Broke hole.
Rule 6375. (1) A broke hole of such dimensions that an employee could fall through shall be guarded on all sides by a standard barrier as prescribed in General Industry Safety standard, Part 2 "Floor and Wall Openings, Stairways and Skylights." as referenced in R 408.16302. Where a broke hole of such dimensions that an employee could fall through is located over a pulper or pulper conveyor system which is manually fed, the employee feeding into the hole shall wear a safety belt and line which will restrict the employee from falling through the hole.
(2) A warning device shall be used to alert an employee working below a broke hole when broke is discharged into the hole.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16376
Source: 1979 AC.

R 408.16377
Source: 1979 AC.

R 408.16378
Source: 1981 AACS.

R 408.16381
Source: 1979 AC.

R 408.16382
Source: 1979 AC.

R 408.16383
Source: 1979 AC.

R 408.16384
Source: 1979 AC.

R 408.16385 Rotary cutter.
Rule 6385. (1) A single knife rotary cutter shall be guarded to prevent contact with the blade.
(2) On duplex cutters, the protection required for single-knife machines shall be provided for the first knife, and a hood shall be provided for the second knife.
(3) Access to a blade of a rotary cutter shall be provided by means of a catwalk after the machine had been locked out as prescribed in R 408.16323(4).
(4) The nip point at the spreader or squeeze roll shall be guarded as prescribed in R 408.16374(1).
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16386
Source: 1979 AC.

R 408.16387 Cores.
Rule 6387. (1) A core notcher shall be guarded pursuant to ~~the~~ General Industry Safety Standard Part 23 "Hydraulic Power Presses," as referenced in R 408.16302.
(2) A core cutter shall be guarded pursuant to General Industry Safety Standard Part 27 "Woodworking Machinery," as referenced in R 408.16302.
(3) A set screw for securing a core collar to winding and unwinding shafts shall not protrude above the face of the collar. Sharp corners on the collar shall be beveled.
(4) A core shaft weighing more than 50 pounds shall have a mechanical device such as a dolly to support all or part of the weight when removing the shaft from the set of paper and placing it in the dressing brackets on the winder.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.16388
Source: 1979 AC.

R 408.16391
Source: 1979 AC.

R 408.16392 Paper baler.
Rule 6392. (1) A manually operated paper baler shall be provided with a device, such as a safety dog, to prevent a kickback by the operating lever.
(2) A powered paper baler shall have the hopper door interlocked to the power source to prevent operation when the door is open.
(3) A powered paper baler producing a bale with a compressed dimension of more than 42 inches shall have hook type door locks that permit a restricted pressure relieving opening of not more than 2 inches before the door can be completely opened.
(4) A hopper opening in the floor above shall be guarded with a standard barrier on all sides as prescribed in R 408.16322.
(5) Start controls shall be 2-hand constant pressure devices. A down stroke baler shall require 2-hand pressure only until the pressure block has descended past the pinch point.
(6) Limit switches shall be provided to limit the stroke at both ends. A limit switch shall be provided at the top of an upstroke baler to shut off power when the pressure block is out of position.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

PART 65. MILLS AND CALENDERS FOR RUBBER AND PLASTIC

R 408.16511
Source: 2013 AACS.

R 408.16528
Source: 2013 AACS.

PART 69. COMPRESSED AIR AND GASES, EQUIPMENT, AND SYSTEMS

R 408.16901
Source: 1998-2000 AACS.

R 408.16902
Source: 2012 AACS.

PART 71. LAUNDRY AND DRY CLEANING MACHINERY AND OPERATIONS

R 408.17101

Source: 1979 AC.

R 408.17103
Source: 1979 AC.

R 408.17104
Source: 1979 AC.

R 408.17105
Source: 1979 AC.

R 408.17106
Source: 1979 AC.

R 408.17107
Source: 1979 AC.

R 408.17111
Source: 1983 AACS.

R 408.17112
Source: 1979 AC.

R 408.17121
Source: 1979 AC.

R 408.17122
Source: 1981 AACS.

R 408.17123
Source: 1997 AACS.

R 408.17124
Source: 1997 AACS.

R 408.17125
Source: 2013 AACS.

R 408.17126
Source: 1979 AC.

R 408.17127
Source: 1979 AC.

R 408.17128
Source: 1979 AC.

R 408.17129
Source: 1979 AC.

R 408.17130
Source: 1979 AC.

R 408.17131
Source: 1979 AC.

R 408.17141

Source: 1979 AC.

R 408.17142
Source: 1979 AC.

R 408.17143
Source: 1981 AACS.

R 408.17144
Source: 1979 AC.

R 408.17145
Source: 1979 AC.

R 408.17146
Source: 1979 AC.

R 408.17147
Source: 1997 AACS.

R 408.17148
Source: 1979 AC.

R 408.17149
Source: 1979 AC.

R 408.17150
Source: 1979 AC.

R 408.17151
Source: 1979 AC.

R 408.17152
Source: 1979 AC.

R 408.17153
Source: 1979 AC.

R 408.17154
Source: 1979 AC.

R 408.17155
Source: 1979 AC.

R 408.17156
Source: 1979 AC.

R 408.17157
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R 408.17158
Source: 1979 AC.

R 408.17159
Source: 1979 AC.

R 408.17160

Source: 1979 AC.

R 408.17161
Source: 1979 AC.

R 408.17162
Source: 1979 AC.

R 408.17163
Source: 1979 AC.

PART 72. AUTOMOTIVE SERVICE OPERATIONS

R 408.17201
Source: 1990 AACS.

R 408.17204
Source: 1979 AC.

R 408.17205
Source: 1979 AC.

R 408.17206
Source: 1990 AACS.

R 408.17207
Source: 1979 AC.

R 408.17211
Source: 2013 AACS.

R 408.17212
Source: 2013 AACS.

R 408.17213
Source: 2013 AACS.

R 408.17221
Source: 1979 AC.

R 408.17222
Source: 2013 AACS.

R 408.17223
Source: 1979 AC.

R 408.17224
Source: 1979 AC.

R 408.17225
Source: 2013 AACS.

R 408.17226
Source: 1979 AC.

R 408.17227

Source: 2013 AACS.

R 408.17232
Source: 1979 AC.

R 408.17233
Source: 1979 AC.

R 408.17234
Source: 1979 AC.

R 408.17235
Source: 1993 AACS.

R 408.17236
Source: 2013 AACS.

R 408.17237
Source: 1990 AACS.

R 408.17241
Source: 1979 AC.

R 408.17243
Source: 1979 AC.

R 408.17245
Source: 1979 AC.

R 408.17246
Source: 1979 AC.

R 408.17251
Source: 2013 AACS.

R 408.17252
Source: 1979 AC.

R 408.17253
Source: 1990 AACS.

PART 73. FIRE BRIGADES

R 408.17301
Source: 1984 AACS.

R 408.17303
Source: 2013 AACS.

R 408.17305
Source: 1984 AACS.

R 408.17307
Source: 1984 AACS.

R 408.17309
Source: 1984 AACS.

R 408.17310
Source: 2013 AACS.

R 408.17312
Source: 1984 AACS.

R 408.17314
Source: 1998-2000 AACS.

R 408.17315
Source: 2013 AACS.

R 408.17316
Source: 1998-2000 AACS.

R 408.17317
Source: 1998-2000 AACS.

R 408.17318
Source: 2013 AACS.

R 408.17320
Source: 2013 AACS.

R 408.17322
Source: 1998-2000 AACS.

PART 74. FIRE FIGHTING

R 408.17401
Source: 2001 AACS.

R 408.17402
Source: 1988 AACS.

R 408.17403
Source: 2013 AACS.

R 408.17404
Source: 2013 AACS.

R 408.17405
Source: 2013 AACS.

R 408.17411
Source: 2013 AACS.

R 408.17412
Source: 2013 AACS.

R 408.17415
Source: 2013 AACS.

CONSTRUCTION AND USE OF EQUIPMENT

R 408.17421
Source: 2013 AACS.

R 408.17422
Source: 2013 AACS.

R 408.17423
Source: 2013 AACS.

R 408.17424
Source: 2013 AACS.

R 408.17425
Source: 2001 AACS.

R 408.17426
Source: 2013 AACS.

R 408.17427
Source: 1979 AC.

R 408.17428
Source: 1979 AC.

PERSONAL PROTECTIVE EQUIPMENT

R 408.17431
Source: 2013 AACS.

R 408.17432
Source: 2013 AACS.

R 408.17433
Source: 2013 AACS.

R 408.17434
Source: 2013 AACS.

R 408.17435
Source: 2013 AACS.

R 408.17436
Source: 2013 AACS.

R 408.17437
Source: 2013 AACS.

TOOLS

R 408.17440
Source: 2001 AACS.

R 408.17441
Source: 1979 AC.

R 408.17442
Source: 2001 AACS.

R 408.17443
Source: 1979 AC.

OPERATIONS

R 408.17451
Source: 2013 AACS.

R 408.17452
Source: 2001 AACS.

INSPECTIONS

R 408.17461
Source: 2013 AACS.

R 408.17462
Source: 1997 AACS.

R 408.17463
Source: 2013 AACS.

R 408.17464
Source: 2001 AACS.

PART 75. FLAMMABLE AND COMBUSTIBLE LIQUIDS

R 408.17501
Source: 2013 AACS.

R 408.17502
Source: 2013 AACS.

PART 76. SPRAY FINISHING USING FLAMMABLE AND COMBUSTIBLE MATERIALS

R 408.17601 Adoption of standards by reference.
Rule 7601. (1) The following federal occupational safety and health administration (OSHA) regulations are adopted by reference in these rules:
(a) 29 C.F.R. §1910.107 "Spray finishing using flammable and combustible materials," effective March 26, 2012.
(b) 29 C.F.R. §1910.94(c) "Ventilation for spray finishing operations," effective September 9, 2009.
(2) All of the following provisions apply with respect to the regulations adopted in subrule (1) of this rule:
(a) A reference to Subpart S means General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," and General Industry Safety Standard Part 40 "Electrical Safety-Related Work Practices," as referenced in R 408.17602.
(b) A reference to 29 C.F.R. §1910.106 "Flammable liquids," means General Industry Safety Standard Part 75 "Flammable Liquids," as referenced in R 408.17602.

(c) A reference to 29 C.F.R. §1910.159 "Automatic sprinkler systems," means General Industry Safety Standard Part 9 "Fixed Fire Equipment" as referenced in R 408.17602
(d) A reference to "Dip Tank Operations" means Occupational Health Standard Part 526 "Dipping and Coating Operations," as referenced in R 408.17602.
(3) The provisions of 29 C.F.R. §1910.107 and 29 C.F.R. §1910.94 have the same force and effect as rules promulgated under 1974 PA 154, the Michigan Occupational Safety and Health Act (MIOSHA), MCL 408.1001 to 408.1094.
(4) The standards adopted in subrule (1) of this rule are available from the United States Department of Labor, Occupational Safety and Health Administration website: www.osha.gov, at no charge as of the time of adoption of these rules.
(5) The standards adopted in subrule (1) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.
(6) The standards adopted in subrule (1) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, plus $20.00 for shipping and handling.
History: 1989 AACS; 2007 AACS; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.17602 MIOSHA referenced standards.
Rule 7602. The following Michigan occupational safety and health (MIOSHA) standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.
(a) General Industry Safety Standard Part 9 "Fixed Fire Equipment," R 408.10901 to R 408.10999.
(b) General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," R 408.13901 to R 408.13902.
(c) General Industry Safety Standard Part 40 "Electrical Safety-Related Work Practices," R 408.14001 to R 408.14009.
(d) General Industry Safety Standard Part 75 "Flammable Liquids," R 408.17501 to R 408.17502.
(e) Occupational Health Standard Part 526 "Dipping and Coating Operations," R 325.52601 to R 325.52602.
History: 1989 AACS; 2007 AACS; 2014 MR 1, Eff. Jan. 17, 2014.

R 408.17603
Source: 2007 AACS.

R 408.17605
Source: 2007 AACS.

R 408.17607
Source: 2007 AACS.

R 408.17609
Source: 2007 AACS.

R 408.17610
Source: 2007 AACS.

R 408.17612
Source: 2007 AACS.

R 408.17613
Source: 2007 AACS.

R 408.17614
Source: 2007 AACS.

R 408.17615
Source: 2007 AACS.

R 408.17616
Source: 2007 AACS.

R 408.17618
Source: 2007 AACS.

R 408.17620
Source: 2007 AACS.

R 408.17621
Source: 2007 AACS.

R 408.17622
Source: 2007 AACS.

R 408.17623
Source: 2007 AACS.

R 408.17624
Source: 2007 AACS.

R 408.17630
Source: 2007 AACS.

R 408.17631
Source: 2007 AACS.

R 408.17632
Source: 2007 AACS.

R 408.17633
Source: 2007 AACS.

R 408.17636
Source: 2007 AACS.

R 408.17637
Source: 2007 AACS.

R 408.17640
Source: 2007 AACS.

R 408.17641
Source: 2007 AACS.

R 408.17650
Source: 2007 AACS.

R 408.17651
Source: 2007 AACS.

R 408.17696
Source: 2007 AACS.

R 408.17699
Source: 2007 AACS.

PART 77. GRAIN HANDLING FACILITIES

R 408.17701 Rescinded.
History: 1988 AACS; 1997 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17701a Scope.
Rule 7701a. This part contains requirements for the control of grain dust fires and explosions, and certain other safety hazards associated with grain handling facilities.
History: 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17701b Applicability of rules.
Rule 7701b. (1) R 408.17701a, R 408.17701b, and R 408.17704 to R 408.17713 apply to all of the following:
(a) Grain elevators.
(b) Feed mills.
(c) Flour mills.
(d) Rice mills.
(e) Dust pelletizing plants.
(f) Dry corn mills.
(g) Soybean flaking operations.
(h) Dry grinding operations of soycake.
(2) R 408.17714, R 408.17715, and R 408.17716 apply only to grain elevators.
(3) These rules do not apply to seed plants that handle and prepare seeds for the planting of future crops or to on-farm storage of feed lots.
History: 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17701c Referenced standards.
Rule 7701c. The following Michigan occupational safety and health standards (MIOSHA) are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan department of licensing and regulatory affairs, MIOSHA standards section, 7150 Harris Drive, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
(a) General Industry Safety Standard Part 5 “Scaffolding,” R 408.10501 to R 408.10592.
(b) General Industry Safety Standard Part 12 “Welding and Cutting,” R 408.11201 to R 408.11299.
(c) Occupational Health Standard Part 301 “Air Contaminants for General Industry,” R 325.51101 to R 325.51108.
(d) Occupational Health Standard Part 451 “Respiratory Protection,” R 325.60051 to R 325.60052.
History: 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17701d Definitions.
Rule 7701d. (1) "Choked leg" means a condition of material buildup in the bucket elevator that results in the stoppage of material flow and bucket movement. A bucket elevator is not considered choked if it has the up leg partially or fully loaded and has the boot and discharge cleared allowing bucket movement.
(2) "Flat storage structure" means a grain storage building or structure that will not empty completely by gravity, has an unrestricted ground level opening for entry, and must be entered to reclaim the residual grain using powered equipment or manual means.
(3) "Fugitive grain dust" means combustible dust particles that are emitted from the stock handling system and that are a size that will pass through a United States standard 40-mesh sieve (425 microns or less).
(4) "Grain elevator" means a facility that is engaged in the receipt, handling, storage, and shipment of bulk raw agricultural commodities, such as corn, wheat, oats, barley, sunflower seeds, and soybeans.

(5) "Hot work" means work that involves electric or gas welding, cutting, or brazing or similar flame-producing operations.

(6) "Inside bucket elevator" means a bucket elevator that has the boot and more than 20% of the total leg height, which is above grade or ground level, inside the grain elevator structure. Bucket elevators with leg casings that are inside of and pass through the roofs of, rail or truck dump sheds with the remainder of the leg outside of the grain elevator structure are not considered inside bucket elevators.

(7) "Jogging" means the repeated starting and stopping of drive motors in an attempt to clear choked legs.

(8) "Lagging" means a covering on drive pulleys used to increase the coefficient of friction between the pulley and the belt.

(9) "Permit" means the written certification of the employer that authorizes employees to perform identified work operations subject to specified precautions.

History: 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17702 Rescinded.

History: 1988 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17703 Rescinded.

History: 1988 AACS; 1997 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17704 Employee emergency plan and fire prevention plan.

Rule 7704. (1) This rule applies to all emergency action plans required by the occupational safety and health act of 1970, 29 U.S.C. §651 et seq. The emergency action plan shall be in writing, except as provided in subrules (5), (6), and (7) of this rule, and shall cover those designated actions employers and employees must take to ensure employee safety from fire and other emergencies.

(2) All of the following elements shall be included in the emergency action plan:

(a) Procedures for emergency evacuation, including type of evacuation and exit route assignments.

(b) Procedures to be followed by employees who remain to operate critical plant operations before they evacuate.

(c) Procedures to account for all employees after emergency evacuation has been completed.

(d) Procedures to be followed by employees performing rescue or medical duties.

(e) Procedures for reporting a fire or other emergency.

(f) The name or job title of every employee who may be contacted by employees who need more information about the plan or an explanation of their duties under the plan.

(3) An alarm system shall comply with both of the following provisions:

(a) An employer shall establish an employee alarm system which complies with R 408.17717.

(b) If the employee alarm system is used for alerting fire brigade members or for other purposes, a distinctive signal for each purpose shall be used.

(4) An employer shall establish, in the emergency action plan, the types of evacuation to be used in emergency circumstances.

(5) Before implementing the emergency action plan, an employer shall designate and train a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees.

(6) An employer shall review the emergency action plan with each employee covered by the plan at all of the following times:

(a) When the plan is developed or the employee is assigned initially to a job.

(b) When an employee's responsibilities or designated actions under the plan change.

(c) When the plan is changed.

(7) The emergency action written plan shall be kept at the workplace and made available for employee review. For those employers with 10 or fewer employees, the emergency action plan may be communicated orally to employees and the employer need not maintain a written plan.

History: 1988 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17705 Training.

Rule 7705. (1) An employer shall provide training to each employee at least annually and when a change in job assignment will expose an employee to new hazards. Current employees and new employees shall be trained in at least both of the following areas:

(a) General safety precautions associated with the facility, including recognition and preventive measures for the hazards related to dust accumulations and common ignition sources such as smoking.
(b) Specific procedures and safety practices applicable to an employee's job tasks, including all of the following:
(i) Cleaning procedures for grinding equipment.
(ii) Cleaning procedures for choked legs.
(iii) Housekeeping procedures.
(iv) Hot work procedures.
(v) Preventive maintenance procedures.
(vi) Lockout/tagout procedures.
New employees shall be trained before beginning work.
(2) Employees assigned special tasks, such as bin entry and the handling of flammable or toxic substances, shall be provided with training to perform these tasks safely.
(3) Training for an employee who enters grain storage structures shall include training about engulfment and mechanical hazards and how to avoid engulfment and mechanical hazards.
History: 1988 AACS; 1997 AACS.

R 408.17706 Hot work permit.
Rule 7706. (1) An employer shall issue a permit for all hot work, with the following exceptions:
(a) Where an employer or a representative of the employer who would otherwise authorize the permit is present while the hot work is being performed.
(b) Hot work in welding shops authorized by an employer.
(c) Hot work in hot work areas authorized by an employer that are located outside of the grain handling structure.
(2) The permit shall certify that the requirements contained in General Industry Safety Standard Part 12 “Welding and Cutting,” as referenced in R 408.17701c, have been implemented before beginning the hot work operations. The employer shall keep the permit on file until completion of the hot work operations.
History: 1988 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17707 Entry into bins, silos, tanks, and other grain storage structures.
Rule 7707. (1) This rule applies to employees entering bins, silos, tanks, and other grain storage structures, except for entry through unrestricted ground level openings into flat storage structures in which there is no toxicity, flammability, oxygen deficiency, or other atmospheric hazards, which is covered by R 408.17719. For the purposes of this rule, the term "grain" includes raw and processed grain and grain products in facilities specified in R 408.17701(b).
(2) All of the following actions shall be taken before employees enter bins, silos, tanks, or other grain storage structures:
(a) An employer shall issue a permit for entering bins, silos, tanks, or other grain storage structures unless the employer or a representative of the employer who would otherwise authorize the permit is present during the entire operation. The permit shall certify that the precautions contained in this subrule have been implemented before employees enter bins, silos, tanks, or other grain storage structures. The permit shall be kept on file until completion of the entry operations.
(b) All mechanical, electrical, hydraulic, and pneumatic equipment that presents a danger to employees inside grain storage structures shall be de-energized, disconnected, locked out and tagged, blocked off, or prevented from operating by other equally effective means or methods.
(c) The atmosphere within a bin, silo, tank, or other grain storage structure shall be tested for the presence of combustible gases, vapors, and toxic agents when an employer has reason to believe they may be present. Additionally, the atmosphere within a bin, silo, tank, or other grain storage structure shall be tested for oxygen content, unless there is continuous natural air movement or continuous forced-air ventilation before and during the period employees are inside the bin, silo, tank, or other grain storage structure. If the oxygen level is less than 19.5%, if combustible gas or vapor is detected in excess of 10% of the lower flammable limit, or if toxic agents are present in excess of the ceiling values listed in Occupational Health Standard Part 301 Air Contaminants for General Industry, as referenced in R 408.17701c, or if toxic agents are present in concentrations that will cause health effects that prevent employees from effecting self-rescue or communication to obtain assistance, then both of the following provisions apply:
(i) Ventilation shall be provided until the unsafe condition or conditions are eliminated. Ventilation shall be

continued as long as there is a possibility of recurrence of the unsafe condition while the bin, silo, tank, or other grain storage structure is occupied by an employee.

(ii) If toxicity or oxygen deficiency cannot be eliminated by ventilation, then an employee entering the bin, silo, tank, or other grain storage structure shall wear an appropriate respirator. Respirator use shall be in accordance with the requirements of Occupational Health Standard Part 451 Respiratory Protection, as referenced in R 408.17701c.

(3) If an employee enters a grain storage structure from a level at or above the level of the stored grain or grain products, or if an employee walks or stands on or in stored grain that is deep enough to pose an engulfment hazard, then employer shall provide the employee with a body harness that has a lifeline or a boatswain's chair that meets the requirements of General Industry Standard Part 5 Scaffolding, as referenced in R 408.17701c. Both of the following provisions apply:

(a) The lifeline shall be so positioned and of sufficient length to prevent the employee from sinking more than waist deep in the grain. If the employer can demonstrate that the protection required by this rule creates a greater hazard, then the employer shall provide an alternative means of protection that has been demonstrated to prevent an employee from sinking more than waist deep in the grain.

(b) If an employee is standing or walking on a surface that the employer has demonstrated does not pose an engulfment hazard, then the lifeline or alternative means may be disconnected or removed.

(4) An observer who is equipped to provide assistance shall be stationed outside the bin, silo, tank, or other grain storage structure being entered by an employee. Visual, voice, or signal line communications shall be maintained between the observer and the employee entering the bin, silo, tank, or other grain storage structure.

(5) An employer shall provide equipment for rescue operations that is specifically suited for the bin, silo, tank, or other grain storage structure being entered.

(6) An employee acting as an observer shall be trained in rescue procedures, including notification methods for obtaining additional assistance.

(7) An employee shall not enter a bin, silo, tank, or other grain storage structure underneath a bridging condition or where a buildup of grain products on the sides could fall and bury the employee.

(8) An employee shall not walk down grain or perform a similar practice where an employee walks on grain to make it flow within or out from a grain storage structure. An employee shall not be on moving grain.

History: 1988 AACS; 1997 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17708 Contractor notification of potential hazards and emergency action plan.

Rule 7708. (1) An employer shall inform a contractor performing work at the grain handling facility of known potential fire and explosion hazards related to the contractor's work and work area. An employer shall also inform a contractor of the applicable safety rules of the facility.

(2) An employer shall explain the applicable provisions of the emergency action plan to a contractor.

History: 1988 AACS.

R 408.17709 Housekeeping program.

Rule 7709. (1) An employer shall develop and implement a written housekeeping program that establishes the frequency and method determined to best reduce accumulations of fugitive grain dust on ledges, floors, equipment, and other exposed surfaces.

(2) The housekeeping program for grain elevators shall address fugitive grain dust accumulations at priority housekeeping areas. Priority housekeeping areas shall include all of the following areas:

(a) Floor areas within 35 feet (10.7m) of inside bucket elevators.

(b) Floors of enclosed areas containing grinding equipment.

(c) Floors of enclosed areas containing grain dryers located inside the facility.

Pursuant to the housekeeping program, an employer shall immediately remove any fugitive grain dust accumulations when they exceed 1/8 of an inch (.32cm) at priority housekeeping areas or shall demonstrate and assure, through the development and implementation of the housekeeping program, that equivalent protection is provided.

(3) The use of compressed air to blow dust from ledges, walls, and other areas shall only be permitted when all machinery that presents an ignition source in the area is shut down and all other known potential ignition sources in the area are removed or controlled.

(4) Grain and product spills shall not be considered fugitive grain dust accumulations. However, the housekeeping program shall address the procedures for removing such spills from the work area.

History: 1988 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17710 Receiving pit feed openings; grates.
Rule 7710. Receiving pit feed openings, such as truck or railcar receiving pits, shall be covered by grates. The width of the openings in the grates shall be a maximum of 2 1/2 inches (6.35cm).
History: 1988 AACS.

R 408.17711 Filter collectors; monitoring devices; location.
Rule 7711. (1) All fabric dust filter collectors that are a part of a pneumatic dust collection system shall be equipped with a monitoring device that will indicate a pressure drop across the surface of the filter.
(2) Filter collectors installed after June 8, 1988, shall be located in any of the following areas:
(a) Outside the facility.
(b) In an area inside the facility protected by an explosion suppression system.
(c) In an area inside the facility that is separated from other areas of the facility by construction having at least a 1-hour-fire-resistance rating and which is adjacent to an exterior wall and vented to the outside. The vent and ductwork shall be designed to resist rupture due to deflagration.
History: 1988 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17712 Preventive maintenance procedures.
Rule 7712. (1) An employer shall implement preventive maintenance procedures as follows:
(a) Conduct regularly scheduled inspections of at least the mechanical and safety control equipment associated with all of the following:
(i) Dryers.
(ii) Grain stream processing equipment.
(iii) Dust collection equipment, including filter collectors.
(iv) Bucket elevators.
(b) Lubrication and other appropriate maintenance in accordance with manufacturers' recommendations or as determined necessary based on previous operating records.
(2) An employer shall promptly correct dust collection systems which are malfunctioning or which are operating below designed efficiency.
Additionally, an employer shall promptly correct, or remove from service, overheated bearings and slipping or misaligned belts associated with inside bucket elevators.
(3) A certification record shall be maintained of each inspection performed in accordance with this rule and shall contain all of the following information:
(a) The date of the inspection.
(b) The name of the person who performed the inspection.
(c) The serial number or other identifier of the equipment specified in subrule (1)(a) of this rule that was inspected.
(4) An employer shall implement procedures for the use of tags and locks which will prevent the inadvertent application of energy or motion to equipment which is being repaired, serviced, or adjusted and which could result in employee injury. Such locks and tags shall be removed in accordance with established procedures only by the employee installing them or, if the installing employee is unavailable, by his or her supervisor.
History: 1988 AACS.

R 408.17713 Grain stream processing equipment.
Rule 7713. An employer shall equip grain stream processing equipment, such as hammer mills, grinders, and pulverizers, with an effective means of removing ferrous material from the incoming grain stream.
History: 1988 AACS.

R 408.17714 Emergency escape.
Rule 7714. (1) An employer shall provide not less than 2 means of emergency escape from galleries (bin decks).
(2) An employer shall provide at least 1 means of emergency escape in tunnels of existing grain elevators. Tunnels in grain elevators constructed after June 8, 1988 shall be provided with not less than 2 means of emergency escape.

History: 1988 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17715 Continuous-flow bulk raw grain dryers.

Rule 7715. (1) All direct-heat grain dryers shall be equipped with automatic controls that do both of the following:

(a) Shut off the fuel supply in case of power or flame failure or interruption of air movement through the exhaust fan.

(b) Stop the grain from being fed into the dryer if excessive temperature occurs in the exhaust of the drying section.

(2) Direct-heat grain dryers installed after June 8, 1988 shall be located in any of the following areas:

(a) Outside the grain elevators.

(b) In an area inside the grain elevator which is protected by a fire or explosion suppression system.

(c) In an area inside the grain elevator which is separated from other areas of the facility by construction having at least a 1-hour-fire-resistance rating.

History: 1988 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17716 Bucket elevators generally.

Rule 7716. (1) Bucket elevators shall not be jogged to free a choked leg.

(2) All belts and lagging purchased after June 8, 1988 shall be conductive. Belts shall have a surface electrical resistance of not more than 300 megohms.

(3) A bucket elevator shall be equipped with a means of access to the head pulley section to allow inspection of the head pulley, lagging belt, and discharge throat of the elevator head. The boot section shall also be provided with a means of access for cleanout of the boot and for inspection of the boot, pulley, and belt.

(4) An employer shall do either of the following:

(a) Mount bearings externally to the leg casing.

(b) Provide vibration monitoring, temperature monitoring, or other means to monitor the condition of those bearings mounted inside or partially inside the leg casing.

(5) An employer shall equip a bucket elevator with a motion detection device that will shut down the bucket elevator when the belt speed is reduced by not more than 20% of the normal operating speed.

(6) An employer shall do either of the following:

(a) Equip a bucket elevator with a belt alignment monitoring device that will initiate an alarm to employees when the belt is not tracking properly.

(b) Provide a means to keep the belt tracking properly, such as a system that provides constant alignment adjustment of belts.

(7) Subrules (5) and (6) of this rule do not apply to grain elevators that have a permanent storage capacity of less than 1,000,000 bushels if daily visual inspection is made of bucket movement and tracking of the belt.

(8) Subrules (4), (5), and (6) of this rule do not apply to either of the following:

(a) A bucket elevator that is equipped with an operational fire and explosion suppression system capable of protecting at least the head and boot section of the bucket elevator.

(b) A bucket elevator that is equipped with pneumatic or other dust control systems or methods that keep the dust concentration inside the bucket elevator at least 25% below the lower explosive limit at all times during operations.

History: 1988 AACS; 1997 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

EMPLOYEE ALARM SYSTEMS

R 408.17717 Scope and application.

Rule 7717. (1) This rule applies to all employee emergency alarms installed to meet a particular occupational safety and health act standard. This rule does not apply to those discharge or supervisory alarms required on various fixed extinguishing systems or to supervisory alarms on fire suppression, alarm, or detection systems, unless they are intended to be employee alarm systems.

(2) The requirements in this rule that pertain to maintenance, testing, and inspection shall apply to all local fire

alarm signaling systems used for alerting employees, regardless of the other functions of the system.

(3) All pre-discharge employee alarms installed to meet a particular Michigan occupational safety and health act (MIOSHA) standard shall meet the requirements of R 408.17717a, R 408.1771b(1) and R 408.17717c(1).

History: 1988 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17717a. General requirements.

Rule 7717a. (1) An employee alarm system shall do both of the following:

(a) Provide warning for necessary emergency action as called for in the emergency action plan.

(b) Provide for reaction time for the safe escape of employees from the workplace or the immediate work area.

(2) An employee alarm shall be capable of being perceived above ambient noise or light levels by all employees in the affected portions of the workplace. Tactile devices may be used to alert those employees who would not otherwise be able to recognize the audible or visual alarm.

(3) An employee alarm shall be distinctive and recognizable as a signal to evacuate the work area or to perform actions designated under the emergency action plan.

(4) An employer shall explain to each employee the preferred means of reporting emergencies, such as manual pull box alarms, public address systems, radios, or telephones. The employer shall post emergency telephone numbers near telephones or employee notice boards and at other conspicuous locations when telephones serve as a means of reporting emergencies. Where a communication system also serves as the employee alarm system, all emergency messages shall have priority over all nonemergency messages.

(5) An employer shall establish procedures for sounding emergency alarms in the workplace. For those employers with 10 or fewer employees in a particular workplace, direct voice communication is an acceptable procedure for sounding the alarm if all employees can hear the alarm. Such workplaces need not have a backup system.

History: 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17717b. Installation and restoration.

Rule 7717b. (1) An employer shall assure that all devices, components, combinations of devices, or systems constructed and installed to comply with these rules are approved. Steam whistles, air horns, strobe lights, or similar lighting devices or tactile devices meeting the requirements of this rule are considered to meet the requirement for approval.

(2) An employer shall assure that all employee alarm systems are restored to normal operating condition as promptly as possible after each test or alarm. Spare alarm devices and components subject to wear or destruction shall be available in sufficient quantities and locations for prompt restoration of the system.

History: 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17717c. Maintenance and testing.

Rule 7717c. (1) An employer shall assure that all employee alarm systems are maintained in operating condition, except when undergoing repairs or maintenance.

(2) An employer shall assure that a test of the reliability and adequacy of nonsupervised employee alarm systems is made every 2 months. A different actuation device shall be used in each test of a multi-actuation device system so that an individual device is not used for 2 consecutive tests.

(3) An employer shall maintain or replace power supplies as often as is necessary to assure a fully operational condition. Backup means of alarm, such as employee runners or telephones, shall be provided when systems are out of service.

(4) An employer shall assure that employee alarm circuitry, which is installed after January 1, 1981 and capable of being supervised, is supervised, and that it will provide positive notification to assigned personnel when a deficiency exists in the system. An employer shall assure that all supervised employee alarm systems are tested at least annually for reliability and adequacy.

(5) An employer shall assure that the servicing, maintenance, and testing of employee alarms are done by persons trained in the designed operation and functions necessary for reliable and safe operation of the system.

History: 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17717d Manual operation.

Rule 7717d. An employer shall assure that manually operated actuation devices for use in conjunction with employee alarms are unobstructed, conspicuous, and readily accessible.
History: 2014 MR 15, Eff. Aug. 22, 2014.

R 408.17719 Entry into flat storage structures.
Rule 7719. (1) For the purposes of this rule, the term "grain" means raw and processed grain products in facilities within the scope of R 408.17703.
(2) An employee who walks or stands on or in stored grain that is deep enough to pose an engulfment hazard shall be equipped with a lifeline or alternative means that the employer demonstrates will prevent the employee from sinking more than waist deep into the grain. If an employee is standing or walking on a surface that the employer has demonstrated does not pose an engulfment hazard, then the lifeline or alternative means may be disconnected or removed.
(3) If an employee walks or stands on or in stored grain or grain products deep enough to pose an engulfment hazard, then all equipment that presents a danger to the employee, such as an auger or other grain transport equipment, shall be de-energized and shall be disconnected, locked-out and tagged, blocked-off, or otherwise prevented from operating by other equally effective means or methods.
(4) An employee shall not walk down grain or perform similar practices where an employee walks on grain to make it flow within or out from a grain storage structure. An employee shall not be on moving grain.
(5) An employee shall not be permitted to be either underneath a bridging condition or in any other location where an accumulation of grain on the sides or elsewhere could fall and engulf the employee.
History: 1997 AACS; 2014 MR 15, Eff. Aug. 22, 2014.

PART 78. ANHYDROUS AMMONIA

R 408.17801
Source: 1998-2000 AACS.

PART 79. DIVING OPERATIONS

R 408.17901
Source: 2013 AACS.

R 408.17903
Source: 2013 AACS.

R 408.17904
Source: 2013 AACS.

R 408.17905
Source: 2013 AACS.

R 408.17906
Source: 2013 AACS.

R 408.17907
Source: 2013 AACS.

R 408.17909
Source: 2013 AACS.

R 408.17911
Source: 2013 AACS.

R 408.17912
Source: 2013 AACS.

R 408.17913
Source: 2013 AACS.

R 408.17914
Source: 2013 AACS.

R 408.17921
Source: 2013 AACS.

R 408.17922
Source: 2013 AACS.

R 408.17923
Source: 2013 AACS.

R 408.17924
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R 408.17925
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R 408.17926
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R 408.17927
Source: 2013 AACS.

R 408.17931
Source: 2013 AACS.

R 408.17932
Source: 2013 AACS.

R 408.17933
Source: 2013 AACS.

R 408.17934
Source: 2013 AACS.

R 408.17941
Source: 2013 AACS.

R 408.17942
Source: 2013 AACS.

R 408.17945
Source: 2013 AACS.

R 408.17946
Source: 2013 AACS.

R 408.17951
Source: 2013 AACS.

R 408.17952
Source: 2013 AACS.

R 408.17953
Source: 2013 AACS.

R 408.17954
Source: 2013 AACS.

R 408.17955
Source: 2013 AACS.

R 408.17956
Source: 2013 AACS.

R 408.17957
Source: 2013 AACS.

R 408.17958
Source: 2013 AACS.

R 408.17961
Source: 2013 AACS.

R 408.17962
Source: 2013 AACS.

PART 81. BAKING OPERATIONS

R 408.18101 Scope.
Rule 8101. (1) This part provides for the safe maintenance and operation of bakery machinery and equipment by the employer and their safe use by the employee in, around, and about a place of employment.
(2) The requirements of this part apply to the design, installation, operation, and maintenance of machinery and equipment used within a bakery.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18101a Adopted and referenced standards.
Rule 8101a. (1) This standard is adopted by reference in these rules, American Society of Mechanical Engineers Standard ASME "Boiler and Pressure Vessel Code, Section VIII – Unfired Pressure Vessels" 1974 edition, Division 1 and Division 2 with addenda. This standard is available from IHS Global, 15 Inverness Way East, Englewood, Colorado, USA, 80112, USA, telephone number: 1-800-854-7179 or via the internet at website: http://global.ihs.com; at a cost as of the time of adoption of these rules of $514.00.
(2) The following standards are adopted by reference in these rules and are available from the National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, Massachusetts, USA, 02169-7471, telephone number: 1-800-344-3555, or via the internet at website: custserv@nfpa.org. At a cost as of the time of adoption of these rules, as stated in this rule.
(a) NFPA 62 "Code for Pulverizing Systems for Sugar and Cocoa," 1967 edition. Cost: $27.00.
(b) NFPA 656 "Code for the Prevention of Dust Ignitions in Spice Grinding Plants," 1959 edition. Cost: $27.00.
(3) The standards adopted in these rules are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.

(4) Copies of the standards adopted in these rules may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
(5) The following Michigan occupational safety and health administrative standards are referenced in this standard. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, or via the internet at: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
(a) General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241.
(b) General Industry Safety Standard Part 3 "Fixed Ladders," R 408.10301 to R 408.10372.
(c) General Industry Safety Standard Part 8 "Portable Fire Extinguishers," R 408.10801 to R 408.10839.
(d) General Industry Safety Standard Part 9 "Fixed Fire Equipment," R 408.10901 to R 408.10999.
(e) General Industry Safety Standard Part 14 "Conveyors," R 408.11401 to R 408.11461.
(f) General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," R 408.13901 to R 408.13902.
History: 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18102
Source: 1979 AC.

R 408.18103
Source: 1979 AC.

R 408.18104
Source: 1979 AC.

R 408.18105
Source: 1979 AC.

R 408.18106
Source: 1979 AC.

R 408.18107
Source: 1979 AC.

R 408.18108
Source: 1979 AC.

R 408.18109
Source: 1979 AC.

R 408.18111
Source: 1982 AACS.

R 408.18112
Source: 1979 AC.

R 408.18113
Source: 1979 AC.

R 408.18114 Floors, aisles, and platforms.
Rule 8114. (1) An aisle for combined usage of an employee and stock moving equipment shall be 2 feet wider than the widest load moved. In a place of employment having less than 10 employees producing hand crafted products in the production area, the aisle shall be not less than 30 inches wide. The aisle shall be defined.

(2) A platform, walkway, and stairway, where provided, on storage bins and machinery shall be constructed as prescribed in General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights." A fixed ladder used in place of a stairway shall be as prescribed in the General Industry Safety Standard Part 3 "Fixed Ladders," as referenced in R 408.18101a.
History: 1979 AC; 1982 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18115 Power controls and motors.
Rule 8115. (1) Provision shall be made to prevent permanently connected machinery and equipment, other than compressors and air moving equipment used for air conditioning and refrigeration, and fire protection and pumps, from automatically restarting upon restoration of power after a power interruption if unexpected start up could cause injury.
(2) A control device, except a stop button, shall be so arranged or guarded as to prevent accidental activation where activation could cause injury.
(3) Where a hazard exists, a machine shall be equipped with an emergency stop device, red in color, that can be activated from an operator's work station.
(4) When a 2-hand control device is required, it shall require the concurrent use of both hands to activate the machine or equipment. The device shall be located in a manner to prevent bridging. Where more than 1 employee is exposed to the point of operation, a 2-hand control device shall be provided each employee and the controls shall operate concurrently.
(5) An electric motor, control, and other electrical components used on dry ingredient handling and storage equipment shall be dust ignition tight.
History: 1979 AC; 1982 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18116 Machine installation.
Rule 8116. (1) Electrically powered machinery and equipment shall be grounded.
(2) Stationary type machinery and equipment shall be secured to a floor, foundation, bench, table, or stand of such strength and design to prevent overturning or unintentional movement.
(3) Permanent machinery and equipment shall not be placed so as to require an operator to stand in an aisle. Temporary equipment shall not be placed so as to require an operator to stand in an aisle, unless the employee is protected with a barrier as prescribed in General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.18101a.
(4) Machinery or equipment having an access door for body entry shall be equipped with a means of opening the door inside and out.
History: 1979 AC; 1982 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18117
Source: 1982 AACS.

R 408.18118
Source: 1979 AC.

R 408.18119
Source: 1979 AC.

R 408.18121
Source: 1982 AACS.

R 408.18122 Bag-arm conveyors.
Rule 8122. A bag-arm conveyor used for transporting bags of flour or sugar with manual takeoff shall be equipped with a device installed so as to stop the conveyor automatically if any bag fails to clear the bar-arms at the discharge end. The conveyor shall be equipped with a rollback device as prescribed in General Industry Safety Standard Part 14 "Conveyors," as referenced in R 408.18101a.
History: 1979 AC; 1982 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18123

Source: 1982 AACS.

R 408.18124
Source: 1982 AACS.

R 408.18125 Sifters.
Rule 8125. (1) A sifter shall have both of the following:
(a) All openings constructed with dust tight closures that are readily accessible for inspection purposes.
(b) Refuse tailing receptacles for all types of sifters readily accessible and located at a safe distance from unguarded moving parts.
(2) Oscillating and vibrating sifters shall have all moving parts within the outer frame of the sifter or the machine located within a standard barrier as prescribed in General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways and Skylights," as referenced in R 408.18101a.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18126
Source: 1982 AACS.

R 408.18127
Source: 1982 AACS.

R 408.18128
Source: 1979 AC.

R 408.18129
Source: 1979 AC.

R 408.18130 Vertical batch mixers.
Rule 8130. (1) A bowl locking device on a vertical batch mixer, including an artoflex mixer, shall be designed to require a positive action of the operator to unlock the bowl.
(2) If an employee can reach into a vertical mixing bowl, a warning sign shall be installed to caution the employee.
(3) A mixer with a built-in power unit shall have all drive elements enclosed in such a manner as to prevent injury to an operator or a maintenance employee performing his or her normal duties.
(4) A mixer shall be equipped with an individual motor and control, and with a conveniently located manual switch, to prevent the mixer from being started in the usual manner while the machine is being serviced and cleaned.
(5) A loose access door and cover weighing more than 2 pounds shall not be used on a mixer. The door or cover shall be hinged or otherwise held in proximity to the openings that they cover.
(6) An overhead cover or door that is subject to accidental closure shall be counterbalanced to remain in an open position, or shall be provided with a means to hold it open until positively released by the operator.
(7) An electrical pilot or control circuit shall not be employed at a potential in excess of 240 volts.
(8) A device shall be made available for moving a bowl, weighing more than 80 pounds with contents, into and out of the mixing position of the machine.
History: 1979 AC; 1982 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18131
Source: 1979 AC.

R 408.18132
Source: 1979 AC.

R 408.18133
Source: 1979 AC.

R 408.18134
Source: 1982 AACS.

R 408.18135
Source: 1979 AC.

R 408.18136
Source: 1979 AC.

R 408.18138
Source: 1979 AC.

R 408.18139
Source: 1979 AC.

R 408.18141
Source: 1979 AC.

R 408.18142
Source: 1982 AACS.

R 408.18143
Source: 1982 AACS.

R 408.18144
Source: 1982 AACS.

R 408.18145
Source: 1982 AACS.

R 408.18146
Source: 1982 AACS.

R 408.18147 Steam kettles.
Rule 8147. (1) A steam kettle shall have a positive locking device capable of holding the kettle at any desired position.
(2) A kettle with a steam jacket shall be provided with safety valves as prescribed in the ASME Pressure Vessel Code, Section VIII, Unfired Pressure Vessels, 1974 edition, as adopted in R 408.18101a.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18148
Source: 1979 AC.

R 408.18149 Doughnut machines.
Rule 8149. Separate flues shall be provided for doughnut machines as follows:
(a) For venting vapors from the frying section.
(b) For venting products of combustion from the combustion chamber used to heat the fat.
History: 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18151
Source: 1979 AC.

R 408.18152
Source: 1979 AC.

R 408.18153
Source: 1982 AACS.

R 408.18154

Source: 1979 AC.

R 408.18155
Source: 1979 AC.

R 408.18156 Frying machines and vats; ~~,~~ installation.
Rule 8156. (1) A frying machine or vat shall be installed on a noncombustible floor, or a metal pan flanged on 4 sides shall be installed underneath the entire machine. The capacity of the pan shall be not less than the frying tank.
(2) A frying machine or vat shall have not less than 30 inches of work space on all exposed sides, except where other equipment is connected to the machine.
(3) A frying machine or vat shall be protected by a fixed fire extinguishing system as prescribed in General Industry Safety Standard Part 9 "Fixed Fire Equipment," or portable fire extinguishers as prescribed in General Industry Safety Standard Part 8 "Portable Fire Extinguishers," as referenced in R 408.18101a.
(4) Where a non-pressure type of indirect heat is used with a frying machine or vat, the welded seams of the plate coils on the frying kettle shall not make contact with the welded seams of the kettle proper.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18157
Source: 1979 AC.

R 408.18158
Source: 1982 AACS.

R 408.18159
Source: 1979 AC.

R 408.18159a Sugar and spice pulverizers.
Rule 8159a. (1) All drive belts used in connection with sugar and spice pulverizers shall be grounded by means of metal combs or other effective means of removing static electricity.
(2) All pulverizing of sugar or spice grinding shall comply with the requirements of NFPA 62 "Code for Pulverizing Systems for Sugar and Cocoa," 1967 edition and NFPA 656 "Code for the Prevention of Dust Ignitions in Spice Grinding Plants," 1959 edition, as adopted in R 408.18101a.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18160
Source: 1979 AC.

R 408.18161
Source: 1979 AC.

R 408.18171 Wrapping machines.
Rule 8171. (1) An electric sealing heater on a wrapping machine shall have the exposed heated surfaces guarded to prevent burns from accidental contact.
(2) Where more than 1 operator is feeding a wrapping machine, each operator shall have an emergency stop button as prescribed in R 408.18115(4), but there shall be only 1 start button station.
(3) A pouch-wrapping machine shall be equipped with a trip gate or interlocked enclosure ahead of or over the sealing jaws and wrapper guide.
(4) Electric wiring for the wrapper heaters shall be arranged so that a minimum number of wires are used to connect the movable heaters assembly to the permanent wiring of the machine.
This wiring shall be the heat resisting type as prescribed in General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 408.18101a.
History: 1979 AC; 1982 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18172
Source: 1979 AC.

R 408.18173
Source: 1979 AC.

R 408.18174
Source: 1979 AC.

R 408.18175
Source: 1979 AC.

R 408.18176
Source: 1979 AC.

R 408.18177
Source: 1979 AC.

R 408.18181 Ovens.
Rule 8181. (1) With the exception of a range or cabinet type oven without moving parts installed before November 16, 1974, a combustible fueled oven shall be provided devices to protect against all of the following hazards:
(a) Ignition failure.
(b) Abnormal fuel pressure.
(c) Combustion air failure.
(d) Electrical power failure.
(e) Exhaust system failure.
(f) Excessive temperature.
(2) Preventilation purge shall be arranged in the safety control circuit and set so as to require operation of the exhaust and recirculating fans to provide not less than 4 complete oven heating chamber air changes with fresh air before the burner ignition system may be operated and fuel turned on.
(3) If a combustible fuel is used that is heavier than air, a bottom exhaust system shall be provided and used during the purge cycle.
(4) A direct-fired oven installed after November 16, 1974, shall be equipped with relief vents for freely relieving internal explosion pressures. The vents shall be proportioned in the ratio of their area to the area of explosion containing volume of the oven which shall be not less than 1 square foot of relief area to 30 cubic feet of oven volume.
(5) All safety controls shall be inspected not less than monthly as prescribed in Table 1 “Safety Control Inspection Guide for Washers and Ovens” of R 408.18142(5).
History: 1979 AC; 1982 AACS; 2014 MR 20, Eff. Nov. 4, 2014.

R 408.18182 Range and cabinet type ovens.
Rule 8182. (1) A range or cabinet type oven without moving parts installed before November 16, 1974 shall be equipped with fuel failure safety device for the pilot and burner.
(2) A range or cabinet type oven without moving parts installed after November 16, 1974 shall be as prescribed in R 408.18181.
History: 1979 AC; 2014 MR 20, Eff. Nov. 4, 2014.

PART 85. THE CONTROL OF HAZARDOUS ENERGY SOURCES

R 408.18501
Source: 1993 AACS.

R 408.18502
Source: 1993 AACS.

R 408.18599
Source: 1993 AACS.

PART 86. ELECTRIC POWER GENERATION, TRANSMISSION, AND DISTRIBUTION

R 408.18601
Source: 1995 AACS.

R 408.18602
Source: 1997 AACS.

PART 90. CONFINED SPACE ENTRY

R 408.19001
Source: 1993 AACS.

R 408.19002
Source: 2011 AACS.

PART 91. PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS

R 408.19101
Source: 2013 AACS.

R 408.19102
Source: 2013 AACS.

R 408.19103
Source: 2013 AACS.

PART 92. HAZARD COMMUNICATION

R 408.19201 Scope and application.
Rule 9201. (1) These rules establish requirements to ensure that the hazards of all chemicals produced or imported by chemical manufacturers or importers are evaluated and that information concerning the hazards is transmitted to affected employers and communicated to employees. These rules establish requirements to ensure that markings, placards, and labels required on hazardous materials and explosives, both in transportation and at stationary facilities, are retained until the materials have been removed to the extent that the materials do not pose a hazard.
(2) The regulations adopted by R 408.19202 shall apply to all chemical manufacturers, chemical importers, and employers pursuant to the provisions of 29 C.F.R. §1910.1200.
(3) The regulations adopted by R 408.19203 shall apply to workplaces pursuant to the provisions of 29 C.F.R. §1910.1201 and 29 C.F.R. §1928.21.
(4) Section 14a(1) of 1974 PA 154, MCL 408.1014a(1) adopted the original federal standard by reference. In addition, sections 14b to 14l of 1974 PA 154, MCL 408.1014b to 408.1014l set forth additional requirements for Michigan employers. The regulations adopted by R 408.19202 will have the force and effect of law, but only to the extent they are consistent with section 14a(1) of 1974 PA 154, MCL 408.1014a(1). If there is any inconsistency, section 14a(1) of 1974 PA 154, MCL 408.1014a(1), will control.
History: 1995 AACS; 2014 MR 2, Eff. Feb. 5, 2014.

R 408.19202 Hazard communication; adoption by reference.
Rule 9202. (1) The federal occupational safety and health administration (OSHA) regulations on hazard communication that have been promulgated by the United States department of labor and codified at 29 C.F.R. §1910.1200, "Hazard Communication" February 8, 2013, is adopted by reference in these rules.
(2) The adopted federal regulations shall have the same force and effect as a rule promulgated under 1974 PA 154, MCL 408.1001 to 408.1094.
History: 1995 AACS; 2012 AACS; 2014 MR 2, Eff. Feb. 5, 2014.

R 408.19203 Retention of department of transportation markings, placards, and labels; adoption by reference.
Rule 9203. (1) The following federal occupational safety and health administration (OSHA) regulations from the Code of Federal Regulations are adopted by reference in these rules:
(a) 29 C.F.R. §1910.1201 "Retention of DOT markings, placards and labels" July 19, 1994.
(b) 29 C.F.R. §1928.21 "Applicability of Standards in 29 CFR Part 1910" March 7, 1996.
(2) The adopted federal regulations shall have the same force and effect as a rule promulgated under 1974 PA 154, MCL 408.1001 to 408.1094.
History: 1995 AACS; 2012 AACS; 2014 MR 2, Eff. Feb. 5, 2014.

R 408.19204 Availability of adopted rules.
Rule 9204. (1) The standards adopted in these rules are available from the United States Department of Labor, Occupational Safety and Health Administration website: www.osha.gov, at no charge, as of the time of adoption of these rules.
(2) The standards adopted in these rules are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.
(3) The standards adopted in these rules may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
History: 2014 MR 2, Eff. Feb. 5, 2014.

PART 93. AIR RECEIVERS

R 408.19301
Source: 1998-2000 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF SAFETY AND REGULATION

GENERAL INDUSTRY SAFETY STANDARDS COMMISSION

PART 94. TEXTILES

R 408.19401 Scope.
Rule 9401. These rules apply to the design, installation, processes, operation and maintenance of textile machinery, equipment, and other plant facilities in all plants engaged in the manufacture and processing of textiles, except those processes used exclusively in the manufacture of synthetic fibers.
History: 2014 MR 15, Eff. Aug. 12, 2014.

R 408.19403 Adoption by reference of federal standards.
Rule 9403. (1) The federal occupational safety and health administration's (OSHA) regulations on Textiles promulgated by the United States department of labor codified 29 C.F.R. §1910.262, "Textiles," as amended June 18, 1998 is adopted by reference in these rules.
(2) As of the effective date of these rules, §1910.23, Guarding floor and wall openings and holes, means General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights."
(3) As of the effective date of these rules, §1910.132, "Personal protective equipment," and §1910.133, "Eye and

face protection," means General Industry Safety Standard Part 33 "Personal Protective Equipment."
(4) As of the effective date of these rules, §1910.134, "Respiratory Protection," means Occupational Health Standard Part 451 "Respiratory Protection."
(5) As of the effective date of these rules, §1910.264, "Laundry machinery and operations," means General Industry Safety Standard Part 71 "Laundry and Dry Cleaning Machinery and Operations."
History: 2014 MR 15, Eff. Aug. 12, 2014.

R 408.19405 Adopted and referenced standards.
Rule 9405. (1) The OSHA regulation adopted by reference in these rules is available from the United States Department of Labor, Occupational Safety and Health Administration, 315 West Allegan, Room 315, Lansing, Michigan, 48917, or via the internet at website www.osha.gov, at no charge as of the time of adoption of these rules.
(2) The following standards are adopted by reference in these rules and are available from IHS Global, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at website: http://global.ihs.com; at a cost as of the time of adoption of these rules, as stated in this subrule.
(a) ANSI Standard Z9.2 "Fundamentals Governing The Design and Operation of Local Exhaust Ventilation Systems," 1960 edition. Cost $32.00.
(b) American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section VIII, "Unfired Pressure Vessels," 1968 edition. Cost: $514.00.
(3) The standards adopted in subrules (1) and (2) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.
(4) Copies of the standards adopted in subrules (1) and (2) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
(5) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA standards section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
(a) General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241.
(b) General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.
(c) General Industry Safety Standard Part 71 "Laundry and Dry Cleaning Machinery and Operations," R 408.17101 to R 408.17163.
(d) Occupational Health Standard Part 451 "Respiratory Protection," R 325.60051 to R 325.60052.
History: 2014 MR 15, Eff. Aug. 12, 2014.

Rule 3403 Rescinded.
History: 2014 MR 15, Eff. Aug. 12, 2014.

Rule 3504 Rescinded.
History: 2014 MR 15, Eff. Aug. 12, 2014.

Rule 5002 Rescinded.
History: 2014 MR 15, Eff. Aug. 12, 2014.

COMPLIANCE AND APPEALS

R 408.19901
Source: 1998-2000 AACS.

R 408.19902
Source: 1998-2000 AACS.

R 408.19903
Source: 1998-2000 AACS.

R 408.19904
Source: 1998-2000 AACS.

R 408.19905
Source: 1998-2000 AACS.

R 408.19906
Source: 1998-2000 AACS.

R 408.19907
Source: 1998-2000 AACS.

R 408.19908
Source: 1998-2000 AACS.

R 408.19909
Source: 1998-2000 AACS.

R 408.19910
Source: 1998-2000 AACS.

DEPARTMENT ORGANIZATION AND GENERAL FUNCTIONS

PART 1. DIRECTOR'S OFFICE

R 408.20001
Source: 1997 AACS.

R 408.20002
Source: 1997 AACS.

R 408.20003
Source: 1997 AACS.

R 408.20004
Source: 1997 AACS.

R 408.20005
Source: 1997 AACS.

R 408.20006
Source: 1997 AACS.

PART 2. BUREAU OF ADMINISTRATIVE SERVICES

R 408.20011
Source: 1997 AACS.

R 408.20012
Source: 1997 AACS.

R 408.20013
Source: 1997 AACS.

R 408.20014
Source: 1997 AACS.

R 408.20015
Source: 1997 AACS.

PART 3. BUREAU OF SAFETY AND REGULATION

R 408.20021—R 408.20031
Source: 1997 AACS.

PART 4. EMPLOYMENT RELATIONS COMMISSION

R 408.20041
Source: 1997 AACS.

R 408.20042
Source: 1997 AACS.

R 408.20043
Source: 1997 AACS.

PART 5. WORKMEN'S COMPENSATION AGENCIES

BUREAU OF WORKMEN'S COMPENSATION

R 408.20051
Source: 1997 AACS.

R 408.20052
Source: 1997 AACS.

R 408.20053
Source: 1997 AACS.

R 408.20054
Source: 1997 AACS.

R 408.20055
Source: 1997 AACS.

R 408.20056
Source: 1997 AACS.

R 408.20057
Source: 1997 AACS.

PART 6. EMPLOYMENT SECURITY AGENCIES

R 408.20061
Source: 1997 AACS.

R 408.20062

Source: 1997 AACS.

R 408.20063
Source: 1997 AACS.

R 408.20064
Source: 1997 AACS.

R 408.20065
Source: 1997 AACS.

PART 7. OTHER BOARDS AND COMMISSIONS

R 408.20071
Source: 1997 AACS.

R 408.20072
Source: 1997 AACS.

R 408.20073
Source: 1997 AACS.

R 408.20074
Source: 1997 AACS.

R 408.20075
Source: 1997 AACS.

R 408.20076
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R 408.20077
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R 408.20078
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R 408.20079
Source: 1997 AACS.

R 408.20080
Source: 1997 AACS.

R 408.20081
Source: 1997 AACS.

R 408.20082
Source: 1997 AACS.

R 408.20083
Source: 1997 AACS.

R 408.20084
Source: 1997 AACS.

R 408.20085

Source: 1997 AACS.

R 408.20086
Source: 1997 AACS.

OCCUPATIONAL SAFETY AND HEALTH
PART 4. PROCEDURES

R 408.21401
Source: 1979 AC.

R 408.21403
Source: 1979 AC.

R 408.21405
Source: 1979 AC.

R 408.21411
Source: 1979 AC.

R 408.21412
Source: 1979 AC.

R 408.21413
Source: 1979 AC.

R 408.21414
Source: 1979 AC.

R 408.21415
Source: 1979 AC.

R 408.21416
Source: 1979 AC.

R 408.21417
Source: 1979 AC.

R 408.21418
Source: 1979 AC.

R 408.21421
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R 408.21422
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R 408.21433
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R 408.21434
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R 408.21441
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R 408.21443
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R 408.21444
Source: 1979 AC.

R 408.21445
Source: 1979 AC.

R 408.21446
Source: 1979 AC.

R 408.21447
Source: 1979 AC.

OCCUPATIONAL SAFETY AND HEALTH

PART 11. RECORDING AND REPORTING OF OCCUPATIONAL INJURIES AND ILLNESSES

R 408.22101
Source: 2001 AACS.

R 408.22102
Source: 2001 AACS.

R 408.22103
Source: 2002 AACS.

R 408.22104
Source: 1998-2000 AACS.

R 408.22105
Source: 2001 AACS.

R 408.22106
Source: 2001 AACS.

R 408.22107
Source: 2002 AACS.

R 408.22108
Source: 2001 AACS.

R 408.22109
Source: 2001 AACS.

R 408.22110
Source: 2001 AACS.

R 408.22111
Source: 2001 AACS.

R 408.22112
Source: 2002 AACS.

R 408.22113
Source: 2001 AACS.

R 408.22114
Source: 2001 AACS.

R 408.22115
Source: 2002 AACS.

R 408.22116
Source: 2001 AACS.

R 408.22117
Source: 2001 AACS.

R 408.22118
Source: 1979 AC.

R 408.22119
Source: 2001 AACS.

R 408.22120
Source: 2001 AACS.

R 408.22121
Source: 2001 AACS.

R 408.22122
Source: 2001 AACS.

R 408.22129
Source: 2001 AACS.

R 408.22130
Source: 2001 AACS.

R 408.22131
Source: 2001 AACS.

R 408.22132
Source: 2001 AACS.

R 408.22133
Source: 2001 AACS.

R 408.22134
Source: 2001 AACS.

R 408.22135
Source: 2002 AACS.

R 408.22136
Source: 2001 AACS.

R 408.22137
Source: 1979 AC.

R 408.22138
Source: 2001 AACS.

R 408.22139
Source: 2001 AACS.

R 408.22140
Source: 2001 AACS.

R 408.22141
Source: 2002 AACS.

R 408.22142
Source: 2001 AACS.

R 408.22143
Source: 2001 AACS.

R 408.22144
Source: 2001 AACS.

R 408.22151
Source: 2001 AACS.

R 408.22152
Source: 2001 AACS.

R 408.22153
Source: 2001 AACS.

R 408.22154
Source: 2001 AACS.

R 408.22155
Source: 2001 AACS.

R 408.22156
Source: 2001 AACS.

R 408.22157
Source: 2001 AACS.

R 408.22158
Source: 2001 AACS.

R 408.22161
Source: 2001 AACS.

R 408.22162
Source: 2001 AACS.

DEPARTMENT OF CONSUMER & INDUSTRY SERVICES

MIOSHA SAFETY AND HEALTH STANDARDS

PART 12. VARIANCES

R 408.22201
Source: 1979 AC.

R 408.22203
Source: 1998-2000 AACS.

R 408.22204
Source: 1979 AC.

R 408.22212
Source: 1979 AC.

R 408.22213
Source: 1998-2000 AACS.

R 408.22214
Source: 1979 AC.

R 408.22215
Source: 1979 AC.

R 408.22221
Source: 1998-2000 AACS.

R 408.22222
Source: 1979 AC.

R 408.22223
Source: 1979 AC.

R 408.22224
Source: 1998-2000 AACS.

R 408.22225
Source: 1979 AC.

R 408.22226
Source: 1979 AC.

R 408.22227
Source: 1998-2000 AACS.

R 408.22231
Source: 1979 AC.

R 408.22232
Source: 1979 AC.

R 408.22233
Source: 1979 AC.

R 408.22234
Source: 1998-2000 AACS.

R 408.22235
Source: 1979 AC.

R 408.22236
Source: 1979 AC.

R 408.22237
Source: 1979 AC.

R 408.22238
Source: 1979 AC.

R 408.22239
Source: 1979 AC.

R 408.22240
Source: 1998-2000 AACS.

R 408.22251
Source: 1979 AC.

PART 13. INSPECTIONS AND INVESTIGATIONS, CITATIONS, AND PROPOSED PENALTIES

R 408.22301
Source: 1979 AC.

R 408.22303
Source: 1979 AC.

R 408.22305
Source: 1979 AC.

R 408.22307
Source: 1979 AC.

R 408.22309
Source: 1979 AC.

R 408.22311
Source: 1979 AC.

R 408.22321
Source: 1979 AC.

R 408.22322
Source: 1979 AC.

R 408.22323
Source: 1979 AC.

R 408.22324
Source: 1979 AC.

R 408.22325
Source: 1979 AC.

R 408.22326
Source: 1979 AC.

R 408.22331
Source: 1979 AC.

R 408.22333
Source: 1979 AC.

R 408.22338
Source: 1979 AC.

R 408.223239
Source: 1979 AC.

R 408.22342
Source: 1979 AC.

R 408.22344
Source: 1979 AC.

R 408.22346
Source: 1979 AC.

R 408.22348
Source: 1979 AC.

R 408.22349
Source: 1979 AC.

R 408.22351
Source: 1979 AC.

R 408.22352
Source: 1979 AC.

R 408.22353
Source: 1979 AC.

R 408.22354
Source: 1979 AC.

R 408.22355
Source: 1979 AC.

R 408.22356
Source: 1979 AC.

R 408.22358
Source: 1979 AC.
R 408.22361
Source: 1979 AC.

HEARINGS OFFICE

POLITICAL ACTIVITY HEARINGS

R 408.22901
Source: 1981 AACS.

R 408.22902
Source: 1981 AACS.

WAGE AND FRINGE BENEFIT HEARINGS

R 408.22951
Source: 1982 AACS.

R 408.22952
Source: 1982 AACS.

R 408.22953
Source: 1982 AACS.

R 408.22954
Source: 1982 AACS.

R 408.22955
Source: 1982 AACS.

R 408.22956
Source: 1982 AACS.

R 408.22957
Source: 1982 AACS.

R 408.22958
Source: 1982 AACS.

R 408.22959
Source: 1982 AACS.

R 408.22960
Source: 1982 AACS.

R 408.22961
Source: 1982 AACS.

R 408.22962
Source: 1982 AACS.

R 408.22963
Source: 1982 AACS.

R 408.22964
Source: 1982 AACS.

R 408.22965
Source: 1982 AACS.

R 408.22966
Source: 1982 AACS.

R 408.22967
Source: 1982 AACS.

R 408.22968
Source: 1982 AACS.

R 408.22969
Source: 1982 AACS.

R 408.22970
Source: 1982 AACS.

R 408.22971
Source: 1982 AACS.

BUILDING OFFICIALS, PLAN REVIEWERS, AND INSPECTORS

R 408.30001
Source: 2013 AACS.

R 408.30002
Source: 2013 AACS.

R 408.30004
Source: 1991 AACS.

R 408.30007
Source: 2013 AACS.

R 408.30010
Source: 1991 AACS.

R 408.30013
Source: 2013 AACS.

R 408.30016
Source: 2013 AACS.

R 408.30019
Source: 2013 AACS.

R 408.30022
Source: 2013 AACS.

R 408.30025
Source: 2013 AACS.

R 408.30028
Source: 2013 AACS.

R 408.30031
Source: 2013 AACS.

R 408.30034
Source: 2013 AACS.

R 408.30037
Source: 2013 AACS.

R 408.30040
Source: 2013 AACS.

R 408.30043
Source: 2013 AACS.

R 408.30046
Source: 2013 AACS.

R 408.30049
Source: 2013 AACS.

R 408.30052
Source: 2013 AACS.

R 408.30055
Source: 2013 AACS.

CONSTRUCTION CODE

PART 1. ADMINISTRATION AND ENFORCEMENT

R 408.30101
Source: 1979 AC.

R 408.30111
Source: 1981 AACS.

R 408.30113
Source: 1979 AC.

R 408.30114
Source: 1981 AACS.

R 408.30115
Source: 1979 AC.

R 408.30121
Source: 1979 AC.

PART 2. PERMITS, INSPECTIONS, AND FEES

R 408.30201
Source: 1979 AC.

R 408.30221
Source: 1979 AC.

PART 3. APPEAL BOARDS AND HEARINGS

R 408.30301
Source: 1979 AC.

R 408.30311
Source: 1979 AC.

R 408.30315
Source: 1979 AC.

R 408.30316
Source: 1987 AACS.

PART 4. BUILDING CODE

R 408.30401 Applicable code.
Rule 401. The provisions of the international building code, 2012 edition, including appendices F, G, and H, except for sections 104.8, 109.2 to 109.6, 114.3, 415.8.2.2 to 415.8.2.9, 415.8.3 table 1608.2, 2902 to 2902.5, Table 2902.1, 3006.5, the definition of “agricultural building” in section 202, the definition of "recreational vehicle" in Appendix G, and, IECC-2012, IEBC-2012, IMC-2012, IPC-2012, IPSDC-2012, NFPA 70-2011, listed in chapter 35, govern the construction, alteration, relocation, demolition, use, and occupancy of buildings and structures, and, with exceptions noted, the international building code is adopted by reference in these rules. All references to the International Building Code, International Residential Code,

International Energy Conservation Code, National Electrical Code, International Existing Building Code, International Mechanical Code, and International Plumbing Code mean the Michigan Building Code, Michigan Residential Code, Michigan Uniform Energy Code, Michigan Electrical Code, Michigan Rehabilitation Code for Existing Buildings, Michigan Mechanical Code, and Michigan Plumbing Code respectively. The code is available for inspection at the Okemos office of the Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes. The code may be purchased from the International Code Council, 500 New Jersey Avenue, N.W., 6th Floor, Washington, D.C. 20001, or from the Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes, 2501 Woodlake Circle, Okemos, Michigan 48864, at a cost as of the time of adoption of these amendatory rules of $120.00.

History: 1979 AC; 1981 AACS; 1985 AACS; 1988 AACS; 1992 AACS; 1995 AACS; 1998 AACS; 2001 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30401a
Source: 2008 AACS.

R 408.30402
Source: 2001 AACS.

R 408.30403 Residential group R-3.
Rule 403. Sections 310.5 and 310.5.1 are amended and 903.2.8.3 is added to the code to read as follows:
310.5. Residential group R-3. Residential occupancies where the occupants are primarily permanent in nature and not classified as group R-1, R-2, R-4, or I, including any of the following:
(a) Adult foster care family homes or adult foster care small group homes licensed per the adult foster care facility licensing act, 1979 PA 218, MCL 400.701 to 400.737, that provide accommodations for 6 or fewer persons receiving care.
(b) Buildings that do not contain more than 2 dwelling units.
(c) Boarding houses (nontransient) with 16 or fewer occupants.
(d) Boarding houses (transient) with 10 or fewer occupants.
(e) Congregate living facilities (nontransient) with 16 or fewer occupants.
(f) Congregate living facilities (transient) with 10 or fewer occupants.
(g) Foster family homes licensed under the child care organizations act, 1973 PA 116, MCL 722.112 to 722.127a, that provide care for not more than 4 minor children.
(h) Foster care family group homes licensed under the child care organizations act, 1973 PA 116, MCL 722.112 to 722.127a, that provide care for more than 4 but fewer than 7 minor children.
310.5.1. Care facilities within a dwelling. Care facilities that are located within a single- family dwelling may comply with the Michigan residential code if 1 of the following conditions is met:
(a) Adult foster care family homes or adult foster care small group homes for 6 or fewer persons receiving care that are within a single-family dwelling and licensed in accordance with the adult foster care facility licensing act, 1979 PA 218, MCL 400.701 to 400.737.
(b) Family child care homes licensed under the child care organizations act, 1973 PA 116, MCL 722.112 to 722.127a, that provide care for fewer than 7 minor children.
(c) Group child care homes licensed under the child care organizations act, 1973 PA 116, MCL 722.112 to 722.127a, that provide care for more than 6 but not more than 12 minor children.
(d) Foster family homes licensed per the child care organizations act, 1973 PA 116, MCL 722.112 to 722.127a, that provide care for not more than 4 minor children.
(e) Foster care family group homes licensed per the child care organizations act, 1973 PA 116, MCL 722.112 to 722.127a, that provide care for more than 4 but fewer than 7 minor children.
903.2.8.3. Child care organizations. An automatic sprinkler system installed in accordance with section 903.3.1.3 shall be permitted in child care organizations that are within a single-family dwelling and licensed in accordance with the child care organizations act, 1973 PA 116, MCL 722.112 to 722.127a, as follows:
(a) Foster family homes licensed under the child care organizations act, 1973 PA 116, MCL 722.112 to 722.127a, that provide care for more than 4 but fewer than 7 minor children.
(b) Foster care family group homes licensed under the child care organizations act, 1973 PA 116, MCL 722.112 to 722.127a, that provide care for more than 4 but fewer than 7 minor children.

(c) Family child care homes licensed under the child care organizations act, 1973 PA 116, MCL 722.112 to 722.127a, that provide care for fewer than 7 minor children.
(d) Group child care homes licensed under the child care organizations act, 1973 PA 116, MCL 722.112 to 722.127a, that provide care for more than 6 but not more than 12 minor children.

History: 1981 AACS; 1985 AACS; 1988 AACS; 1989 AACS; 1995 AACS; 1998-2000 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30403a
Source: 1997 AACS.

R 408.30404 Duties and powers of building official.
Rule 404. Section 104.9 of the code is amended to read as follows:
104.9. Approved materials and equipment. Materials, equipment, and devices shall be constructed or installed in accordance with approvals granted under the act or by the building official. The building official shall review reports prepared by recognized evaluation services and determine if the intent of the code is met.

History: 1981 AACS; 1995 AACS; 2001 AACS; 2004 AACS; 2008 AACS; 2010 AACS ; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30405
Source: 2010 AACS.

R 408.30406
Source: 2004 AACS.

R 408.30407
Source: 1998-2000 AACS.

R 408.30408
Source: 2010 AACS.

R 408.30409 Permit.
Rule 409. Sections 105.1.1, 105.1.2, and 105.2 of the code are amended to read as follows:
105.1.1. Annual permit. In place of an individual permit for each alteration to an already approved electrical, gas, mechanical, or plumbing installation, the enforcing agency is authorized to issue an annual permit upon application to any person, firm, or corporation. The applicant shall be licensed in accordance with the requirements of 1956 PA 217, MCL 338.881 to 338.892, 1984 PA 192, MCL 338.971 to 338.988, or 2002 PA 733, MCL 338.3511 to 338.3569.
105.1.2. Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under an annual permit. Access to the records shall be provided at all times and the records shall be filed with the enforcing agency.
105.2. Work exempt from permit. Exemptions from permit requirements of the code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of the code or any other laws or ordinances of this jurisdiction. Permits shall not be required for any of the following:
(a) Building permits shall not be required for any of the following:
(i) One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet (11).
(ii) A fence that is not more than 7 feet (2 134 mm) high.
(iii) Oil derricks.
(iv) A retaining wall that is not more than 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding class I, II or III-A liquids.
(v) A water tank supported directly on grade if the capacity is not greater than 5,000 gallons (18 925 L) and the ratio of height to diameter or width is not greater than 2 to 1.
(vi) A sidewalk and driveway not more than 30 inches (762 mm) above adjacent grade and -not over any basement or story below and are not part of an accessible route.

(vii) Painting, papering, tiling, carpeting, cabinets, counter tops, and similar finish work.
(viii) Temporary motion picture, television, and theater stage sets and scenery.
(ix) Prefabricated swimming pools accessory to a group R-3 occupancy, as applicable in section 101.2, that are less than 24 inches (610 mm) deep, are not greater than 5,000 gallons (18 925 L), and are installed entirely above ground.
(x) Shade cloth structures constructed for nursery or agricultural purposes, not including service systems.
(xi) Swings and other playground equipment accessory to detached 1- and 2-family dwellings.
(xii) Window awnings in group R-3 and U occupancies, supported by an exterior wall that do not project more than 54 inches (1 372 mm) from the exterior wall and do not require additional support, as applicable in section 101.2 and group U occupancies.
(xiii) Nonfixed and movable fixtures, cases, racks, counters, and partitions not over 5 feet 9 inches (1 753 mm) in height.
(b) Electrical permits shall not be required, as in accordance with the Michigan electrical code, R 408.30801 to R 408.30880, for any of the following:
(i) Repairs and maintenance: Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.
(ii) Radio and television transmitting stations: The provisions of the code do not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for power supply and to the installation of towers and antennas.
(iii) Temporary testing systems: A permit is not required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.
(c) Mechanical permits shall not be required for any of the following:
(i) A portable gas heating appliance that has inputs of less than 30,000 Btu's per hour. (ii) Portable ventilation appliances and equipment.
(iii) Portable cooling unit.
(iv) Steam, hot water, or chilled water piping within any heating or cooling equipment or appliances regulated by this code.
(v) Replacement of any minor part that does not alter the approval of equipment or an appliance or make such equipment or appliance unsafe.
(vi) A portable evaporative cooler.
(vii) Self-contained refrigeration systems that contain 10 pounds (4.5 kg) or less of refrigerant, or that are actuated by motors of 1 horsepower (0.75 kW) or less.
(viii) Portable fuel cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.
(ix) An oil burner that does not require connection to a flue, such as an oil stove and a heater equipped with a wick.
(x) A portable gas burner that has inputs of less than 30,000 Btu's per hour.
(xi) When changing or relocating a gas meter or regulator, a permit is not required when installing gas piping which shall be limited to 10 feet (3 005 mm) in length and not more then 6 fittings.
(xii) When installing geothermal vertical closed loops under the supervision of a mechanical contractor licensed in HVAC as long as the company meets both the following:
(A) Has obtained a certificate of registration as a well drilling contractor pursuant to part 127 of the public health code.
(B) Has installed the geothermal vertical closed loops in accordance with the department of environmental quality best practices regarding geothermal heat pump closed loops. Exemption from the permit requirements of this code shall not be deemed to grant authorization for work to be done in violation of the provisions of this code or other laws or ordinances of this jurisdiction.
(d) Plumbing permits shall not be required for either of the following:
(i) The stopping of leaks in drains, water, soil, waste, or vent pipe. However, if any concealed trap, drainpipe, water, soil, waste, or vent pipe becomes defective and it becomes necessary to remove and replace the drain or pipe with new material, then the work is considered new work and a permit shall be obtained and inspection made as provided in the code.
(ii) The clearing of stoppages or the repairing of leaks in pipes, valves, or fixtures, and the removal and reinstallation of water closets, if the repairs do not involve or require the replacement or rearrangement of valves, pipes, or fixtures.

History: 1981 AACS; 1985 AACS; 1992 AACS; 1995 AACS; 2001 AACS; 2004 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30410
Source: 2010 AACS.

R 408.30411 Stop-work order.

Rule 411. Section 115.2 of the code is amended to read as follows:
115.2. Issuance. Notice shall be in accordance with the act. A person who is served with a stop work order, except for work that the person is directed to perform to remove a violation or unsafe condition is subject to the penalty provisions prescribed in the act.

History: 1979 AC; 1981 AACS; 1995 AACS; 2001 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30412 Certificate of use and occupancy.
Rule 412. Sections 111.1 and 111.2 of the code are amended to read as follows:
111.1. Use and occupancy. A building or structure shall not be used or occupied, and a change in the existing occupancy classification of a building or structure or portion thereof shall not be made until a certificate of occupancy has been issued in accordance with the act.
Exception: Certificates of occupancy are not required for work exempt from permits under section 105.2.
111.2. Certificate issued. After the building official inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by the department and all permit and plan review fees are paid, the building official shall issue a certificate of occupancy that contains all of the following:
(a) The building permit number.
(b) The address of the structure.
(c) A description of that portion of the structure for which the certificate is issued.
(d) A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.
(e) The name and signature of the building official or designee, registered in accordance with the building officials and inspectors registration act, 1986 PA 54, MCL 338.2301 to 338.2313.
(f) The edition of the code under which the permit was issued.
(g) The use and occupancy, in accordance with the provisions of chapter 3. (h) The type of construction as defined in chapter 6.
(i) The design occupant load.
(j) If an automatic sprinkler system is provided, whether the sprinkler system is required.
(k) Any special stipulations and conditions of the building permit.

History: 1979 AC; 1981 AACS; 1995 AACS; 2001 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30413
Source: 2010 AACS.

R 408.30414 Board of appeals.
Rule 414. Sections 113.1 and 113.3 of the code are amended to read as follows:
113.1. Means of appeal. An interested person may appeal a decision of the enforcing agency to the board of appeals in accordance with the act. An application for appeal shall be based on a claim that the true intent of the code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. The decision of a local board of appeals may be appealed to the construction code commission in accordance with the act and time frames.
Exception: Requests for barrier free design exception shall be in accordance with 1966 PA 1, MCL 125.1352 to 125.1356.
113.3. Qualifications. The board of appeals shall consist of members who are qualified in accordance with the act and are not employees of the governmental subdivision or the agency enforcing the code.

History: 1979 AC; 1981 AACS; 1985 AACS; 1988 AACS; 1992 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30415
Source: 1997 AACS.

R 408.30415a Definitions.

Rule 415a. The definitions of act, agricultural or agricultural purposes, and source point are added and the definitions of building, building inspector, building official, high-rise building, registered design professional, and structure in section 202 of the code are amended to read as follows:
202. Definitions.
“Act” means 1972 PA 230, MCL 125.1501 to 125.1531 and known as the Stille-DeRossett- Hale single state construction code act.
“Agricultural or agricultural purposes” means of, or pertaining to, or connected with, or engaged in agriculture or tillage which is characterized by the act or business of cultivating or using land and soil for the production of crops for the use of animals or humans, and includes, but is not limited to, purposes related to agriculture, farming, dairying, pasturage, horticulture, floriculture, viticulture, and animal and poultry husbandry.
“Air-impermeable insulation” means an insulation having air permanence equal to or less than 0.02 L/s-m^2 at 75 Pa. pressure differential tested according to ASTM E 2178 or E 283.
“Attic, uninhabitable with limited storage” means uninhabitable attics with limited storage are those where the minimum clear height between joists and rafters is 42 inches or greater, 42 inches high by 24 inches in width, or greater, within the plane of the trusses, or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle.
“Attic, uninhabitable without storage” means uninhabitable attics without storage are those where the maximum clear height between joists and rafters is less than 42 inches, or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches high by 24 inches in width or greater, within the plane of the trusses.
"Building" means a combination of materials, whether portable or fixed, forming a structure
affording a facility or shelter for use or occupancy by persons, animals, or property. The term does not include a building incidental to the use for agricultural purposes of the land on which the building is located if it is not used in the business of retail trade. The term shall be construed as though followed by the words "or part or parts of the building and all equipment in the building" unless the context clearly requires a different meaning.
"Building inspector" means the person who is appointed and employed by a governmental subdivision, who is charged with the administration and enforcement of the state codes specified in R 408.30499, and who is registered in compliance with 1986 PA 54, MCL 338.2301 to 338.2313.
"Building official" means the person who is appointed and employed by a governmental subdivision, who is charged with the administration and enforcement of the state codes specified in R 408.30499, and who is registered in accordance with the requirements of 1986 PA 54, MCL 338.2301 to 338.2313.
“High-rise building” means a building with an occupied floor located more than 55 feet (1 6764 mm) above the lowest level of fire department vehicle access.
"Registered design professional" means an individual who is licensed under~~,~~ 1980 PA 299, MCL 339.101 to 339.2919.
"Structure" means that which is built or constructed, an edifice or building of any kind, or a piece of work artificially built up or composed of parts joined together in some definite manner.
Structure does not include a structure incident to the use for agricultural purposes of the land on which the structure is located and does not include works of heavy civil construction, including without limitation, any of the following:
(a) A highway.
(b) A bridge.
(c) A dam.
(d) A reservoir.
(e) A lock.
(f) A mine.
(g) A harbor.
(h) A dockside port facility.
(i) An airport landing facility.
(j) A facility for the generation, or transmission, or distribution of electricity.
Structure shall be construed as though followed by the words "or part or parts of the structure and all equipment in the structure," unless the context clearly indicates otherwise.
“Source point” is defined in 1972 PA 230, MCL 125.1504d.

History: 1988 AACS; 1995 AACS; 2001 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30416
Source: 2004 AACS.

R 408.30417
Source: 2008 AACS.

R 408.30418 Maximum floor area allowances per occupant.
Rule 418. Table 1004.1.2 of the code is amended to read as follows:

Table 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	FLOOR AREA IN SQ. FT. PER OCCUPANT
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal Baggage claim Baggage handling Concourse Waiting areas	 20 gross 300 gross 100 gross 15 gross
Assembly Gaming floors (keno, slots, etc.) Exhibit Gallery and Museum	 11 gross 30 net
Assembly with fixed seats	See section 1004.7
Assembly without fixed seats Concentrated (chairs only-not fixed) Standing space Unconcentrated (tables and chairs)	 7 net 5 net 15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms-other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational Classroom area Shops and other vocational room areas Locker rooms	 20 net 50 net 15 gross
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross

Industrial areas	100 gross
Institutional areas Inpatient treatment areas	 240 gross
Outpatient areas Sleeping areas	100 gross 120 gross
Kitchens, commercial	200 gross
Library Reading rooms Stack area	 50 net 100 gross
Mall buildings-covered and open	See Section 402.8.2
Locker rooms	50 gross
Mercantile Areas on other floors Basement and grade floor areas Storage, stock, shipping areas	 60 gross 30 gross 300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools Rink and pool Decks	 50 gross 15 gross
Stages and platforms	15 net
Accessory storage areas, mechanical equipment room	300 gross
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m^2

History: 1979 AC; 1981 AACS; 2004 AACS; 2008 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30419 Toilet room requirements.

Rule 419. Sections 1210.1, 1210.5, and 1210.6 are amended to the code to read as follows:

1210.1. Required fixtures. The number and type of plumbing fixtures provided in any occupancy shall comply with the Michigan plumbing code.

1210.5. Baby changing stations. A building or structure that has baby changing stations in the women's restrooms shall have baby changing stations in the men's restrooms.

1210.6. Directional signage. Directional signage indicating the route to the public facilities shall be posted in accordance with section 3107 of the international building code. Signage shall be located in a corridor or aisle at the entrance to the facilities for customers and visitors.

History: 1979 AC; 1981 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30420 Ventilation.

Rule 420. Sections 1203.1, 1203.2 and 1607.1 are amended and 1203.2.2 and table 1203.2.2 are added to the code to read as follows:

1203.1. General. Buildings shall be provided with natural ventilation in accordance with section 1203.4 or with mechanical ventilation in accordance with the Michigan mechanical code.

1203.2. Attic spaces. Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof framing members shall have cross ventilation for each separate space by ventilation openings protected against the entrance of rain and snow. Blocking and bridging shall be arranged so as not to interfere with the movement of air. An airspace of not less than 1 inch (25 mm) shall be provided between the insulation and the roof sheathing. The net free ventilating area shall not be less than 1/150 of the area of the space ventilated.

Exceptions:

1. The net free cross-ventilation area may be reduced to 1/300 provided that not less than 50% and not more than 80% of the required ventilating area provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents.
2. The net free cross-ventilation area may be reduced to 1/300 where a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.
3. Attic ventilation shall not be required when in climate zones 5A through 7, as defined in chapter 13, sufficient insulation is installed to maintain the monthly average temperature of the condensing surface above 45 degrees Fahrenheit (7 degrees Celsius). The condensing surface is defined as either the structural roof deck or the interior surface of an air-impermeable insulation applied in direct contact with the underside or interior of the structural roof deck. For calculation purposes, an interior temperature of 68 degrees Fahrenheit (20 degrees Celsius) is assumed. The exterior temperature is assumed to be the monthly average outside temperature, or when the conditions outlined in section 1203.2.2 are met.
4. 1203.2.2 Unvented attic and unvented enclosed rafter assemblies. Unvented attic assemblies (spaces between the ceiling joists of the top story and the roof rafters) and unvented enclosed rafter assemblies (spaces between ceilings that are applied directly to the underside of roof framing members [rafters] and the structural roof sheathing at the top of the roof framing members[rafters]) shall be permitted if all the following conditions are met:

a. The unvented attic space is completely contained within the building thermal envelope.
b. No interior Class I vapor retarders are installed on the ceiling side (attic floor) of the unvented attic assembly or on the ceiling side of the unvented enclosed rafter assembly.
c. Where wood shingles or shakes are used, a minimum ¼-inch (6 mm) vented air space separates the shingles or shakes and the roofing underlayment above the structural sheathing.
d. In climate zones 5A, 6A, and 7, any air-impermeable insulation shall be a class II vapor retarder, or shall have a class III vapor coating or covering in direct contact with the underside of the insulation.

5. Either items 5.1, 5.2, or 5.3 shall be met, depending on the air permeability of the insulation directly under the structural roof sheathing.

5.1. Air-impermeable insulation only. Insulation shall be applied in direct contact with the underside of the structural roof sheathing.
5.2. Air-permeable insulation only. In addition to the air-permeable insulation installed directly below the structural sheathing, rigid board or sheet insulation shall be installed directly above the structural roof sheathing as specified in table 1203.2.2 for condensation control.
5.3. Air-impermeable and air-permeable insulation. The air-impermeable insulation shall be applied in direct contact with the underside of the structural roof sheathing as specified in Table 1203.2.2 for condensation control. The air-permeable insulation shall be installed directly under the air-impermeable insulation.
5.4 Where preformed insulation board is used as the air-impermeable insulation layer, it shall be sealed at the perimeter of each individual sheet interior surface to form a continuous layer.

Table 1203.2.2
INSULATION FOR CONDENSATION CONTROL

CLIMATE ZONE	MINIMUM RIGID BOARD ON AIR- IMPERMEABLE INSULATION R-VALUES[a]
5A	R-20
6A	R-25
7	R-30

a. Contributes to but does not supersede the requirements in chapter 13

TABLE 1607.1

MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L^o, AND
MINIMUM CONCENTRATED LIVE LOADS[g]

Occupancy or use	Uniform (psf)	CONCENTRATED (lbs.)
1. Apartments (see residential)	–	–
2. Access floor systems		
Office use	50	2,000
Computer use	100	2,000
3. Armories and drill rooms	150[m]	–
4. Assembly areas		
Fixed seats (fastened to floor)	60[m]	
Follow spot, projections and control rooms	50	–
Lobbies	100[m]	
Movable seats	100[m]	
Stage floors	150[m]	
Platforms (assembly)	100[m]	
Other assembly areas	100[m]	
5. Balconies and decks[h]	Same as occupancy served	–
6. Catwalks	40	300
7. Cornices	60	–
8. Corridors		
First floor	100	–
Other floors	Same as occupancy served except as indicated	
9. Dining rooms and restaurants	100[m]	–
10. Dwellings (see residential)	–	–
11. Elevator machine room grating (on area of 2 inches by 2 inches)	–	300
12. Finish light floor plate construction (on area of 1 inch by 1 inch)	–	200
13. Fire escapes	100	
On single-family only	40	–
14. Garages (passenger vehicles only)	40[m]	Note a
Trucks and buses	See Section 1607.7	
15. Handrails, guards and grab bars	See Section 1607.8	
16. Helipads	See Section 1607.6	
17. Hospitals		
Corridors above first floor	80	1,000
Operating rooms, laboratories	60	1,000
Patient rooms	40	1,000
18. Hotels (see residential)	–	–
19. Libraries		
Corridors above first floor	80	1,000
Reading rooms	60	1,000
Stack rooms	150[b, m]	1,000
20. Manufacturing		
Heavy	250[m]	3,000
Light	125[m]	2,000
21. Marquees	75	–
22. Office buildings		

Corridors above first floor	80	2,000
File and computer rooms shall be designed for heavier loads based on anticipated occupancy	–	–
Lobbies and first-floor corridors	100	2,000
Offices	50	2,000
23. Penal institutions		
Cell blocks	40	–
Corridors	100	
24. Recreational uses:		
Bowling alleys, poolrooms and similar uses	75[m]	
Dance halls and ballrooms	100[m]	
Gymnasiums	100[m]	–
Reviewing stands, grandstands and bleachers	100[c, m]	
Stadiums and arenas with fixed seats (fastened to floor)	60[c, m]	
25. Residential		
One- and two-family dwellings		
Uninhabitable attics without storage[i]	10	
Uninhabitable attics with storage[j, k]	20	
Habitable attics and sleeping areas[k]	30	–
All other areas	40	
Hotels and multifamily dwellings		
Private rooms and corridors serving them	40	
Public rooms[m] and corridors serving them	100	
26. Roofs		
All roof surfaces subject to maintenance workers		300
Awnings and canopies:		
Fabric construction supported by a skeleton structure	5 nonreducible	
All other construction	20	
Ordinary flat, pitched, and curved roofs (that are not occupiable)	20	
Where primary roof members are exposed to a work floor, at single panel point of lower chord of roof trusses or any point along primary structural members supporting roofs:		
Over manufacturing, storage warehouses, and repair garages		
All other primary roof members		2,000
Occupiable roofs:		300
Roof gardens		
Assembly areas	100	
All other similar areas	100[m]	
	Note 1	Note 1
27. Schools		
Classrooms	40	1,000

Corridors above first floor First-floor corridors	80 100	1,000 1,000
28. Scuttles, skylight ribs and accessible ceilings	–	200
29. Sidewalks, vehicular drive ways and yards, subject to trucking	250[d, m]	8,000[c]
30. Stairs and exits One- and two-family dwellings All other	 40 100	 300[f] 300[f]
31. Storage warehouses (shall be designed for heavier loads if required for anticipated storage) Heavy Light	 250[m] 125[m]	–
32. Stores Retail First floor Upper floors Wholesale, all floors	 100 75 125[m]	 1,000 1,000 1,000
33. Vehicle barriers	See Section 1607.8.3	
34. Walkways and elevated platforms (other than exitways)	60	–
35. Yards and terraces, pedestrians	100[m]	–

For SI: 1 inch = 25.4 mm, 1 square inch = 645.16 mm^2,
1 square foot = 0.0929 m^2,
1 pound per square foot = 0.0479 kN/m^2, 1 pound = 0.004448 kN,
1 pound per cubic foot = 16 kg/m^3.

a. Floors in garages or portions of buildings used for the storage of motor vehicles shall be designed for the uniformly distributed live loads of Table 1607.1 or the following concentrated loads: (1) for garages restricted to passenger vehicles accommodating not more than nine passengers, 3,000 pounds acting on an area of 4.5 inches by 4.5 inches; (2) for mechanical parking structures without slab or deck that are used for storing passenger vehicles only, 2,250 pounds per wheel.

b. The loading applies to stack room floors that support nonmobile, double-faced library book stacks, subject to the following limitations:

1. The nominal bookstack unit height shall not exceed 90 inches;
2. The nominal shelf depth shall not exceed 12 inches for each face; and
3. Parallel rows of double-faced book stacks shall be separated by aisles not less than 36 inches wide.

c. Design in accordance with ICC 300.

d. Other uniform loads in accordance with an approved method containing provisions for truck loadings shall also be considered where appropriate.

e. The concentrated wheel load shall be applied on an area of 4.5 inches by 4.5 inches.

f. The minimum concentrated load on stair treads shall be applied on an area of 2 inches by 2 inches. This load need not be assumed to act concurrently with the uniform load.

g. Where snow loads occur that are in excess of the design conditions, the structure shall be designed to support the loads due to the increased loads caused by drift buildup or a snow design determined by the building official (see Section 1608).

h. See Section 1604.8.3 for decks attached to exterior walls.

i. This live load need not be assumed to act concurrently with any other live load requirements.

j. The live load need only be applied to those portions of the joists or truss bottom chords where both of the following conditions are met:

i. The attic area is accessible from an opening not less than 20 inches in width by 30 inches in length that is located where the clear height in the attic is a minimum of 30 inches; and

ii. The slopes of the joists or truss bottom chords are no greater than two units vertical in 12 units horizontal. The remaining portions of the joists or truss bottom chords shall be designed for uniformly distributed concurrent live load of not less than 10 $lb./ft^2$.

k. Attic spaces served by stairways other than the pull-down type shall be designed to support the minimum live load specified for habitable attics and sleeping rooms.
l. Areas of occupiable roofs, other than roof gardens and assembly areas, shall be designed for appropriate loads as approved by the building official. Unoccupied landscaped areas of roofs shall be designed in accordance with Section 1607.12.3.
m. Live load reduction is not permitted unless specific exceptions of Section 1607.10 apply.
History: 1979 AC; 1981 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30421 Emergency escape and rescue.
Rule 421. Sections 1024.1 and 1029.1 of the code are amended and 1014.2.2 is added to read as follows:
1014.2.2. Group E. Egress from classrooms in group E occupancies shall be limited to pass through 1 intervening space before reaching an exit access door leading directly to a corridor or an exit.
1024.1. General. Approved luminous egress path markings delineating the exit path shall be provided in buildings with an occupied floor located more than 75 feet (16 764 mm) above the lowest level of fire department vehicle access of groups A, B, E, I, M, and R-I occupancies in accordance with sections 1024.1 to 1024.5.
1029.1. General. In addition to the means of egress required by this chapter, provisions shall be made for emergency escape and rescue in group R as applicable in section 101.2, classrooms greater than 250 feet^2 (23.2 m^2) in group E, and group I-1 occupancies. Basements and sleeping rooms below the fourth story above grade plane shall have at least 1 exterior emergency escape and rescue opening in accordance with this section. Where basements contain 1 or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. The opening shall open directly into a public street, public alley, yard, or court.
Exceptions:
1. In other than group R-3 occupancies as applicable in section 101.2, buildings equipped throughout with an approved automatic sprinkler system in accordance with section 903.3.1.1 or 903.3.1.2.
2. In other than group R-3 occupancies as applicable in section 101.2, sleeping rooms provided with a door to a fire-resistance-rated corridor having access to 2 remote exits in opposite directions.
3. The emergency escape and rescue opening may open onto a balcony within an atrium in accordance with the requirements of section 404, provided the balcony provides access to an exit and the dwelling unit or sleeping unit has a means of egress that is not open to the atrium.
4. Basements with a ceiling height of less than 80 inches (2 032 mm) shall not be required to have emergency escape and rescue openings.
5. High-rise buildings in accordance with section 403.
6. Emergency escape and rescue openings are not required from basements, classrooms, or sleeping rooms which have an exit door or exit access door that opens directly into a public street, public alley, yard, egress court, or to an exterior exit balcony that opens to a public street, public alley, yard, or egress court.
7. Basements without habitable spaces and having not more than 200 square feet (18.6 square meters) in floor area shall not be required to have emergency escape and rescue openings.
History: 1979 AC; 1981 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30422
Source: 1997 AACS.

R 408.30423
Source: 1997 AACS.

R 408.30427 Barrier free design for buildings, structures, and improved areas.
Rule 427. Sections 1101.2 and 1109.8 of the code are amended and section 1103.2.16 is added to the code to read as follows:
1101.2. Design. Buildings and facilities shall be designed and constructed to be accessible in accordance with 1966 PA 1, MCL 125.1351 to 125.1356, this code, and ICC/ANSI A 117.1, except sections 611 and 707.
1109.8. Lifts. Platform (wheelchair) lifts may be a part of a required accessible route in new construction where indicated in items 1 to 10. Platform (wheelchair) lifts shall be installed in accordance with the Michigan elevator code, R 408.7001 to R 408.8695.
(1) An accessible route to a performing area and speakers' platforms in occupancies in group A.

(2) An accessible route to wheelchair spaces required to comply with the wheelchair space dispersion requirements of sections 1108.2.2 to 1108.2.5.
(3) An accessible route to spaces that are not open to the general public with an occupant load of not more than 5.
(4) An accessible route within a dwelling or sleeping unit.
(5) An accessible route to wheelchair seating spaces located in outdoor dining terraces in A-5 occupancies where the means of egress from the dining terraces to a public way are open to the outdoors.
(6) An accessible route to jury boxes and witness stands; raised courtroom stations including judges' benches, clerks' stations, bailiffs' stations, deputy clerks' stations, and court reporters' stations; and to depressed areas such as the well of the court.
(7) An accessible route to load and unload areas serving amusement rides.
(8) An accessible route to play components or self-contained play structures.
(9) An accessible route to team or player seating areas serving areas of sport activity.
(10) An accessible route where existing exterior site constraints make use of a ramp or elevator infeasible.
1103.2.16. Military, fire service, and police facilities. Housing, bathing, toilet, training, and storage areas intended for use and occupancy exclusively by military, fire service, police, or security personnel required to be physically agile are not required to be accessible.

History: 1979 AC; 1981 AACS; 1985 AACS; 1987 AACS; 1988 AACS; 1992 AACS; 1995 AACS; 1998-2000 AACS; 2001 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30427a
Source: 2001 AACS.

R 408.30427b
Source: 2001 AACS.

R 408.30427c
Source: 2001 AACS.

R 408.30427d
Source: 2001 AACS.

R 408.30427e
Source: 2001 AACS.

R 408.30428 Structural integrity.
Rule 428. Section 1614.1 of the code is amended to read as follows:
1614.1. General. Buildings with an occupied floor 75 feet (22 860 mm) or more in height above the lowest level of fire department vehicle access and assigned to risk category III or IV shall comply with the requirements of this section. Frame structures shall comply with the requirements of section 1615.3. Bearing wall structures shall comply with the requirements of section 1615.4.

History: 1979 AC; 1981 AACS; 1985 AACS; 1987 AACS; 1992 AACS; 1995 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30429 High-rise buildings.
Rule 429. Sections 403.1, 403.5.4, 907.2.1.3, and 907.6.3.2 of the code are amended to read as follows:
403.1. Applicability. The provisions of this section shall apply to buildings having the occupied floors located more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access.
Exception: The provisions of this section shall not apply to the following buildings and structures:
1. Airport traffic control towers in accordance with section 412 of the code.
2. Open parking garages in accordance with section 406.3 of the code.
3. Buildings with an occupancy in group A-5 in accordance with section 303.1 of the code.
4. Low-hazard special industrial occupancies in accordance with section 503.1.1 of the code.
5. Buildings with an occupancy in group H-1, H-2, or H-3 in accordance with section 415 of the code.
6. Existing buildings having occupied floor levels not more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access where the local unit of government complies with both of the following:

6.1. The local unit of government has a municipal fire department with an ISO rating of 3 or lower, employing a full-time career firefighting staff.
6.2. The governing body of the local unit of government has passed a resolution affirming the use of this exception and filed that resolution with the department of energy, labor, and economic growth, bureau of construction codes.
403.5.4. Smokeproof exit enclosures. Every required stairway serving floors more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access shall comply with sections 909.20 and 1022.9 of the code.
907.2.13. High-rise buildings. Buildings having floors used for human occupancy located more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system and an emergency responder radio coverage system in accordance with section 907.2.13.2 of the code.
Exceptions:
1. Airport traffic control towers in accordance with sections 412 and 907.2.22 of the code.
2. Open parking garages in accordance with section 406.3 of the code.
3. Buildings with an occupancy in group A-5.
4. Low-hazard special occupancies in accordance with section 503.1.1 of the code.
5. Buildings with an occupancy in group H-1, H-2, or H-3 in accordance with section 415 of the code.
6. In group I-1 and I-2 occupancies, the alarm shall sound at a constantly attended location and general occupant notification shall be broadcast by the emergency voice or alarm communication system.
907.6.3.2. High-rise buildings. In buildings used for human occupancy that have floors located more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access, a separate zone by floor shall be provided for all of the following types of alarm-initiating devices where provided:
1. Smoke detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Other approved types of automatic fire detection devices or suppression systems.

History: 1979 AC; 1981 AACS; 1985 AACS; 1988 AACS; 1992 AACS; 1995 AACS; 2001 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30429a Compliance.
Rule 429a. Sections 3412.1 and 3412.2 of the code are amended to read as follows:
3412.1. Compliance. The provisions of this section are intended to maintain or increase the current degree of public safety, health, and general welfare in existing buildings while permitting repair, alteration, addition, and change of occupancy without requiring full compliance with chapters 2 to 33 of the code, or sections 3401.3 to 3407, except where compliance with other provisions of the code is specifically required in this section.
Exception: Buildings made to comply with the provisions of the Michigan rehabilitation code for existing buildings, R 408.30551 to R 408.30577, shall be deemed to comply with the requirements of the code.
3412.2. Applicability. Structures existing before November 6, 1974, in which work involving additions, alterations, or changes of occupancy shall be made to conform to the requirements of this section or the provisions of sections 3402 to 3406 of the code.The provisions in sections 3412.2.1 to 3412.2.5 of the code shall apply to existing occupancies that will continue to be, or are proposed to be, in groups A, B, E, F, M, R, S, and U. These provisions shall not apply to buildings that have occupancies in group H or I.

History: 2002 AACS; 2004 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30429b Elevator lobby.
Rule 429b. Section 713.14.1 of the code is amended to read as follows:
713.14.1. An enclosed elevator lobby shall be provided at each floor where an elevator shaft enclosure connects more than 3 stories. The lobby enclosure shall separate the elevator shaft enclosure doors from each floor by fire partitions. In addition to the requirements in section 708 for fire partitions, doors protecting openings in the elevator lobby enclosure walls shall also be in compliance with section 716.5.3 as required for corridor walls and penetrations of the elevator lobby enclosure by ducts and air transfer openings shall be protected as required for corridors in accordance with section 717.5.4.1. Elevator lobbies shall have at least 1 means of egress complying with chapter 10 and other provisions within this code.
Exceptions:
1. Enclosed elevator lobbies are not required at the level or levels of exit discharge provided the level or levels of exit discharge is equipped with an automatic sprinkler system in accordance with section 903.3.1.1.

2. Elevators not required to be located in a shaft in accordance with section 712.1 are not required to have enclosed elevator lobbies.
3. Enclosed elevator lobbies are not required where additional doors are provided at the hoistway opening in accordance with section 3002.6. The doors shall comply with the smoke and draft control door assembly requirements in section 716.5.3.1 when tested in accordance with UL 1784 without an artificial bottom seal.
4. Enclosed elevator lobbies are not required where the building is protected by an automatic sprinkler system installed in accordance with section 902.2.1.1 or 903.3.1.2. This exception shall not apply to all of the following:
4.1. Group I-2 occupancies.
4.2. Group I-3 occupancies.
4.3. Elevator serving floor levels over 55 feet above the lowest level of fire department vehicle access in high-rise buildings.
5. Smoke partitions may be in place of fire partitions to separate the elevator lobby at each floor where the building is equipped throughout with an automatic sprinkler system installed in accordance with section 903.3.1.1 or 903.3.1.2. In addition to the requirements in section 710 for smoke partitions, doors protecting openings in the smoke partitions shall also be in compliance with sections 710.5.2.2, 710.5.2.3, and 716.5.9 and duct penetrations of the smoke partitions shall be protected as required for corridors in accordance with section 717.5.4.1.
6. Enclosed elevator lobbies are not required where the elevator hoistway is pressurized in accordance with section 909.21.
7. Enclosed elevator lobbies are not required where the elevator serves only open parking garages in accordance with section 406.5.

History: 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30430
Source: 2008 AACS.

R 408.30431
Source: 1997 AACS.

R 408.30432
Source: 2008 AACS.

R 408.30433
Source: 1998-2000 AACS.

R 408.30434
Source: 1997 AACS.

R 408.30437 Masonry heater clearance.
Rule 437. Section 2112.5 of the code is amended to read as follows:

2112.5. Masonry heater clearance. Combustible materials shall not be placed within 36 inches (914 mm) of the outside surface of a masonry heater in accordance with NFPA 211-2010 chapter 12, paragraph 12.6 (clearances for solid-fuel-burning appliances), and the required space between the heater and combustible material shall be fully vented to permit the free flow of air around all heater surfaces.

Exceptions:
1. When the masonry heater wall thickness is at least 8 inches thick of solid masonry and the wall thickness of the heat exchange channels is at least 5 inches thick of solid masonry, combustible materials shall not be placed within 4 inches of the outside surface of a masonry heater. A clearance of at least 8 inches shall be provided between the gas-tight capping slab of the heater and a combustible ceiling.
2. Masonry heaters listed and labeled in accordance with UL 1482 and installed in accordance with the manufacturer's instructions.

History: 1988 AACS; 1992 AACS; 1995 AACS; 2001 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30441 Consumer fireworks facilities.
Rule 441. Sections 307.5.1, 415.1.1, 425.1, 509.4.2.2, 907.2.5.1, 910.2.3, and 1030.1 of the code are added to read as follows:

307.5.1. High-hazard group H-3. Consumer fireworks 1.4G (class C common) Consumer fireworks 1.4G facilities shall meet the requirements of this code and those requirements of this code and those requirements referenced in section 425.1.
415.1.1. Consumer fireworks facilities 1.4 G (class C common) consumer fireworks 1.4 G facilities shall be designed and constructed in accordance with NFPA 1124 as referenced by the Michigan fireworks safety act, 2011 PA 256, MCL 28.451 to 28.471.
425.1. Consumer fireworks (1.4G) facilities. The items in buildings used for the retail sale of consumer fireworks shall be designed and constructed in accordance with NFPA 1124, as referenced by the Michigan fireworks safety act, 2011 PA 256, MCL 28.451 to 28.471 as follows:
(a) Means of egress.
(b) Storage rooms.
(c) Fire alarms.
(d) Smoke control.
(e) Automatic sprinkler systems.
509.4.2.2. Consumer fireworks (1.4G) facilities storage rooms. Storage rooms in consumer fireworks (1.4G) facilities used for the retail sale of consumer fireworks shall be designed and constructed in accordance with the code for the manufacture, transportation, storage, and retail sales of fireworks and pyrotechnic articles, NFPA 1124, as referenced by the Michigan fireworks safety act, 2011 PA 256, MCL 28.451 to 28.471.
907.2.5.1. Consumer fireworks (1.4G) facilities fire alarms. Fire alarm systems in consumer fireworks (1.4G) facilities used for the retail sale of consumer fireworks storage shall be designed and constructed in accordance with the code for the manufacture, transportation, storage, and retail sales of fireworks and pyrotechnic articles, NFPA 1124, as referenced by the Michigan fireworks safety act, 2011 PA 256, MCL 28.451 to 28.471.
910.2.3. Consumer fireworks (1.4G) facilities smoke and heat vents. Smoke and heat vents in consumer fireworks (1.4G) facilities used for the retail sale of consumer fireworks storage shall be designed and constructed in accordance with the code for the manufacture, transportation, storage, and retail sales of fireworks and pyrotechnic articles, NFPA 1124, as referenced by the Michigan fireworks safety act, 2011 PA 256, MCL 28.451 to 28.471.
1030.1. Consumer fireworks (1.4G) facilities means of egress. The means of egress in consumer fireworks (1.4G) facilities used for the retail sale of consumer fireworks means of egress shall be designed and constructed in accordance with the code for the manufacture, transportation, storage, and retail sales of fireworks and pyrotechnic articles, NFPA 1124, as referenced by the Michigan fireworks safety act, 2011 PA 256, MCL 28.451 to 28.471.
History: 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30442 Automatic sprinkler systems.
Rule 442 . Sections 903.2.8, 903.2.8.2, 903.2.5, and 903.2.5.1 are amended and section 903.2.5.4 is added to the code to read as follows:
903.2.8. Group R. An automatic sprinkler system installed in accordance with section 903.3 shall be provided throughout all buildings with a Group R fire area.
Exception: Camp buildings in remote areas without municipal water supply that meet all of the following:
1. Not more than 1 story, 2000 square feet (186 m^2) and 25 occupants.
2. Are used not more than 5 months in a year.
3. Shall be provided with not less than 2 exits in compliance with section 1019.
4. Shall not be provided with cooking equipment.
5. Provided with a manual fire alarm system and smoke alarms throughout in compliance with NFPA 72 as listed in chapter 35. For cabins sleeping 4 or fewer occupants only, smoke alarms are required.
6. Storage and equipment rooms shall be protected by a 1-hour fire partition.
7. Compliance with all applicable requirements of the code.
903.2.8.2. Adult foster care family homes. An automatic sprinkler system installed in accordance with section 903.3.1.3 shall be permitted in adult foster care family homes or adult foster care small group homes for 6 or fewer persons receiving care that are within a single-family dwelling and licensed in accordance with the adult foster care facility licensing act, 1979 PA 218, MCL 400.701 to 400.737.
903.2.5. Group H. Automatic sprinkler systems shall be provided in high-hazard occupancies as required in sections 903.2.5.1 to 903.2.5.4.

903.2.5.1. General. An automatic sprinkler system shall be installed in group H occupancies unless the requirements of section 903.2.5.4 are met for buildings containing consumer fireworks.

903.2.5.4. Consumer fireworks (1.4G). Buildings used for the retail sale of consumer fireworks shall be provided with an automatic sprinkler system in accordance with the Michigan fireworks safety act, 2011 PA 256, MCL 28.451 to 28.471.

History: 1979 AC; 1981 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30443 Masonry.

Rule 443. Section 1405.4.2 of the code is amended to read as follows:

1405.4.2. Masonry. Flashing and weep holes shall be located in the first course of masonry above finished ground level above the foundation wall or slab; at the heads of windows, doors, and other wall openings; at window sills and at other points of support including structural floors, shelf angles, and lintels where anchored veneers are designed in accordance with section

1405.6. Flashing shall extend to, or beyond, the finished face of the wall.

History: 1979 AC; 1981 AACS; 1985 AACS; 1987 AACS; 1988 AACS; 1992 AACS; 1995 AACS; 1998-2000 AACS; 2001 AACS; 2004 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30444

Source: 2008 AACS.

R 408.30445

Source: 2010 AACS.

R 408.30446 Smoke alarm locations.

Rule 446. Sections 907.2.11.5 and 907.2.11.5.1 are added to the code as follows:

907.2.11.5. Smoke alarm locations in existing buildings constructed before November 6, 1974. Within each dwelling unit or sleeping unit, a single-station smoke alarm shall be installed in all of the following locations:

(1) In each sleeping room or each area directly outside the sleeping room.

(2) On each floor level including the basement level.

For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than 1 full story below the upper level.

907.2.11.5.1. Equipment requirements. The required equipment for smoke alarms shall consist of the following:

(1) Installation. Smoke alarm devices shall be listed and installed in accordance with the manufacturer's installation requirements, the provisions of the code, and the provisions of NFPA 72 as listed in chapter 35.

(2) Power Source. The equipment shall be operable by power from 1 of the following primary sources:

(a) The building wiring provided the wiring is served from a commercial source and is equipped with a battery backup. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

(b) A non-rechargeable battery able to power the smoke alarm in the normal condition for a life of 5 years.

(c) A rechargeable battery, with proper charging, able to power the alarm for a life of 5 years.

(d) A commercial use alarm system with battery backup listed and approved in accordance with the commercial fire warning equipment provisions of NFPA 72, as adopted by reference in this rule.

(3) Audible Alarm Notification. The activation of the alarm signal shall produce a sound that is audible in all occupiable dwelling areas.

(4) Testing and Maintenance. The owner of a dwelling unit, in which required or optional fire detection or fire protection systems equipment is installed, shall be responsible for the proper operation, testing, and maintenance of the equipment in accordance with the manufacturer's instructions included with the equipment. The occupant of rental dwelling units shall be responsible for the periodic operational testing and periodic cleaning of the installed equipment within the rental unit in accordance with the testing instructions provided in the manufacturer's instructions for the equipment. If the system fails, breaks, or is out of service, it shall be repaired and functional within 30 days.

Exception: Smoke alarms and devices installed in buildings constructed before November 6,
1974 where an installation was approved by the appropriate enforcing agency under regulations in effect at the time of the installation shall be considered to comply with the provisions of the code.

History: 1981 AACS; 1985 AACS; 2005 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30447 Smokeproof enclosures.
Rule 447. Section 1022.10 of the code is amended to read as follows:
1022.10. Smokeproof enclosures. In buildings required to comply with section 403 or 405 of the code, each of the exits of a building that serves stories where the floor surface is located more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access or more than 30 feet (9 144 mm) below the level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with section 909.20 of the code.

History: 1981 AACS; 1985 AACS; 1988 AACS; 1992 AACS; 1995 AACS; 2001 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30448
Source: 2010 AACS.

R 408.30448a
Source: 1997 AACS.

R 408.30448b
Source: 1997 AACS.

R 408.30448c
Source: 1997 AACS.

R 408.30448d
Source: 2010 AACS.

R 408.30449 Frost protection.
Rule 449. Section 1809.5 of the code is amended to read as follows:
1809.5. Frost protection. Except where otherwise protected from frost, foundation walls, piers, and other permanent supports of buildings and structures shall be protected from frost by at least 1 of the following methods:
(1) Extending not less than 42 inches (1 067 mm) below finish grade.
(2) Constructing in accordance with ASCE-32 listed in chapter 35. (3) Erecting on solid rock.
Exceptions:
1. Free-standing buildings meeting all of the following conditions shall not be required to be protected:
a. Classified in risk category I in accordance with section 1604.5 of the code.
b. Area of 600 square feet (55.74 m^2) or less for light-frame construction or 400 square feet (37 m^2) or less for other than light-frame construction.
c. Eave height of 10 feet (3 048 mm) or less.
2. Upon evidence of the existence of any of the following conditions, the building official may modify the footing depth accordingly:
a. Freezing temperatures. b. Soil type.
c. Groundwater conditions. d. Snow depth experience.
e. Exposure to the elements.
f. Other specific conditions identified by the building official that may affect the foundation system.
Footings shall not bear on frozen soil unless such frozen condition is of a permanent character.

History: 1979 AC; 1981 AACS; 1985 AACS; 1988 AACS; 1992 AACS; 1995 AACS; 2001 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30449a
Source: 1997 AACS.

R 408.30451e
Source: 1998-2000 AACS.

R 408.30451a
Source: 1997 AACS.

R 408.30451b
Source: 1997 AACS.

R 408.30451c. Flood loads.
Rule 451c. Sections 1612.3.1 and 1612.4 of the code are amended and 1612.4.1, 1612.4.2, 1612.4.3, 1612.4.4, and 1612.4.5 are added to the code to read as follows:
1612.3.1. Alternate flood hazard provisions. Absent the adoption of a flood hazard map and supporting data, flood hazard areas as determined by the state under its administration of the Part 31, floodplain regulatory authority of the natural resources and environmental protection act, 1994 PA 451, MCL 324.101 to 324.90106, shall become the basis for regulation of floodplain development within the community and section 1612 shall apply to buildings and structures within those areas.
1612.4.1. Minimum requirements for buildings and structures. All of the following are in addition to the requirements of ASCE 24:
(1) Buildings and structures in flood hazard areas subject to high velocity wave action
(zone V) shall be in compliance with the requirements of ASCE 24 for such flood hazard areas.
(2) The lowest floors of structure category II buildings and structures shall be at or above the elevation specified in ASCE 24 or 1 foot (305 mm) above the design flood elevation, whichever is higher.
(3) The lowest floors of structure category III and IV buildings and structures in flood hazard areas not subject to high velocity wave action (zone A) shall be at or above the elevation specified in ASCE 24 or 1 foot (305 mm) above the 500-year flood elevation, whichever is higher. For the purpose of this requirement, the 500-year flood elevation is the elevation of flooding having a 0.2% chance of being equaled or exceeded in any given year.
(4) Dry floodproofing for structure category II buildings and structures shall extend to or above the elevation specified in ASCE 24 or 1 foot (305 mm) above the design flood elevation, whichever is higher.
(5) Dry floodproofing for structure category III and IV buildings and structures shall extend to or above the elevation specified in ASCE 24 or 1 foot (305 mm) above the 500- year flood elevation, whichever is higher. For the purpose of this requirement, the 500-year flood elevation is the elevation of flooding having a 0.2% chance of being equaled or exceeded in any given year.
(6) The interior floor or finished ground level of under-floor spaces and crawlspaces shall comply with section 1805.1.2.1 of this code.
History: 1992 AACS; 1995 AACS; 2001 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30451d
Source: 1997 AACS.

R 408.30451e
Source: 1995 AACS.

R 408.30452 Flood hazard areas.
Rule 452. Section 3403.2 of the code is amended and section 1612.3.3 is added to read as follows:
3403.2. Flood hazard areas. Both of the following apply to buildings and structures in flood hazard areas established in section 1612.3:
(1) All additions shall be in compliance with the flood design requirements for new construction.
(2) If an addition constitutes substantial improvement of the existing structure, as defined in section 1612.2, all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.
1612.3.3. Alternate flood hazard area determinations. Absent the adoption of a flood hazard map and supporting data, flood hazard areas as determined by the state under its administration of the part 31, floodplain regulatory authority of the natural resources and environmental protection act, 1994 PA 451, MCL 324.101 to 324.90106, shall become the basis for regulation of flood hazard area development and the flood load provisions of this code shall apply to buildings and structures within those areas.
History: 1985 AACS; 1988 AACS; 1995 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30453

Source: 2001 AACS.

R 408.30454
Source: 1998-2000 AACS.

R 408.30455
Source: 1998-2000 AACS.

R 408.30456
Source: 1998-2000 AACS.

R 408.30457
Source: 2008 AACS.

R 408.30458
Source: 2008 AACS.

R 408.30459 Elevators.
Rule 459. Sections 1007.4 and 1607.9.1 of the code are amended to read as follows:
1007.4. Elevators. To be considered part of an accessible means of egress, an elevator shall be in compliance with the emergency operation and signaling device requirements of the Michigan elevator code, R 408.7001 to R 408.8695.
1607.9.1. Elevators. Elevator loads shall be increased by 100% for impact and the structural supports shall be designed within the limits of deflection prescribed by the Michigan elevator code, R 408.7001 to R 408.8695.

R 408.30460
Source: 1997 AACS.

R 408.30461
Source: 2004 AACS.

R 408.30475
Source: 2010 AACS.

R 408.30476
Source: 2010 AACS.

R 408.30495
Source: 2008 AACS.

R 408.30495a
Source: 2004 AACS.

R 408.30495b
Source: 1997 AACS.

R 408.30495c
Source: 1997 AACS.

R 408.30495d
Source: 1997 AACS.

R 408.30495e
Source: 1997 AACS.

R 408.30495f
Source: 1997 AACS.

R 408.30495g
Source: 1997 AACS.

R 408.30495h
Source: 1997 AACS.

R 408.30495i
Source: 1997 AACS.

R 408.30495j
Source: 1997 AACS.

R 408.30495k
Source: 1997 AACS.

R 408.30497
Source: 2001 AACS.

R 408.30499 Adoption of standards by reference; referenced codes.
Rule 499. Chapter 35 of the code is amended to add the following referenced codes, which are available from the Michigan Department of Energy, Labor and Economic Growth, Bureau of Construction Codes, 2501 Woodlake Circle, Okemos, Michigan 48864:

(a) Michigan Electrical Code R 408.30801 to R 408.30880,of the Michigan Administrative Code.
(b) Michigan Mechanical Code R 408.30901 to R 408.30998a of the Michigan Administrative Code.
(c) Michigan Plumbing Code R 408.30701 to R 408.30796of the Michigan Administrative Code.
(d) Michigan Uniform Energy Code R 408.31061 to R 408.31099of the Michigan Administrative Code.
(e) Michigan Elevator Code R 408.7001 to R 408.8695of the Michigan Administrative Code.
(f) Michigan Boiler Code R 408.4001 to R 408.5507 of the Michigan Administrative Code.

History: 1985 AACS; 1988 AACS; 1995 AACS; 1998-2000 AACS; 2001 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30499a
Source: 2001 AACS.

RESIDENTIAL CODE

R 408.30501
Source: 2010 AACS.

R 408.30502
Source: 2010 AACS.

R 408.30503
Source: 2008 AACS.

R 408.30504
Source: 2010 AACS.

R 408.30505
Source: 2010 AACS.

R 408.30506
Source: 2010 AACS.

R 408.30507
Source: 2010 AACS.

R 408.30508
Source: 2008 AACS.

R 408.30509
Source: 2008 AACS.

R 408.30510
Source: 2008 AACS.

R 408.30511
Source: 2008 AACS.

R 408.30512
Source: 2008 AACS.

R 408.30513
Source: 2010 AACS.

R 408.30514
Source: 2008 AACS.

R 408.30515
Source: 2010 AACS.

R 408.30516
Source: 2010 AACS.
R 408.30517
Source: 2004 AACS.

R 408.30517a
Source: 2010 AACS.

R 408.30518
Source: 2010 AACS.

R 408.30519
Source: 2010 AACS.

R 408.30520
Source: 2010 AACS.

R 408.30521
Source: 2010 AACS.

R 408.30522
Source: 2008 AACS.

R 408.30522a
Source: 2010 AACS.

R 408.30522b
Source: 2010 AACS.

R 408.30523
Source: 2004 AACS.

R 408.30524
Source: 2004 AACS.

R 408.30525
Source: 2008 AACS.

R 408.30526
Source: 2008 AACS.

R 408.30527
Source: 2010 AACS.

R 408.30528
Source: 2010 AACS.

R 408.30528a
Source: 2010 AACS.

R 408.30529
Source: 2008 AACS.

R 408.30530
Source: 2010 AACS.

R 408.30531
Source: 2010 AACS.

R 408.30532
Source: 2001 AACS.

R 408.30533
Source: 2001 AACS.

R 408.30534
Source: 2010 AACS.

R 408.30535
Source: 2001 AACS.

R 408.30536
Source: 2010 AACS.

R 408.30536a
Source: 2010 AACS.

R 408.30537
Source: 2010 AACS.

R 408.30537a
Source: 2010 AACS.

R 408.30537b
Source: 2010 AACS.

R 408.30537c

Source: 2010 AACS.

R 408.30538
Source: 2010 AACS.

R 408.30539
Source: 2008 AACS.

R 408.30539a
Source: 2010 AACS.

R 408.30540
Source: 2010 AACS.

R 408.30541
Source: 2010 AACS.

R 408.30542
Source: 2010 AACS.

R 408.30543
Source: 2004 AACS.

R 408.30544
Source: 2010 AACS.

R 408.30544a
Source: 2010 AACS.

R 408.30545
Source: 2010 AACS.

R 408.30545a
Source: 2010 AACS.

R 408.30546
Source: 2010 AACS.

R 408.30547
Source: 2008 AACS.

REHABILITATION CODE

R 408.30551 Applicable code.
Rule 551. The international existing building code, 2012 edition, including appendix A and resource A, hereinafter referred to as "the code," is adopted by reference, as provided in MCL 24.232, as the "Michigan rehabilitation code for existing buildings" with the exception of sections 104.8, 108.2 to 108.6, 114.3, 705.1.1 to 705.2, 806.2, 806.3, and Appendix B and C, and as otherwise noted in these rules. The international existing building code, 2012 edition is available for inspection at the Okemos office of the Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes, 2501 Woodlake Circle, Okemos, Michigan 48864, or from International Code Council, 500 New Jersey Avenue, N.W., 6th Floor, Washington, D.C. 20001, at a cost as of the time of adoption of these rules of $76.00.
History: 2002 AACS; 2003 AACS; 2008 AACS; 2010 AACS.; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30552 References to international codes.
Rule 552. All references to the code, national electrical code, international energy code, international building code, international residential code, international mechanical code, and international plumbing code in the international existing

building code shall mean the Michigan building code, Michigan electrical code, Michigan uniform energy code, Michigan residential code, Michigan mechanical code and Michigan plumbing code, respectively.

History: 2002 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30553
Source: 2002 AACS.

R 408.30554
Source: 2002 AACS.

R 408.30555
Source: 2003 AACS.

R 408.30556 Elevators.
Rule 556. Section 902.1.2 of the code is amended as follows:
902.1.2. Elevators. Where there is an elevator or elevators for public use, at least 1 elevator serving the work area shall comply with this section. Existing elevators with a travel distance of 25 feet (7620 mm) or more above or below the main floor or other level of a building and intended to serve the needs of emergency personnel for fire fighting or rescue purposes shall be provided with emergency operation in accordance with the Michigan elevator code. New elevators shall be provided with phase I emergency recall operation and phase II emergency in-car operation in accordance with the Michigan elevator code.

History: 2002 AACS; 2008 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30557
Source: 2010 AACS.

R 408.30558
Source: 2003 AACS.

R 408.30559
Source: 2003 AACS.

R 408.30560 Annual permit.
Rule 560. Sections 105.1.1, 105.1.2, and 105.2 of the code are amended as follows:
105.1.1. Annual permit. In place of an individual permit for each alteration to an already approved electrical, gas, mechanical, or plumbing installation, the enforcing agency is authorized to issue an annual permit upon application to any person, firm, or corporation. The applicant shall be licensed in accordance with the requirements of the electrical administrative act, 1956 PA 217, MCL 338.881 to 338.892~~,~~; Forbes mechanical contractors act, 1984 PA 192, MCL 338.971 to 338.988~~,~~; or state plumbing act, 2002 PA 733, MCL 338.3511 to 338.3569.
105.1.2. Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under an annual permit. Access to the records shall be provided at all times and the records shall be filed with the enforcing agency.
105.2. Work exempt from permit. Exemptions from permit requirements of the code shall not be deemed to grant authorization for any work to be done in any manner in violation of the code or any other laws or ordinances of this jurisdiction. Permits shall not be required for any of the following:
(a) Building permits shall not be required for any of the following:
(i) One-story detached accessory structures used as tool and storage sheds, playhouses, and similar uses, provided the floor area does not exceed 120 square feet (11.15m^2).
(ii) A fence that is not more than 7feet (134 mm) high.
(iii) Oil derricks.
(iv) A retaining wall that is not more than 4 feet (1 219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding class I, II, or III-A liquids.
(v) A water tank supported directly on grade if the capacity is not greater than 5,000 gallons (18 925 L) and the ratio of height to diameter or width is not greater than 2 to 1.

(vi) A sidewalk and driveway not more than 30 inches (762 mm) above adjacent grade and not over any basement or story below and are not part of an accessible route.
(vii) Painting, papering, tiling, carpeting, cabinets, counter tops, and similar finish work.
(viii) Temporary motion picture, television, and theater stage sets and scenery.
(ix) Prefabricated swimming pools accessory to a group R-3 occupancy, as applicable in section 101.2, that are less than 24 inches (610 mm) deep, are not greater than 5,000 gallons (18 925 L) and are installed entirely above ground.
(x) Shade cloth structures constructed for nursery or agricultural purposes and not including service systems.
(xi) Swings and other playground equipment accessory to detached 1- and 2-family dwellings.
(xii) Window awnings in group R-3 and U occupancies, supported by an exterior wall that do not project more than 54 inches (1 372 mm) from the exterior wall and do not require additional support, as applicable in section 101.2.
(xiii) Nonfixed and movable fixtures, cases, racks, counters, and partitions not over 5 feet 9 inches (1 753 mm) in height.
(b) Electrical permits shall not be required, as in accordance with the Michigan electrical code, R 408.30801 to R 408.30880, for any of the following:
(i) Repairs and maintenance: Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.
(ii) Radio and television transmitting stations: The provisions of the code do not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for power supply and to the installation of towers and antennas.
(iii) Temporary testing systems: A permit shall not be required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.
(c) Mechanical permits shall not be required for any of the following:
(i) A portable ~~gas~~ heating or gas appliance that has inputs of less than 30,000 Btu's per hour.
(ii) Portable ventilation appliances and equipment.
(iii) A Portable cooling unit.
(iv) Steam, hot water, or chilled water piping within any heating or cooling equipment or appliances regulated by the code.
(v) The replacement of any minor part that does not alter the approval of equipment or an appliance or make such equipment or appliance unsafe.
(vi) A portable evaporative cooler.
(vii) Self-contained refrigeration systems that contain 10 pounds (4.5 kg) or less of refrigerant, or that are actuated by motors of 1 horsepower (0.75 kW) or less.
(viii) Portable fuel cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.
(ix) An oil burner that does not require connection to a flue, such as an oil stove and a heater equipped with a wick.
(x) A portable gas burner that has inputs of less than 30,000 Btu's per hour.
(xii) When changing or relocating a gas meter or regulator, a permit is not required when installing gas piping which shall be limited to 10 feet (3005 mm) in length and not more then 6 fittings.
(xi) When installing geothermal vertical closed loops under the supervision of a mechanical contractor licensed in HVAC as long as the company meets both the following:
(A) Has obtained a certificate of registration as a well drilling contractor pursuant to part 127 of the public health code.
(B) Has installed the geothermal vertical closed loops in accordance with the department of environmental quality best practices regarding geothermal heat pump closed loops.
Exemption from the permit requirements of this code shall not be deemed to grant authorization for work to be done in violation of the provisions of this code or other laws or ordinances of this jurisdiction.
(d) Plumbing permits shall not be required for either of the following:
(i) The stopping of leaks in drains, water, soil, waste, or vent pipe. However, if any concealed trap, drainpipe, water, soil, waste, or vent pipe becomes defective and it becomes necessary to remove and replace the drain or pipe with new material, then the work is considered new work and a permit shall be obtained and inspection made as provided in the code.
(ii) The clearing of stoppages or the repairing of leaks in pipes, valves, or fixtures, and the removal and reinstallation of water closets, if the repairs do not involve or require the replacement or rearrangement of valves, pipes, or fixtures.
History: 2002 AACS; 2003 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30561 Accessibility.
Rule 561. Sections 410.1, 410.6, 410.7, 410.8.2 and 410.8.3 of the code are amended as follows:

410.1. Scope. A building, facility, or element that has a change in use group or occupancy load or alteration shall comply in accordance with the requirements of the utilization of public facilities by physically limited, 1966 PA 1, MCL 125.1351 to 125.1356 and the Michigan building code, R 408.30401 to R 408.30499.
410.6. Alterations. A building, facility, or element that is altered shall comply with the applicable provisions in chapter 11 of the Michigan building code and ICC/A117.1 listed in chapter 16, unless technically infeasible. When compliance with this section is technically infeasible, then the alteration shall provide access to the maximum extent technically feasible.
Exceptions:
(1) The altered element or space is not required to be on an accessible route, unless required by section 410.7 of the code.
(2) Accessible means of egress required by chapter 10 of the Michigan building code are not required to be provided in existing buildings and facilities.
(3) Buildings, structures, or improved areas which exist on or before the effective date of these rules and which are in compliance with the code at the time of the issuance of the certificate of occupancy unless the alteration specifically modifies an area covered by sections 410.6 to 410.8 of the code.
(4) The alteration to type A individually owned dwelling units within a group R-2 occupancy shall meet the provisions for a type B dwelling unit and shall comply with the applicable provisions in chapter 11 of the Michigan building code and ICC/A 117.1 listed in chapter 16.
410.7. Alterations affecting an area containing a primary function. Where an alteration affects the accessibility to, or contains an area of, primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities or drinking fountains serving the area of primary function.
Exceptions:
(1) This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets, and signs.
(2) This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems, and abatement of hazardous materials.
(3) This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of an existing building, facility, or element.
(4) This provision does not apply to altered areas limited to type B dwelling and sleeping units.
410.8.2. Elevators. Altered elements of existing elevators shall comply with the Michigan elevator code, R 408.7001 to R 408.8695. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.
410.8.3. Platform lifts. Platform (wheelchair) lifts complying with ICC/A 117.1 listed in chapter 16, and installed in accordance with the Michigan elevator code, R 408.7001 to R 408.8695 shall be permitted as a component of an accessible route.

History: 2002 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30562
Source: 2008 AACS.

R 408.30563 Fire flow requirements.
Rule 563. Section 106.1.1 is added to the code to read as follows:
106.1.1. Fire flow requirements. The application for permit shall be accompanied by an evaluation of the available fire flow at the building utilizing the existing fire hydrants on the site, public streets, and adjacent sites in accordance with the provisions of the international fire code.

History: 2002 AACS; 2003 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30564 Elevator control.
Rule 564. Section 1401.6.14 of the code is amended as follows:
1401.6.14. Elevator control. Evaluate the passenger elevator equipment and controls that are available to the fire department to reach all occupied floors. Elevator recall controls shall be provided in accordance with the Michigan elevator code, R 408.7001 to R 408.8695. Under the categories and occupancies in table 1401.6.14, determine the appropriate value and enter that value into table 1401.7 under safety parameter 1401.6.14, elevator control, for fire safety, means of egress, and general safety. The values shall be zero for a single-story building.

History: 2002 AACS; 2008 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30565
Source: 2008 AACS.

R 408.30565a Smoke alarm reference codes.
Rule 565a. Sections 402.5, 403.6, 804.4.3, and 1104.1 of the code are amended as follows:
402.5. Smoke alarms in existing portions of a building. Where an addition is made to a building or structure of a group R or I-1 occupancy, the existing building shall be provided with smoke alarms in accordance with the Michigan building code.
403.6. Smoke alarms. Individual sleeping units and individual dwelling units in group R and I-1 occupancies shall be provided with smoke alarms in accordance with the Michigan building code.
804.4.3. Smoke alarms. Individual sleeping units and individual dwelling units in any work area in group R and I-1 occupancies shall be provided with smoke alarms in accordance with the Michigan building code.
Exception: Interconnection of smoke alarms outside of the work area shall not be required.
1104.1. Smoke alarms in existing portions of a building. Where an addition is made to a building or structure of a group R or I-1 occupancy, the existing building shall be provided with smoke alarms as required by the Michigan building code or the Michigan residential code as applicable.
History: 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30566 Smoke alarm locations.
Rule 566. Sections 501.4 and 501.4.1 are added to the code as follows:
501.4. Smoke alarm locations in existing buildings constructed before November 6, 1974. Within each dwelling unit or sleeping unit, a single-station smoke alarm shall be installed in the following locations:
(1) In each sleeping room or each area directly outside the sleeping room.
(2) On each floor level including the basement level.
For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than 1 full story below the upper level.
501.4.1. Equipment Requirements. The required equipment for smoke alarms consist of the following:
(1) Installation. Smoke alarm devices shall be listed and installed in accordance with the provisions of this code, the manufacturers installation requirements, and the provisions of NFPA 72 as listed in chapter 16.
(2) Power Source. The equipment shall be operable by power from 1 of the following primary sources.
(a) The building wiring provided that such wiring is served from a commercial source and is equipped with a battery backup. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.
(b) A non-rechargeable battery that is capable of operating the smoke alarm in the normal condition for a life of 5 years.
(c) A rechargeable battery, with proper charging, able to power the alarm for a life of 5 years and shall be automatically recharged by an AC circuit of the commercial light and power source.
(d) A household or commercial use alarm system with battery backup listed and approved in accordance with the household and commercial fire warning equipment provisions of NFPA 72, as adopted by reference in this rule.
(3) Audible Alarm Notification. The activation of the alarm signal shall produce a sound that is audible in all occupiable dwelling areas.
(4) Testing and Maintenance. The owner of a dwelling unit, in which required or optional fire detection or fire protection systems equipment is installed, shall be responsible for the proper operation, testing, and maintenance of the equipment in accordance with the manufacturer's instructions included with the equipment. The occupant of rental dwelling units shall be responsible for the periodic operational testing and periodic cleaning of the installed equipment within the rental unit in accordance with the testing instructions provided in the manufacturer's instructions for the equipment. If the system fails, breaks, or is out of service, it shall be repaired and functional within 30 days.
Exception: Smoke alarms and devices installed in buildings constructed before November 6, 1974 where an installation was approved by the appropriate enforcing agency under regulations in effect at the time of the installation shall be considered to comply with the provisions of the code.
History: 2002 AACS; 2003 AACS; 2005 AACS; 2008 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30567
Source: 2003 AACS.

R 408.30568 Altered area use and occupancy classification change.

Rule 568. Sections 110.1 and 110.2 of the code are amended as follows:
110.1. Altered area use and occupancy classification change. An altered area of a building shall not be used or occupied, and a change in the existing occupancy classification of a building or portion thereof shall not be made until the building official has issued a certificate of occupancy in accordance with the act. The issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of the other ordinances of the jurisdiction.
110.2. Certificate issued. After the building official inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by the department and all permit and plan review fees are paid, the building official shall issue a certificate of occupancy that contains all of the following:
(a) The building permit number.
(b) The address of the structure.
(c) A description of that portion of the structure for which the certificate is issued.
(d) A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.
(e) The name and signature of the building official or designee, registered in accordance with the building officials and inspectors registration act, 1986 PA 54, MCL 338.2301 to 338.2313.
(f) The edition of the code under which the permit was issued.
(g) The use and occupancy, in accordance with the provisions of the Michigan building code.
(h) The type of construction as defined in the Michigan building code.
(i) The design occupant load.
(j) If an automatic sprinkler system is provided, whether the sprinkler system is required.
(k) Any special stipulations and conditions of the building permit.
History: 2002 AACS; 2008 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30569 Michigan Uniform Energy Code Reference Codes.
Rule 569. Sections707.1, 811.1, 908.1, and 1106.1 of the code are amended as follows:
707.1. Minimum requirements. Level 1 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the Michigan uniform energy code or Michigan residential code. The alterations shall conform to the energy requirements of the Michigan uniform energy code, parts 10 and 10a, as they relate to new construction only.
811.1. Minimum requirements. Level 2 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the Michigan uniform energy code, parts 10 and 10a. The alterations shall conform to the energy requirements of the Michigan uniform energy code, parts 10 and 10a, as they relate to new construction only.
908.1. Minimum requirements. Level 3 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the Michigan uniform energy code, parts 10 and 10a. The alterations shall conform to the energy requirements of the Michigan uniform energy code, parts 10 and 10a, as they relate to new construction only.
1106.1. Minimum requirements. Additions to existing buildings shall conform to the energy requirements of the Michigan uniform energy code, parts 10 and 10a, as they relate to new construction.
History: 2002 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30570 Board of appeals.
Rule 570. Sections 112.1 and 112.3 of the code are amended as follows:
112.1. Means of appeal. An interested person may appeal a decision of the enforcing agency to the board of appeals in accordance with the act. An application for appeal shall be based on a claim that the true intent of the code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. The decision of a local board of appeals may be appealed to the construction code commission in accordance with the act and time frames.
Exception: Requests for barrier free design exception shall be in accordance with 1966 PA 1, MCL 125.1351 to 125.1356.
112.3. Qualification. The board of appeals shall consist of members who are qualified in accordance with the act and are not employees of the governmental subdivision or the agency enforcing the code.
History: 2002 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30571

Source: 2008 AACS.

R 408.30572 Stop work order.
Rule 572. Section 114.2 of the code is amended as follows:
114.2. Issuance. Notice shall be in accordance with the act. A person who is served with a stop work order, except for work that the person is directed to perform to remove a violation or unsafe condition, is subject to the penalty provisions prescribed in the act.
History: 2002 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30573 Change of occupancy.
Rule 573. Section 410.4 of the code is amended as follows:
410.4. Change of occupancy. Unless technically infeasible, sections 410.6, 410.7, and 410.8 of the code shall be applied in accordance with the utilization of public facilities by physically limited, 1966 PA 1, MCL 125.1351 to 125.1356.
History: 2002 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30574 Accessibility.
Rule 574. Section 705.1 of the code is amended as follows:
705.1. General. A building, facility, or element that is accessible shall remain accessible in accordance with the requirements of the utilization of public facilities by physically limited, 1966 PA 1, MCL 125.1351 to 125.1356, and the Michigan building code, R 408.30401 to R 408.30499.
History: 2002 AACS; 2008 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30575 High-rise buildings.
Rule 575. Sections 406.1, 602.3, 702.4, and 902.1 of the codeare amended and sections 406.2, 406.3, and 702.5 are added to the code to read as follows:
406.1. Replacement glass. The installation or replacement of glass shall be as required for new installations.
406.2. Replacement window opening control devices. In group R-2 or R-3 buildings containing dwelling units, window opening control devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all the following apply to the replacement window:
1. The window is operable.
2. The window replacement includes replacement of the sash and the frame.
3. The top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor.
4. The window will permit openings that will allow passage of a 4-inch diameter (102 mm) sphere when the window is in its largest opened position.
5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).
The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by section 1029.2.
Exceptions:
1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22.86 m) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F2006.
2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F2090.
406.3. Replacement window emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings in group R-2 and R-3 occupancies, replacement windows shall be exempt from the requirements of sections 1029.2, 1029.3 and 1029.5 provided the replacement window meets the following conditions:
1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. The replacement of the window is not part of a change of occupancy.
602.3. Glazing. Replacement glazing shall be as required for new installations. Replacement glazing in hazardous locations shall comply with the safety glazing requirements of the international building code or international residential code as applicable.
Exception: Glass block walls, louvered windows, and jalousies repaired with like materials.

702.4. Window opening control devices. In group R-2 or R-3 buildings containing dwelling units, window opening control devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all the following apply to the replacement window:
1. The window is operable;
2. The window replacement includes replacement of the sash and the frame;
3. In group R-2 or R-3 buildings containing dwelling units, the top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor, or in one- and two-family dwellings and townhouses regulated by the international residential code, the top of the sill of the window opening is at a height less than 24 inches (610 mm) above the finished floor;
4. The window will permit openings that will allow passage of a 4-inch diameter (102 mm) sphere when the window is in its largest opened position; and
5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).
The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by the international building code.
Exceptions:
1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22.86 m) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F2006.
2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F2090.
702.5. Emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings in group R-2 and R-3 occupancies, replacement windows shall be exempt from the requirements of sections 1029.2, 1029.3, and 1029.5 of the international building code provided the replacement window meets the following conditions:
1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be for an equal or greater window opening area than the existing window.
2. The replacement of the window is not part of a change of occupancy.
902.1. High-rise buildings. Any building having 1 or more occupied floors located more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access shall comply with the requirements of sections 902.1.1~~8~~ and 902.1.2.
Exception: The provisions of sections 902.1.1 and 902.1.2 shall apply to buildings having occupied floor levels more than 75 feet above the lowest level of fire department vehicle access where the local unit of government has complied with the provisions of section 403.1 of the Michigan building code, exception 6.
History: 2002 AACS; 2008 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30576 Accessibility requirements.
Rule 576. Sections 1006.1 and 1012.8 of the code are amended as follows:
1006.1. General. Accessibility in portions of buildings undergoing a change of occupancy classification shall comply with the provisions of section 410.4.
1012.8. Accessibility. A building, facility, or element that has a change in use group or occupancy load or alteration shall comply with the requirements of the utilization of public facilities by physically limited, 1966 PA 1, MCL 125.1351 to 125.1356 and the Michigan building code, R 408.30401 to R 408.30499.
History: 2002 AACS; 2003 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

R 408.30577 Applicability.
Rule 577. Sections 806.1 and 906.1 are added to the code and 1401.2 and 1401.2.5 of the code are amended as follows:
806.1. General. A building, facility, or element that is altered shall comply with section .410.
906.1. General. A building, facility, or element that is altered shall comply with section 410.
1401.2. Applicability. Structures existing before November 6, 1974, in which there is work involving additions, alterations, or changes of occupancy shall be made to conform to the requirements of this chapter or the provisions of chapters 5 to13 of the code. The provisions in sections 1401.2.1 to 1401.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in groups A, B, E, F, M, R, and S. This rule shall not apply to buildings with occupancies in group H or I.
1401.2.5. Accessibility requirements. All portions of the buildings proposed for change of occupancy shall conform to the accessibility provisions of section 410.

History: 2002 AACS; 2003 AACS; 2008 AACS; 2010 AACS; 2014 MR 11, Eff. Oct. 9, 2014.

PART 6. MOBILE HOME CODE

R 408.30601
Source: 1998-2000 AACS.

R 408.30611
Source: 1998-2000 AACS.

R 408.30616
Source: 1998-2000 AACS.

R 408.30621
Source: 1998-2000 AACS.

R 408.30626
Source: 1998-2000 AACS.

R 408.30631
Source: 1998-2000 AACS.

R 408.30636
Source: 1998-2000 AACS.

PART 7. PLUMBING CODE

AMENDMENTS AND ADDITIONS TO BASIC PLUMBING CODE

R 408.30701
Source: 2013 AACS.

R 408.30709
Source: 1979 AC.

R 408.30711
Source: 2013 AACS.

R 408.30712
Source: 2001 AACS.

R 408.30713
Source: 2010 AACS.

R 408.30714
Source: 2010 AACS.

R 408.30715
Source: 2013 AACS.

R 408.30716
Source: 2007 AACS.

R 408.30717

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R 408.30718
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R 408.30719
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R 408.30724
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R 408.30725
Source: 1998-2000 AACS.

R 408.30725a
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R 408.30725b
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R 408.30725c
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R 408.30726
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R 408.30728
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R 408.30730
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R 408.30740
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R 408.30740a
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R 408.30740b
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R 408.30740c
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R 408.30741
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R 408.30741a
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R 408.30741b
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R 408.30742,
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R 408.30744c
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R 408.30744d
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R 408.30744e
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R 408.30744f
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R 408.30745
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R 408.30745a
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R 408.30745b
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R 408.30746
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R 408.30746a
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R 408.30746b
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R 408.30747
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R 408.30747a
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R 408.30747b
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R 408.30747c
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R 408.30757
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R 408.30759
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R 408.30759a
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R 408.30759b
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R 408.30760
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R 408.30761
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R 408.30761a
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R 408.30761b
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R 408.30761c
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R 408.30762
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R 408.30763
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R 408.30763a
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R 408.30764
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R 408.30786
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R 408.30788
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R 408.30788a
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R 408.30791
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R 408.30792
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R 408.30793
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R 408.30795
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R 408.30795a
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R 408.30796
Source: 2001 AACS.

PART 8. ELECTRICAL CODE

R 408.30801
Source: 2013 AACS.

R 408.30805
Source: 1979 AC.

R 408.30806
Source: 2013 AACS.

R 408.30808
Source: 2013 AACS.

R 408.30809
Source: 2007 AACS.

R 408.30810
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R 408.30811
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R 408.30812
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R 408.30813
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R 408.30814
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R 408.30838
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R 408.30839
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R 408.30843
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R 408.30871
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R 408.30872
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R 408.30873

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R 408.30880
Source: 2013 AACS.

PART 9. MECHANICAL CODE

R 408.30901
Source: 1997 AACS.

PART 9A. MECHANICAL CODE

AMENDMENTS AND ADDITIONS TO BASIC MECHANICAL CODE

R 408.30901a
Source: 2013 AACS.

R 408.30902a
Source: 2003 AACS.

R 408.30903a
Source: 2001 AACS.

R 408.30904a
Source: 2001 AACS.

R 408.30905a
Source: 2007 AACS.

R 408.30906a
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R 408.30907a
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R 408.30908a
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R 408.30909a
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R 408.30910a
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R 408.30912a
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R 408.30915a
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R 408.30916
Source: 2010 AACS.

R 408.30917a
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R 408.30918a
Source: 2013 AACS.

R 408.30919a
Source: 1997 AACS.

R 408.30920a
Source: 1998-2000 AACS.

R 408.30921a
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R 408.30922a
Source: 1998-2000 AACS.

R 408.30923a
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R 408.30924a
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R 408.30925a
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R 408.30926a
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R 408.30927a
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R 408.30928a
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R 408.30929a
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R 408.30930a
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R 408.30931a
Source: 1998-2000 AACS.

R 408.30932a
Source: 1998-2000 AACS.

R 408.30933a
Source: 1998-2000 AACS.

R 408.30935a
Source: 2013 AACS.

R 408.30936a
Source: 2007 AACS.

R 408.30937a

Source: 1998-2000 AACS.

R 408.30938a
Source: 1997 AACS.

R 408.30940a
Source: 2001 AACS.

R 408.30941a
Source: 1998-2000 AACS.

R 408.30942a
Source: 1997 AACS.

R 408.30943a
Source: 1997 AACS.

R 408.30944a
Source: 1998-2000 AACS.

R 408.30945a
Source: 2013 AACS.

R 408.30946
Source: 2013 AACS.

R 408.30946a
Source: 2010 AACS.

R 408.30947
Source: 2013 AACS.

R 408.30947a
Source: 2013 AACS.

R 408.30948
Source: 2013 AACS.

R 408.30948a
Source: 2013 AACS.

R 408.30949a
Source: 1998-2000 AACS.

R 408.30951a
Source: 1998-2000 AACS.

R 408.30952a
Source: 1997 AACS.

R 408.30953a
Source: 1998-2000 AACS.

R 408.30954a
Source: 1998-2000 AACS.

R 408.30955a
Source: 1997 AACS.

R 408.30956a
Source: 1998-2000 AACS.

R 408.30958a
Source: 1998-2000 AACS.

R 408.30960a
Source: 1997 AACS.

R 408.30962a
Source: 1998-2000 AACS.

R 408.30963a
Source: 1998-2000 AACS.

R 408.30964a
Source: 1997 AACS.

R 408.30965a
Source: 1998-2000 AACS.

R 408.30966a
Source: 1997 AACS.

R 408.30967a
Source: 1997 AACS.

R 408.30968a
Source: 1997 AACS.

R 408.30970a
Source: 1997 AACS.

R 408.30971a
Source: 1997 AACS.

R 408.30972a
Source: 1997 AACS.

R 408.30975a
Source: 1998-2000 AACS.

R 408.30977a
Source: 1997 AACS.

R 408.30982a
Source: 1997 AACS.

R 408.30983a
Source: 1998-2000 AACS.

R 408.30984a
Source: 1998-2000 AACS.

R 408.30987a
Source: 1998-2000 AACS.

R 408.30989a
Source: 1997 AACS.

R 408.30992a
Source: 1997 AACS.

R 408.30995a
Source: 2013 AACS.

R 408.30996
Source: 2013 AACS.

R 408.30997
Source: 1997 AACS.

R 408.30998
Source: 1997 AACS.

PART 10. ENERGY CONSERVATION IN NEW BUILDING DESIGN

R 408.31001
Source: 1998-2000 AACS.

R 408.31010
Source: 1998-2000 AACS.

R 408.31020
Source: 1998-2000 AACS.

R 408.31030
Source: 1998-2000 AACS.

R 408.31040
Source: 1998-2000 AACS.

R 408.31041
Source: 1998-2000 AACS.

R 408.31045
Source: 1998-2000 AACS.

R 408.31050
Source: 1998-2000 AACS.

R 408.31055
Source: 1998-2000 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF CONSTRUCTION CODES

GENERAL RULES

PART 10. MICHIGAN UNIFORM ENERGY CODE

R 408.31059
Source: 2010 AACS.

R 408.31060a
Source: 2010 AACS.

R 408.31060b
Source: 2010 AACS.

R 408.31060c
Source: 2010 AACS.

R 408.31060d
Source: 2010 AACS.

R 408.31060e
Source: 2010 AACS.

R 408.31061
Source: 2010 AACS.

R 408.31062
Source: 2010 AACS.

R 408.31063
Source: 2010 AACS.

R 408.31063a
Source: 2010 AACS.

R 408.3~~0~~1064
Source: 2010 AACS.

R 408.31065
Source: 2010 AACS.

R 408.31066
Source: 2010 AACS.

R 408.31069
Source: 2010 AACS.

R 408.31070
Source: 2010 AACS.

R 408.31071
Source: 2008 AACS.

R 408.31072
Source: 2008 AACS.

R 408.31073
Source: 2008 AACS.

R 408.31074
Source: 2008 AACS.

R 408.31075
Source: 2008 AACS.

R 408.31076
Source: 2008 AACS.

R 408.31077
Source: 2008 AACS.

R 408.31078
Source: 2008 AACS.

R 408.31079
Source: 2008 AACS.

R 408.31080
Source: 2008 AACS.

R 408.31081
Source: 2008 AACS.

R 408.31082
Source: 2008 AACS.

R 408.31083
Source: 2008 AACS.

R 408.31084
Source: 2008 AACS.

R 408.31085
Source: 2008 AACS.

R 408.31086
Source: 2008 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF CONSTRUCTION CODES

GENERAL RULES

PART 10a. MICHIGAN UNIFORM ENERGY CODE

R 408.31087
Source: 2010 AACS.

R 408.31087a
Source: 2010 AACS.

R 408.31088
Source: 2010 AACS.

R 408.31089
Source: 2010 AACS.

R 408.31090
Source: 2010 AACS.

R 408.31099
Source: 1998-2000 AACS.

PART 11. PREMANUFACTURED UNITS

R 408.31101
Source: 1979 AC.

R 408.31103
Source: 1984 AACS.

R 408.31104
Source: 1984 AACS.

R 408.31105
Source: 1984 AACS.

R 408.31106
Source: 1984 AACS.

R 408.31107
Source: 2006 AACS.

R 408.31111
Source: 1984 AACS.

R 408.31112
Source: 1979 AC.

R 408.31113
Source: 1984 AACS.

R 408.31121
Source: 1979 AC.

R 408.31122
Source: 1984 AACS.

R 408.31131
Source: 1979 AC.

R 408.31132
Source: 1984 AACS.

R 408.31133
Source: 1984 AACS.

R 408.31134
Source: 1984 AACS.

R 408.31135
Source: 1984 AACS.

R 408.31136
Source: 1984 AACS.

R 408.31137
Source: 1984 AACS.

R 408.31138
Source: 1984 AACS.

R 408.31139
Source: 1984 AACS.

R 408.31141
Source: 1984 AACS.

R 408.31142
Source: 1984 AACS.

R 408.31143
Source: 1979 AC.

R 408.31144
Source: 1984 AACS.

R 408.31145
Source: 1984 AACS.

R 408.31151
Source: 1979 AC.

R 408.31152
Source: 1984 AACS.

R 408.31153
Source: 1984 AACS.

R 408.31161
Source: 1979 AC.

R 408.31162
Source: 1984 AACS.

R 408.31163
Source: 1979 AC.

R 408.31164
Source: 1979 AC.

R 408.31165
Source: 1979 AC.

R 408.31166
Source: 1979 AC.

R 408.31167
Source: 1984 AACS.

R 408.31168
Source: 1984 AACS.

R 408.31169
Source: 2006 AACS.

R 408.31170
Source: 2004 AACS.

R 408.31171
Source: 1979 AC.

R 408.31172
Source: 1984 AACS.

R 408.31174
Source: 1984 AACS.

R 408.31191
Source: 1979 AC.

R 408.31192
Source: 1979 AC.

R 408.31193
Source: 1979 AC.

R 408.31194
Source: 1984 AACS.

CONSTRUCTION SAFETY STANDARDS

PART 1. GENERAL RULES

R 408.40101
Source: 1983 AACS.

R 408.40102
Source: 2013 AACS.

R 408.40103
Source: 1997 AACS.

R 408.40104
Source: 1997 AACS.

R 408.40105
Source: 1997 AACS.

R 408.40106
Source: 1997 AACS.

R 408.40111
Source: 1997 AACS.

R 408.40112
Source: 1997 AACS.

R 408.40114
Source: 2013 AACS.
R 408.40115
Source: 1995 AACS.

R 408.40116
Source: 2013 AACS.

R 408.40118
Source: 2013 AACS.

R 408.40119
Source: 2013 AACS.

R 408.40120
Source: 1996 AACS.

R 408.40121
Source: 2013 AACS.

R 408.40122
Source: 2013 AACS.

R 408.40123
Source: 1983 AACS.

R 408.40125
Source: 2013 AACS.

R 408.40126
Source: 2013 AACS.

R 408.40127
Source: 2013 AACS.

R 408.40128
Source: 2013 AACS.

R 408.40129
Source: 1995 AACS.

R 408.40130
Source: 1995 AACS.

R 408.40130
Source: 2013 AACS.

R 408.40131
Source: 2013 AACS.

R 408.40132
Source: 2013 AACS.

R 408.40133
Source: 2013 AACS.

R 408.40134
Source: 2013 AACS.

PART 2. MASONRY WALL BRACING

R 408.40201
Source: 2010 AACS.

R 408.40202
Source: 2010 AACS.

R 408.40203
Source: 2010 AACS.

R 408.40204
Source: 2010 AACS.

R 408.40205
Source: 2010 AACS.

R 408.40206
Source: 2010 AACS.

R 408.40207
Source: 2010 AACS.

R 408.40208
Source: 2010 AACS.

R 408.40209
Source: 2010 AACS.

R 408.40210
Source: 2010 AACS.

R 408.40211
Source: 2010 AACS.

R 408.40212
Source: 2010 AACS.

R 408.40213
Source: 2010 AACS.

PART 6. PERSONAL PROTECTIVE EQUIPMENT

R 408.40601 Scope.

Rule 601. (1) This standard provides specifications for personal protective equipment and prescribes the use, selection, and maintenance of this equipment for the protection of the employee's head, face, eyes, hands, feet, and body during construction operations.
(2) Hearing protection shall be in compliance with Occupational Health Standard Part 380 "Occupational Noise Exposure," as referenced in R 408.13301a.
(3) Respiratory protection shall be in compliance with Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.13301a.
(4) Protective equipment, including personal protective equipment for eyes, face, head, hands, feet, and body, protective clothing, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact.
History: 1979 AC; 1980 AACS; 2014 MR 5, Eff. March 17, 2014.

R 408.40603 Adoption of standards by reference; access to other MIOSHA rules; appendices.
Rule 603. (1) The following standards are adopted by reference in these rules and are available from the Document Center, Inc., Customer Service, 121 Industrial Road, Suite 8, Belmont, California 94002, USA, telephone: (650) 591-7600 or via the internet at website: www.document-center.com; at a cost as of the time of adoption of these rules, as stated in this subrule.
(a) American National Standard Institute (ANSI) Z-89.1 "American National Standard for Industrial Head Protection," 2009 edition. Cost: $61.25
(b) ANSI Z-89.1, "American National Standard for Industrial Head Protection," 2003 edition. Cost: $20.00.
(c) ANSI Z-89.1 "American National Standard for Personnel Protection—Protective Headwear for Industrial Workers--Requirements," 1997 edition. Cost: $20.00.
(2) The standards adopted in subrule (1) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.
(3) Copies of the standards adopted in subrule (1) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
(4) The following Michigan occupational safety and health standards (MIOSHA) are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA standards section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
(a) Construction Safety Standard Part 45 "Fall Protection," R 408.44501 to R 408.44502.
(b) Occupational Health Standard Part 380 "Occupational Noise Exposure" R 325.60101 to R 325.60128.
(c) Occupational Health Standard Part 451 "Respiratory Protection," R 325.60051 to R 325.60052.
(5) The appendices are informational only and are not intended to create any additional obligations or requirements not otherwise imposed or to detract from any established obligations or requirements.
History: 2014 MR 5, Eff. March 17, 2014.

R 408.40614 Definitions, C to F.
Rule 614. (1) "Contaminant" means any material which by reason of its action upon, within, or to a person is likely to cause physical harm.
(2) "Footwear" means wearing apparel for the feet, such as shoes, boots, slippers, or overshoes, excluding hosiery.
History: 2014 MR 5, Eff. March 17, 2014.

R 408.40615 Definitions, H to R.
Rule 615. (1) "Helmet," also called a hard hat or cap, means a device that is worn on the head and that is designed to provide limited protection against impact, flying particles, or electric shock.
(2) "Manufacturer" means a business entity that marks or directs the permanent marking of the components or complete devices as compliant with this standard, and sells them as compliant.
(3) "Metatarsal guards" mean guards that are designed to protect the top of the foot from the toes to the ankle over the instep of the foot. These guards may be attached to the outside of shoes.
(4) "O.D." means optical density and refers to the light refractive characteristics of a lens.

(5) “Protective footwear” means footwear that is designed, constructed, and classified to protect the wearer from a potential hazard or hazards.
(6) "Radiant energy" means energy that travels outward in all directions from its sources.
History: 1980 AACS; 1982 AACS; 1996 AACS; 1998-2000 AACS; 2014 MR 5, Eff. March 17, 2014.

R 408.40616 Definitions, S, T.
Rule 616. (1) “Safety line” means a device used for emergency rescue work.
(2) “Sanitizing” means an act or process of destroying organisms that may cause disease.
(3) “Shell” means the portion of welding helmet or handshield that covers the wearer’s face and is the part of a helmet which includes the outermost surface.
(4) “Toe guards” means the guards that fit over the toes of regular shoes to protect the toes from impact and compression hazards. These guards may be attached to the outside of shoes.
History: 1980 AACS; 1996 AACS; 1998-2000 AACS; 2014 MR 5, Eff. March 17, 2014.

R 408.40617 Employer’s and employee’s responsibilities.
Rule 617. (1) An employer shall not permit defective or damaged personal protective equipment to be used.
(2) An employer shall require each employee to wear personal protective equipment as prescribed by the manufacturer when required by any Michigan occupational safety and health act (MIOSHA) rule.
(3) If personal protective equipment is required and is worn in direct contact with the skin, the equipment shall be sanitized before being reissued to another employee.
(4) An employer shall require the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions or where this part indicates the need for using such equipment to reduce the hazards to the employees.
(5) All personal protective equipment shall be of safe design and constructed for the work to be performed.
History: 1980 AACS; 1982 AACS; 1985 AACS; 2013 AACS; 2014 MR 5, Eff. March 17, 2014.

PAYMENT FOR PERSONAL PROTECTIVE EQUIPMENT

R 408.40617a Payment for personal protective equipment (PPE).
Rule 617a. (1) An employer shall provide at no cost to employees the personal protective equipment necessary to protect against hazards that the employer is aware of as a result of any required assessments.
(2) An employer shall pay for replacement PPE, as necessary, under either of the following conditions:
(a) When the PPE no longer provides the protection it was designed to provide.
(b) When the previously provided PPE is no longer adequate or functional.
(3) When an employee has lost or intentionally damaged the PPE issued to him or her, an employer is not required to pay for its replacement and may require the employee to pay for its replacement.
(4) An employer is not required to pay for prescription safety eyewear with removable or permanent sideshields as long as the employer provides safety eyewear that fits over an employee’s prescription lenses.
(5) An employer is not required to pay for non-specialty prescription afety eyewear, provided that the employer permits these items to be worn off the job-site.
(6) An employer is not required to pay for non-specialty safety-toe protective footwear, including steel-toe shoes or steel-toe boots, provided that the employer permits these items to be worn off the job-site.
(7) An employer shall provide, at no cost to employees, metatarsal guards attachable to shoes when metatarsal protection is necessary, when both of the following apply:
(a) If metatarsal protection is necessary and an employer requires employees to use metatarsal shoes instead of detachable guards, then the employer shall provide the metatarsal shoe at no cost to the employee.
(b) If an employer provides metatarsal guards and allows the employee, at his or her request, to use shoes or boots with built-in metatarsal protection, then the employer is not required to pay for the metatarsal shoes or boots.
(8) An employer is not required to pay for either of the following:
(a) Everyday clothing, which includes any of the following:
(i) Long-sleeve shirts.
(ii) Long pants.
(iii) Street shoes.
(iv) Normal work boots.

(v) Ordinary clothing.
(vi) Skin creams.
(b) Other items used solely for protection from weather, which includes any of the following:
(i) Winter coats.
(ii) Jackets.
(iii) Gloves.
(iv) Parkas.
(v) Rubber boots.
(vi) Hats.
(vii) Raincoats.
(viii) Ordinary sunglasses.
(ix) Sunscreen.
(9) An employer shall pay for protection when ordinary weather gear is not sufficient to protect an employee and special equipment or extraordinary clothing is needed to protect the employee from unusually severe weather conditions. Clothing used in artificially-controlled environments with extreme hot or cold temperatures, such as freezers, is not considered part of the weather gear exception.
(10) All of the following apply to upgraded and personalized PPE:
(a) An employer is not required to pay for PPE requested by an employee that exceeds the PPE requirements, provided that the employer provides PPE that meets the standards at no cost to the employee.
(b) If an employer allows an employee to acquire and use upgraded or personalized PPE, then the employer is not required to reimburse the employee for the equipment, provided that the employer has provided adequate PPE at no cost to the employee.
(c) An employer shall evaluate an employee's upgraded or personalized PPE to ensure that it is in compliance with all of the following:
(i) Adequate to protect from hazards present in the workplace.
(ii) Properly maintained.
(iii) Kept in a sanitary condition.
(11) When the provisions of another MIOSHA standard specify whether the employer shall pay for specific equipment, the payment provisions of that standard prevails.
History: 2014 MR 5, Eff. March 17, 2014.

R 408.40621 Criteria for head protection.
Rule 621. (1) An employer shall provide each employee with head protection that meets the specifications contained in any of the following consensus standards:
(a) ANSI Z-89.1, "American National Standard for Industrial Head Protection," 2009 edition, as adopted in R 408.40603.
(b) ANSI Z-89.1, "American National Standard for Industrial Head Protection," 2003 edition, as adopted in R 408.40603.
(c) ANSI Z-89.1 "American National Standard for Personnel Protection—Protective Headwear for Industrial Workers--Requirements," 1997 edition, as adopted in R 408.40603.
(2) Any head protection device that an employer demonstrates is at least as effective as a head protection device constructed in accordance with 1 of the consensus standards adopted in subrule (1) of this rule is considered to be in compliance with this rule.
(3) An employer shall ensure that the head protection provided for each employee exposed to high-voltage electric shock and burns meets the specifications contained in Section 9.7 "Electrical Insulation" of any of the ANSI standards adopted by reference in subrule (1) of this rule.
History: 1980 AACS; 1998-2000 AACS; 2013 AACS;2014 MR 5, Eff.. March 17, 2014.

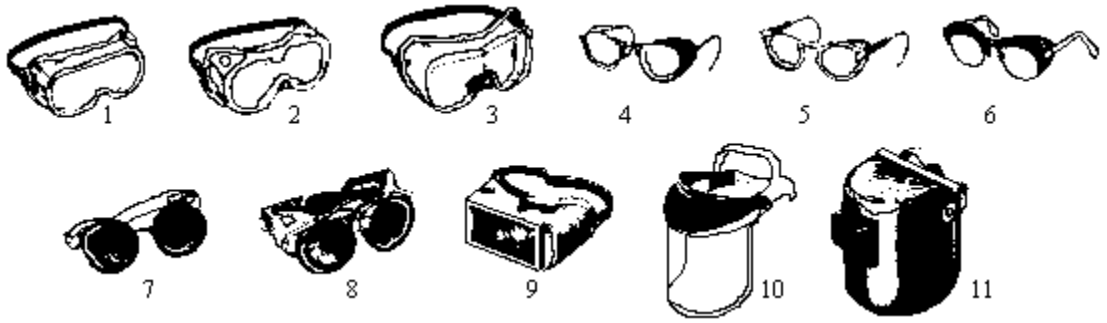
HEAD PROTECTION EQUIPMENT

R 408.40622 Use of head protection.
Rule 622.(1) An employer shall ensure that each affected employee is provided with, and wears, head protection equipment and accessories when the employee is required to be present in areas where a hazard or risk of injury exists from any of the following:
(a) Falling or flying objects or particles.
(b) Electrical shock and burns.

(c) From other harmful contacts or exposures.
(2) Head protection equipment that has been physically altered, painted, or damaged shall not be worn.
(3) A chin strap shall be provided and shall be used when an employee is exposed to weather or work operations that may cause the head protection equipment to be displaced.
History: 1980 AACS; 2013 AACS; 2014 MR 5, Eff. March 17, 2014.

R 408.40623
Source: 2013 AACS.
R 408.40624 Use of eye and face protection.
Rule 624.(1) An employer shall ensure that each affected employee uses appropriate eye and face protection, when exposed to eye or face hazards or if risk of injury exists from any of the following:
(a) Flying objects or particles.
(b) Harmful contacts.
(c) Exposures, such as glare.
(d) Liquids.
(e) Injurious radiation.
(f) Electrical flash.
(g) A combination of these hazards.
(2) An employee who wears prescription eyewear shall be protected by 1 of the following:
(a) Eye protection that incorporates the prescription in its design.
(b) Eye protection that can be worn over prescription lenses without disrupting either the prescription eyewear or the protective eyewear.
(c) Eye protection that incorporates corrective lenses mounted behind the protective lenses.
(3) Eye and face protection equipment shall be of proper size to fit each employee and protect against the intrusion of foreign objects. Eye and face protection shall be kept clean and in good repair. Equipment with structural or optical defects shall not be used.
(4) A protector shall be in compliance with all of the following minimum requirements:
(a) Provides adequate protection against the particular hazards for which it is designed.
(b) Be reasonably comfortable when worn under the designated conditions.
(c) Fits snugly and does not unduly interfere with movements of the wearer.
(d) Be durable.
(e) Be capable of withstanding sanitizing.
(5) An employer shall ensure that eye and face personal protective equipment is distinctly marked to facilitate identification of the manufacturer.
(6) Limitations or precautions indicated by the manufacturer shall be transmitted to the user and care is taken to ensure that the limitations or precautions are observed.
(7) Table 1 shall be used as a guide in the selection of face and eye protection for the hazards and operations noted.

TABLE 1
EYE AND FACE PROTECTOR SELECTION GUIDE



1.	GOGGLES	Flexible Fitting, Regular Ventilation
2.	GOGGLES	Flexible Fitting, Hooded Ventilation
3.	GOGGLES	Cushioned Fitting, Rigid Body
* 4.	SPECTACLES	Metal Frame, with Side Shields
* 5.	SPECTACLES	Plastic Frame, with Side Shields
* 6.	SPECTACLES	Metal-Plastic Frame, with Side Shields
** 7.	WELDING GOGGLES	Eyecup Type, Tinted Lenses (Illustrated)
7A.	CHIPPING GOGGLES	Eyecup Type, Clear Safety Lenses (Not Illustrated)
**8.	WELDING GOGGLES	Converspec Type, Tinted Lenses (Illustrated)
**8A.	CHIPPING GOGGLES	Coverspec Type, Clear Safety Lenses. (Not Illustrated)
**9.	WELDING GOGGLES	Coverspec Type, Tinted Plate Lens
10.	FACE SHIELD	(Available with Plastic or Mesh Window)
**11.	WELDING HELMETS	

APPLICATIONS		
OPERATION	HAZARDS	RECOMMENDED PROTECTORS: Bold Type Numbers Signify Preferred Protection
Acetylene-Burning Acetylene-Cutting Acetylene-Welding	Sparks, Harmful rays, Molten Metal, Flying Particles	7, 8, 9
Chemical Handling	Splash, Acid burns, Fumes	2, 10 (For severe exposure add 10 over 2)
Chipping	Flying Particles	1, 3, 4, 5, 6, 7A, 8A
Electric(arc) Welding	Sparks, Intense Rays, Molten Metal	9, 11 (11 in combination with 4, 5, 6, in tinted lenses advisable)
Furnace Operations	Glare, Heat, Molten Metal	7, 8, 9 (For severe exposure add 10)
Grinding-Light	Flying Particles	1, 3, 4, 5, 8, 10
Grinding-Heavy	Flying Particles	1, 3, 7A, 8A (For severe exposure add 10)
Laboratory	Chemical Splash, Glass Breakage	2 (10 when in combination with 4, 5, 6)
Machining	Flying Particles	1, 3, 4, 5, 8, 10
Molten Metals	Heat, Glare, Sparks, Splash	7, 8 (10 in combination with 4, 5, 6, in tinted lenses)
Spot Welding	Flying Particles, Sparks	1, 3, 4, 5, 8, 10

* Non-side shield spectacles are available for limited hazard use requiring only frontal protection.

** See table 2 of this rule, “Filter Lens Shade Numbers During For Protection For Welding Operations.”

History: 1980 AACS; 1988 AACS; 2013 AACS; 2014 MR 5, Eff. March 17, 2014.

WELDING PROTECTION

R 408.40624a Welding protection.
Rule 624a (1) Table 2 shall be used as a guide to select the proper shade number of filter lenses or plates during welding operations.
(2) When an employee is welding and using a welding shield, the shield shall incorporate a safety glass feature with a flip-up filter lens or the employee shall wear safety glasses with side shields or goggles under the shield when the shield is raised and is exposed to flying objects.
(3) Shades more dense than those listed in Table 2 may be used to suit the individual's needs.
(4) Table 2 reads as follows:

TABLE 2

FILTER LENS SHADE NUMBERS DURING WELDING OPERATIONS	
WELDING OPERATION	SHADE NUMBER
Shielded metal-arc welding 1/16-, 3/32-,1/8-, 5/32-, inch diameter electrodes	10
Gas-shielded arc welding(nonferrous) 1/16-,3/32-, 1/8-, 5/32-inch diameter electrodes	11
Gas-shielded arc welding(ferrous) 1/16,3/32-, 1/8-, 5/32-inch diameter electrodes	12
Shielded metal-arc welding 3/16-, 7/32-,1/4-inch diameter electrodes	12
5/16-, 3/8-inch diameter electrodes	14
Atomic hydrogen welding	10 – 14
Carbon-arc welding	14
Soldering	2
Torch brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, over 6 inches	5 or 6
Gas welding(light), up to 1/8-inch	4 or 5
Gas welding(medium), 1/8-inch to 1/2-inch	4 or 6
Gas welding(heavy), over 1/2-inch	6 or 8

History: 2014 MR 5, Eff. March 17, 2014.

LASER PROTECTION

R 408.40624b Laser protection.
Rule 624b. (1) An employee exposed to laser beams with a wattage of more than .005 (5 milliwatts) shall wear laser safety goggles that provides protection for the specific wavelength of the laser and that are of an optical density (O.D.) adequate for the energy involved. The maximum power or energy density for which adequate protection is afforded by glasses of optical densities from 5 to 8 is shown in Table 3.
(2) All protective goggles shall bear a label identifying all of the following data:
(a) The laser wavelengths for which use is intended.
(b) The optical density of those wavelengths.
(c) The visible light transmission.
(3) Table 3 reads as follows:

TABLE 3

SELECTING LASER SAFETY GLASS		
INTENSITY		ATTENUATION
CW Maximum Power Density (Watts/cm^3)	Optical Density (O.D.)	Attenuation Factor
10^{-2}	5	10^5

10^{-2}	6	10^{6}
1.0	7	10^{7}
10.0	8	10^{8}
*10^{-2} Equals 1 Milliwatt.		
Output levels falling between lines in this table shall require the higher optical density.		

History: 2014 MR 5, Eff. March 17, 2014.

FOOT AND TOE PROTECTION

R 408.40625 Foot and toe protection; consensus standards; specific requirements.
Rule 625. (1) Safety toe footwear shall bear a permanent mark to show the manufacturer's name or trademark and to show certification of compliance with ANSI standard Z-41 -1991, "Protective Footwear Personal Protection," which is adopted in these rules by reference and may be inspected at the Lansing office of the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section. The standard may be purchased at a cost of $20.00 as of the time of adoption of these rules from the American National Standards Institute, 1430 Broadway, New York, New York 10018, or from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.
(2) An employer shall ensure that each affected employee wears foot protection or toe protection, or both, if conditions of the job are likely to cause a foot injury.
(3) If a hazard is created from a process, chemical, or mechanical irritant which could cause an injury or impairment to the feet by absorption or physical contact, other than from impact, then the employer shall provide any of the following to the employee:
(a) Boots.
(b) Overshoes.
(c) Rubbers.
(d) Wooden-soled shoes.
(e) The equivalent to subdivisions (a) to (d) if this subrule.
History: 1980 AACS; 1982 AACS; 1998-2000 AACS; 2013 AACS; 2014 MR 5, Eff. March 17, 2014.

HAND AND BODY PROTECTION

R 408.40626 Hand and body protection.
Rule 626. (1) An employee who handles rough, sharp-edged, abrasive materials, or whose work subjects the hands to any of the following, shall wear hand protection of a type suitable for the work being performed:
(a) Lacerations.
(b) Punctures.
(c) Burns.
(d) Bruises.
(2) Cloth gloves shall not be worn when operating rotating equipment such as a drill or a powered threading machine.
(3) Precautions shall be taken with regard to synthetic clothing that is worn near a source of flame, spark, a hot surface, or material that could ignite the clothing.
(4) An employee shall not wear loose clothing, neckwear encircling the neck, or exposed jewelry, such as rings and necklaces, near a machine having reciprocating or rotating shafts or spindles or when handling material that could catch on clothing or jewelry and cause injury. A ring shall not be worn on the finger unless covered by a glove or tape.
(5) When an employee is exposed to hazards such as radiation, alkalies, acids, abrasives, and temperature extremes other than those caused by weather conditions, appropriate head, body, and hand protection shall be worn to protect the employee from that hazard. Such personal protective equipment shall be provided by the employer.
History: 1980 AACS; 1982 AACS; AACS; 2014 MR 5, Eff. March 17, 2014.

R 408.40627
Source: 2013 AACS.

R 408.40631 Fall protection.

Rule 631. An employer shall ensure that each employee whose fall protection is not covered by another MIOSHA safety standard, and the employee's work area is more than 6 feet above the ground, floor, water, or other surface, shall be protected as prescribed in Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.13301a.
The following systems are included in Construction Safety Standard Part 45 "Fall Protection:"
(a) Guardrail systems.
(b) Safety net systems.
(c) Personal fall arrest systems.
See Appendix C for reference to the correct safety standards for construction industry threshold heights requiring fall prevention/protection equipment.
History: 1998-2000 AACS; 2013 AACS; 2014 MR 5, Eff. March 17, 2014.

R 408.40632
Source: 2013 AACS.

R 408.40633
History: 1980 AACS; 1996 AACS; 2014 MR 5, Eff. March 17, 2014.

R 408.40634
History: 1980 AACS; 2013 AACS; 2014 MR 5, Eff. March 17, 2014.

R 408.40635
History: 1998-2000 AACS; 2013 AACS; 2014 MR 5, Eff. March 17, 2014.

R 408.40636 Working over or near water.
Rule 636. (1) Where a possibility of drowning exists, each employee working over or adjacent to water shall wear a life jacket or buoyant work vest. The life jacket or buoyant vest shall bear a label, "U.S. Coast Guard approved."
(2) Before each use, a competent person shall inspect the life jacket or buoyant vest for defects which might alter its strength or buoyancy. Defective units shall not be used.
(3) A ring buoy with not less than 90 feet of safety line shall be provided and shall be readily available for rescue operations. The distance between the buoys shall not be more than 200 feet.
(4) Not less than 1 lifesaving boat equipped with a method of propulsion that is effective for the water conditions shall be available at the location where an employee works over or adjacent to water.
History: 1980 AACS; 2014 MR 5, Eff. March 17, 2014.

R 408.40641
Source: 2013 AACS.

PART 7. WELDING AND CUTTING

R 408.40701
Source: 1980 AACS.

R 408.40705
Source: 1980 AACS.

R 408.40706
Source: 1980 AACS.

R 408.40707
Source: 1980 AACS.

R 408.40709
Source: 2013 AACS.

R 408.40711
Source: 2013 AACS.

R 408.40712
Source: 2013 AACS.

R 408.40713
Source: 1996 AACS.

R 408.40714
Source: 2013 AACS.

R 408.40715
Source: 1980 AACS.

R 408.40721
Source: 2013 AACS.

R 408.40722
Source: 2013 AACS.

R 408.40723
Source: 1980 AACS.

R 408.40729
Source: 2013 AACS.

R 408.40731
Source: 1980 AACS.

R 408.40732
Source: 1980 AACS.

R 408.40741
Source: 1980 AACS.

R 408.40742
Source: 2013 AACS.

R 408.40743
Source: 2013 AACS.

R 408.40744
Source: 2013 AACS.

R 408.40745
Source: 1980 AACS.

R 408.40746
Source: 2013 AACS.

R 408.40747
Source: 1980 AACS.

R 408.40751

Source: 2013 AACS.

R 408.40761
Source: 2013 AACS.

R 408.40762
Source: 1980 AACS.

PART 8. HANDLING AND STORAGE OF MATERIALS

R 408.40801
Source: 1979 AC.

R 408.40810
Source: 2013 AACS.

R 408.40817
Source: 1979 AC.

R 408.40818
Source: 2013 AACS.

R 408.40819
Source: 2013 AACS.

R 408.40820
Source: 2013 AACS.

R 408.40821
Source: 2013 AACS.

R 408.40822
Source: 2013 AACS.

R 408.40823
Source: 2004 AACS.

R 408.40831
Source: 2013 AACS.

R 408.40832
Source: 2004 AACS.

R 408.40833
Source: 2013 AACS.

R 408.40834
Source: 2013 AACS.

R 408.40835
Source: 2004 AACS.

R 408.40836
Source: 2013 AACS.

R 408.40837
Source: 2013 AACS.

R 408.40840
Source: 2013 AACS.

R 408.40841
Source: 2013 AACS.

PART 9. EXCAVATION, TRENCHING, AND SHORING

R 408.40901
Source: 1979 AC.

R 408.40925
Source: 1993 AACS.

R 408.40926
Source: 1979 AC.

R 408.40927
Source: 1979 AC.

R 408.40931
Source: 1979 AC.

R 408.40932
Source: 2013 AACS.

R 408.40933
Source: 2013 AACS.

R 408.40934
Source: 1993 AACS.

R 408.40941
Source: 2013 AACS.

R 408.40942
Source: 1979 AC.

R 408.40943
Source: 1993 AACS.

R 408.40944
Source: 1993 AACS.

R 408.40945
Source: 1993 AACS.

R 408.40946
Source: 2013 AACS.

R 408.40951
Source: 2013 AACS.

R 408.40952
Source: 2013 AACS.

R 408.40953
Source: 1993 AACS.

PART 10. LIFTING AND DIGGING EQUIPMENT

R 408.41001a Scope.
Rule 1001a. (1) This standard applies to power operated equipment, when used in construction, that can hoist, lower, and horizontally move a suspended load. This equipment includes, but is not limited to, any of the following:
(a) Articulating cranes, such as knuckle-boom cranes.
(b) Crawler cranes.
(c) Floating cranes.
(d) Cranes on barges.
(e) Locomotive cranes.
(f) Mobile cranes, such as wheel-mounted, rough-terrain, all-terrain, commercial truck-mounted, and boom truck cranes.
(g) Multi-purpose machines when configured to hoist and lower by means of a winch or hook and horizontally move a suspended load.
(h) Industrial cranes, such as carrydeck cranes.
(i) Dedicated pile drivers.
(j) Service/mechanic trucks with a hoisting device.
(k) Crane on a monorail.
(l) Tower cranes, such as a fixed jib, ‘‘hammerhead boom’’, luffing boom, and self-erecting.
(m) Pedestal cranes.
(n) Portal cranes.
(o) Overhead and gantry cranes.
(p) Straddle cranes.
(q) Sideboom cranes.
(r) Derricks.
(s) Material and personnel hoists.
(t) Helicopter cranes, elevators, and excavation equipment and variations of such equipment.
(2) Attachments. This standard applies to equipment included in subrule (1) of this rule when used with attachments. These attachments, whether crane-attached or suspended include, but are not limited~~,~~ to, any of the following:
(a) Hooks.
(b) Magnets.
(c) Grapples.
(d) Clamshell buckets.
(e) Orange peel buckets.
(f) Concrete buckets.
(g) Drag lines.
(h) Personnel platforms.
(i) Augers or drills.
(j) Pile driving equipment.
(3) Exclusions. This standard does not cover any of the following:
(a) Machinery included in subrule (1) of this rule while it has been converted or adapted for a non-hoisting or lifting use. These conversions or adaptations include, but are not limited~~,~~ to, any of the following:
(i) Wheel loaders and backhoes.
(ii) Loader backhoes.
(iii) Track loader.
(iv) Concrete pumps.
This machinery is also excluded when used with chains, slings, or other rigging to lift suspended loads.
(b) Automotive wreckers and tow trucks when used to clear wrecks and haul vehicles.

(c) Digger derricks used in work subject to Construction Safety Standard Part 16 "Power Transmission and Distribution," shall comply with General Industry Safety Standard Part 86 "Electric Power Generation, Transmission and Distribution." Digger derricks used in construction work for telecommunication service (as defined at Construction Safety Standard Part 30 "Telecommunications," 1910.268(s)(40)) shall comply with Construction Safety Standard Part 30 "Telecommunications." These rules are referenced in R 408.41003a.
(d) Machinery originally designed as vehicle-mounted aerial devices for lifting personnel and self-propelled elevating work platforms.
(e) Telescopic or hydraulic gantry systems.
(f) Stacker cranes.
(g) Powered industrial trucks, such as forklifts, except when configured to hoist and lower by means of a winch or hook and horizontally move a suspended load.
(h) Mechanic's truck with a hoisting device when used in activities related to equipment maintenance and repair.
(i) Machinery that hoists by using a come-a-long or chainfall.
(j) Dedicated drilling rigs.
(k) Gin poles when used for the erection of communication towers.
(l) Tree trimming and tree removal work.
(m) Anchor handling or dredge-related operations with a vessel or barge using an affixed A-frame.
(n) Roustabouts.
(o) Any of the following material delivery:
(i) Articulating knuckle-boom truck cranes that deliver material to a construction site when used to transfer materials from the truck crane to the ground, without arranging the materials in a particular sequence for hoisting.
(ii) Articulating knuckle-boom truck cranes that deliver material to a construction site when the crane is used to transfer building supply sheet goods or building supply packaged materials from the truck crane onto a structure, using a fork or cradle at the end of the boom, but only when the truck crane is equipped with a properly functioning automatic overload prevention device. These sheet goods or packaged materials include, but are not limited to, sheets of sheet rock, sheets of plywood, bags of cement, sheets or packages of roofing shingles, and rolls of roofing felt.
(iii) This exclusion shall not apply under any of the following circumstances:
(A) The articulating knuckle-boom crane is used to hold, support, or stabilize the material to facilitate a construction activity, such as holding material in place while it is attached to the structure.
(B) The material being handled by the articulating knuckle-boom crane is a prefabricated component. Prefabricated components include, but are not limited to, precast concrete members or panels, roof trusses constructed of wood, cold formed metal, steel, or other materials, prefabricated building sections such as, but not limited to, floor panels, wall panels, roof panels, roof structures, or similar items.
(C) The material being handled by the crane is a structural steel member, for example, steel joists, beams, columns, bundled or unbundled steel decking or a component of a systems-engineered metal building, as defined in Construction Safety Standard Part 26 "Steel Erection," as referenced in R 408.41003a.
(D) The activity is not specifically excluded under R 408.41001a(3)(o)(i) and (ii).
(4) All rules of this part apply to the equipment covered by this standard unless specified otherwise.
(5) The duties of controlling entities under this standard include, but are not limited to, the duties specified in R 408.41017a(2), R 408.41017a(4), and R 408.41022a(2).
(6) Where provisions of this standard direct an operator, crewmember, or other employee to take certain actions, the employer shall establish, effectively communicate to the relevant persons, and enforce, work rules to ensure compliance with the provisions.
(7) For work involving power transmission and distribution, compliance with Construction Safety Standard Part 16 "Power Transmission and Distribution," is deemed compliance with R 408.41016a to R 408.41016e.
(8) R 408.41017a does not apply to cranes designed for use on railroad tracks, when used on railroad tracks that are part of the general railroad system of transportation that is regulated under the Federal Railroad Administration under 49 C.F.R. part 213, "Track Safety Standards," as referenced in R 408.41003f, and that comply with applicable Federal Railroad Administration requirements. See R 408.41017a(5).
History: 1995 AACS; 1998-2000 AACS; 2012 AACS; 2014 MR 7, Eff. April 10, 2014; 2015 MR 23, Eff. Dec. 16, 2014.

R 408.41002a
Source: 2012 AACS.

R 408.41003a Adopted and referenced standards.
Rule 1003a. (1) The following standards are adopted by reference in these rules and are available from IHS Global, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at website: http://global.ihs.com; at a cost as of the time of adoption of these rules, as stated in this subrule.
(a) American National Standards Institute (ANSI) standard A10.4 "Safety Requirements for Personnel Hoists and Employee Elevators for Construction and Demolition Operations," 2004 edition. Cost: $128.00.
(b) ANSI standard B20.1, "Safety Standard for Conveyors, and Related Equipment," 1999 edition. Cost: $52.00
(c) ANSI/ American Society of Mechanical Engineers (ASME) standard B30.5 "Mobile and Locomotive Cranes," 1994 edition. Cost: $119.00.
(d) ANSI/ASME standard B30.5 "Mobile and Locomotive Cranes," 2004 edition. Cost: $60.00.
(e) ANSI/American Society of Safety Engineers (ASSE) standard A10.5 "Safety Requirements for Material Hoists," 1992 edition. Cost: $69.00.
(f) ASME standard B30.14 "Side Boom Tractors," 2004 edition. Cost: $64.00.
(g) ASME standard B30.2 "Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)," 2005 edition. Cost: $63.00.
(h) ASME standard B30.7 "Base Mounted Drum Hoists," 1994 edition. Cost: $60.00.
(i) ASME standard B30.7 "Base Mounted Drum Hoists," 2001 edition. Cost: $60.00.
(j) American Welding Society (AWS) standard "IHS AWSC Structural Welding Code," 2000 edition. Cost: $601.00.
(k) AWS standard D1.1/D1.1M "Structural Welding Code – Steel Updates Every 5 Years," 2002 edition. Cost: $468.00.
(l) AWS standard D14.1 "Welding of Industrial and Mill Cranes and Other Material Handling Equipment," 1997 edition. Cost: $148.00.
(m) AWS standard D14.3 "Specification for Welding Earthmoving and Construction Equipment," 1994 edition. Cost: $109.00.
(n) AWS standard D14.4 "Class and Application of Welded Joints for Machinery Equipment," 1997 edition. Cost: $139.00.
(o) International Organization for Standardization (ISO) standard 11660–1 "Cranes – Access, Guards and Restraints – Part 1: General," 2008 edition. Cost: $139.00.
(p) ISO standard 11660–2 "Cranes – Access, Guards and Restraints – Part 2: Mobile Cranes," 1994 edition. Cost: $107.00.
(q) ISO standard 11660–3 "Cranes – Access, Guards and Restraints – Part 3: Tower Cranes," 2008 edition. Cost: $65.00.
(r) Society of Automotive Engineers (SAE) standard J185, "Access Systems for Off- Road Machines," May 2003 edition. Cost: $73.00.
(s) SAE standard J987 "Lattice Boom Cranes – Method of Test," June 2003 edition. Cost: $73.00
(t) SAE standard J1063 "Cantilevered Boom Crane Structures – Method of Test," November 1993 edition. Cost: $73.00.
(2) The following standards are adopted by reference in these rules and are available from Techstreet, 3916 Ranchero Drive, Ann Arbor, Michigan, 48108, USA, telephone number: 1-800-699-9277 or via the internet at website: www.techstreet.com; at a cost as of the time of adoption of these rules, as stated in this subrule.
(a) ANSI standard B20.1, "Safety Standard for Conveyors, and Related Equipment," 2000 edition. Cost: $67.00.
(b) AWS standard B1.10 "Guide for the Nondestructive Inspection of Welds," 1986 edition. Cost: $60.00.
(c) British European Standards (BS EN) standard 13000, "Cranes – Mobile Cranes," 2004 edition. Cost: $244.61.
(d) BS EN standard 14439, "Cranes – Safety – Tower Cranes," 2006 edition. Cost: $202.18.
(3) Power Crane and Shovel Association (PCSA) Standard No. 4 "Mobile Power Crane and Excavator and Hydraulic Crane Standards," 1983 edition, is adopted by reference in these rules. This standard is available from the Association of Equipment Manufacturers, 6737 West Washington Street, Suite 2400, Milwaukee, Wisconsin, 53214-5647, USA, telephone number: 1-414-272-0943 or via the internet at website: http://shop.aem.org; at a cost as of the time of adoption of these rules of $3.00.
(4) The following federal occupational safety and health administration's regulations promulgated by the United States department of labor are adopted by reference in this rule and are available from the United States Department of Labor, Occupational Safety and Health Administration, 315 West Allegan, room 315, Lansing, Michigan, 48917, or via the internet at website www.osha.gov, at no charge as of the time of adoption of these rules.
(a) The provisions of 29 C.F.R. §1910.7 Definition and requirements for a nationally recognized testing laboratory.
(b) The provisions of 29 C.F.R. §§1926.555 Conveyors, except as amended in this rule.
(c) As of the effective date of this part, subpart G referenced in the provisions of 19 C.F.R. §1926.555 Conveyors means Construction Safety Standard Part 22 "Signals, Signs, Tags, and Barricades," as referenced in R 408.41003a.
(d) The provisions of 29 C.F.R. §1926.556, as incorporated by reference under section 14(1) of 1974 PA 154, MCL 408.1014(1), are rescinded as authorized by section 14(1).
(e) Conveyors. The provisions of 29 C.F.R. §1926.555 are amended to read as follows:

(i) Means for stopping the motor or engine shall be provided at the operator's station. Conveyor systems shall be equipped with an audible warning signal to be sounded immediately before starting up the conveyor.
(ii) If the operator's station is at a remote point, the employer shall provide similar provisions for stopping the motor or engine at the motor or engine location.
(iii) Emergency stop switches shall be arranged so that the conveyor cannot be started again until the actuating stop switch has been reset to running or the "on" position.
(iv) Screw conveyors shall be guarded to prevent employee contact with turning flights.
(v) Where a conveyor passes over work areas, aisles, or thoroughfares, the employer shall provide suitable guards to protect employees required to work below the conveyors.
(vi) The employer shall ensure that all crossovers, aisles, and passageways are conspicuously marked by suitable signs, as required by subpart G of this part.
(vii) The employer shall ensure that conveyors are locked out or otherwise rendered inoperable, and tagged out with a "DO NOT OPERATE" tag during repairs and when operation is hazardous to employees performing maintenance work.
(viii) All conveyors in use shall meet the applicable requirements for design, construction, inspection, testing, maintenance, and operation, as prescribed in the ANSI Standard B20.1, "Safety Standard for Conveyors, and Related Equipment," 1999 edition.
(5) The provisions of 49 C.F.R. §§391.41 to 391.49 of the United States department of transportation are adopted by reference in this rule and are available from the United States Department of Transportation, 1200 New Jersey Avenue, SE, Washington, DC 20590, or via the internet at website www.access.gpo.gov/nara/cfr/waisidx_06/49cfr391_06.html, at no charge as of the time of adoption of these rules.
(6) The provisions of 1967 PA 227 and 1976 PA 333, MCL 408.801 to 408.824 and 338.2151, respectively, are adopted by reference in this rule and are available via the internet at website www.legislature.mi.gov, at no charge as of the time of adoption of these rules.
(7) The standards adopted in subrules (1) to (6) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.
(8) Copies of the standards adopted in subrules (1) to (6) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in subrules (1) to (6) of this rule, plus $20.00 for shipping and handling.
(9) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.
(a) Construction Safety Standard Part 6 "Personal Protective Equipment," R 408.40601 to R 408.40641.
(b) Construction Safety Standard Part 8 "Handling and Storage of Materials," R 408.40801 to R 408.40841.
(c) Construction Safety Standard Part 13 "Mobile Equipment," R 408.41301.
(d) Construction Safety Standard Part 16 "Power Transmission and Distribution," R 408.41601 to R 408.41658.
(e) Construction Safety Standard Part 18 "Fire Protection and Prevention," R 408.41801 to R 408.41884.
(f) Construction Safety Standard Part 22 "Signals, Signs, Tags, and Barricades," R 408.42201 to R 408.42243.
(g) Construction Safety Standard Part 26 "Steel Erection," R 408.42601 to R 408.42656.
(h) Construction Safety Standard Part 28 "Personnel Hoisting in Steel Erection," R 408.42801 to R 408.42809.
(i) Construction Safety Standard Part 30 "Telecommunications," R 408.43001 to R 408.43006.
(j) Construction Safety Standard Part 45 "Fall Protection," R 408.44501 to R 408.44501.
(k) General Industry Safety Standard Part 18 "Overhead and Gantry Cranes," R 408.11801 to R 408.11875.
(l) General Industry Safety Standard Part 59 "Helicopters," being R 408.15901 to R 408.15931.
(m) General Industry Safety Standard Part 86 "Electric Power Generation, Transmission, and Distribution," R 408.18601 to R 408.18602.
History: 1995 AACS; 2012 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41003f. Adopted standard from United States department of transportation.
Rule 1003f. The provisions of 49 C.F.R. Part 213 "Track Safety Standards," are adopted by reference in these rules. This standard is available from the United States Government Printing Office, Electronic Code of Federal Regulations, web-site: www.ecfr.gov; at no charge as of the time of adoption of these rules.

History: 1995 AACS; 2012 AACS; 2014 MR 7, Eff. April 10, 2014; 2015 MR 23, Eff. Dec. 16, 2014.

R 408.41004a
Source: 2012 AACS.

CRANES, DERRICKS, AND EXCAVATION EQUIPMENT

R 408.41005a
Source: 2012 AACS.

R 408.41006a
Source: 2012 AACS.

R 408.41007a
Source: 2012 AACS.

R 408.41008a
Source: 2012 AACS.

R 408.41009a
Source: 2012 AACS.

R 408.41009b
Source: 2012 AACS.

R 408.41010a
Source: 2012 AACS.

R 408.41011a
Source: 2012 AACS.

R 408.41011b
Source: 2012 AACS.

R 408.41011c
Source: 2012 AACS.

R 408.41011d
Source: 2012 AACS.

R 408.41011e
Source: 2012 AACS.

R 408.41012a
Source: 2012 AACS.

R 408.41013a
Source: 2012 AACS.

R 408.41014a
Source: 2012 AACS.

R 408.41015a
Source: 2012 AACS.

R 408.41016a
Source: 2012 AACS.

R 408.41016b
Source: 2012 AACS.

R 408.41016c
Source: 2012 AACS.

R 408.41016d Power line safety for all voltages for equipment operations closer than Table A zone.
Rule 1016d. Equipment operations in which any part of the equipment, load line, or load, including rigging and lifting accessories, is closer than the minimum approach distance under Table A in R 408.41016b to an energized power line shall be prohibited, except where the employer demonstrates that all of the following requirements are met:
(a) The employer determines that it is infeasible to do the work without breaching the minimum approach distance under Table A in R 408.41016b.
(b) The employer determines that, after consultation with the utility owner or operator, it is infeasible to deenergize and ground the power line or relocate the power line.
(c) All of the following apply to minimum clearance distances:
(i) The power line owner or operator or registered professional engineer, who is a qualified person with respect to electrical power transmission and distribution, determines the minimum clearance distance that shall be maintained to prevent electrical contact in light of the on-site conditions. The factors that shall be considered in making this determination include, but are not limited to the following:
(A) Conditions affecting atmospheric conductivity.
(B) Time necessary to bring the equipment, load line, and load, including rigging and lifting accessories, to a complete stop.
(C) Wind conditions.
(D) Degree of sway in the power line.
(E) Lighting conditions.
(F) Other conditions affecting the ability to prevent electrical contact.
(ii) Subdivision (c)(i) of this subrule does not apply to work covered by construction safety standard Part 16 "Power Transmission and Distribution," (CS Part 16) as referenced in R 408.41003a. For such work, the minimum approach distances established by the employer as specified in CS Part 16 apply.
(d) A planning meeting with the employer and utility owner or operator, or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution, is held to determine the procedures that will be followed to prevent electrical contact and electrocution. At a minimum these procedures shall include all of the following:
(i) If the power line is equipped with a device that automatically reenergizes the circuit in the event of a power line contact, before the work begins, the automatic reclosing feature of the circuit interrupting device shall be made inoperative if the design of the device permits.
(ii) Use a dedicated spotter as specified in R 408.41016a(2)(c)(i).
(iii) Use of an elevated warning line or barricade that is not attached to the crane in view of the operator, either directly or through video equipment, and equipped with flags or similar high-visibility markings to prevent electrical contact. This provision does not apply to work covered by construction safety standard Part 16 "Power Transmission and Distribution," as referenced in R 408.41003a.
(iv) All of the following apply to an insulating link or device:
(A) An insulating link or device shall be installed at a point between the end of the load line, or below, and the load.
(B) For work covered by Construction Safety Standard Part 16 "Power Transmission and Distribution," as referenced in R 408.41003a, the requirement in subdivision (d)(iv)(A) of this subrule ~~shall~~ apply only when working inside the CS Part 16 Table 1 clearance distances.
(C) [Reserved.]
(D) Until November 8, 2013, the following procedure may be substituted for the requirement in subdivision (d)(iv)(A) of this subrule:
(I) The employer shall use a link or device manufactured on or before November 8, 2011 that meets the definition of an insulating link or device, except that it has not been approved by a nationally recognized testing laboratory, and is maintained, used, and installed pursuant to manufacturer requirements and recommendations at a point between the end of the load line, or below, and the load.

(II) All employees, excluding equipment operators located on the equipment, who may come in contact with the equipment, the load line, or the load shall be insulated or guarded from the equipment, the load line, and the load through an additional means other than the device described in subdivision (d)(iv)(D)(I) of this subrule. Insulating gloves rated for the voltage involved are adequate additional means of protection for the purposes of this subrule.
(v) Use of nonconductive rigging if the rigging may be within the minimum clearance distances during operation, as specified in Table A in R 408.41016b.
(vi) If the equipment is equipped with a device that automatically limits range of movement, it shall be used and set to prevent any part of the equipment, load line, or load, including rigging and lifting accessories, from breaching the minimum approach distance established under subdivision (c) of this subrule.
(vii) If a tag line is used, it shall be of the nonconductive type.
(viii) Use of barricades forming a perimeter at least 10 feet away from the equipment to prevent unauthorized personnel from entering the work area. In areas where obstacles prevent the barricade from being at least 10 feet away, the barricade shall be as far from the equipment as feasible.
(ix) Workers other than the operator shall be prohibited from touching the load line above the insulating link or device and crane. Operators who remotely operate the equipment from the ground shall use either wireless controls that isolate the operator from the equipment or insulating mats that insulate the operator from the ground.
(x) Only personnel essential to the operation may be in the area of the crane and load.
(xi) The equipment shall be properly grounded.
(xii) Insulating line hose or cover-up shall be installed by the utility owner or operator except where such devices are unavailable for the line voltages involved.
(e) The procedures developed to comply with subdivision (d) of this subrule are documented and immediately available on-site.
(f) The equipment user and utility owner or operator, or registered professional engineer shall meet with the equipment operator and the other workers who will be in the area of the equipment or load to review the procedures that will be implemented to prevent breaching the minimum approach distance established in subdivision (c) of this subrule and prevent electrocution.
(g) The procedures developed to comply with subdivision (d) of this subrule are implemented.
(h) The utility owner or operator, or registered professional engineer and all employers of employees involved in the work shall identify 1 person who will direct the implementation of the procedures. The person identified in accordance with this subrule shall direct the implementation of the procedures and shall have the authority to stop work at any time to ensure safety.
(i) [Reserved.]
(j) If a problem occurs implementing the procedures being used to comply with subdivision (d) of this subrule, or indicating that those procedures are inadequate to prevent electrocution, the employer shall safely stop operations and either develop new procedures to comply with subdivision (d) of this subrule or have the utility owner or operator deenergize and visibly ground or relocate the power line before resuming work.
(k) Devices originally designed by the manufacturer for use as a safety device, as specified in R 408.41018a, operational aid, or a means to prevent power line contact or electrocution, when used to comply with this rule, shall comply with the manufacturer's procedures for use and conditions of use.
(l) [Reserved.]
(m) The employer shall train each operator and crew member assigned to work with the equipment pursuant to R 408.41016b(7).
History: 2012 AACS; 2015 MR 23, Eff. Dec. 16, 2014.

R 408.41016e
Source: 2012 AACS.

R 408.41017a
Source: 2012 AACS.

R 408.41018a
Source: 2012 AACS.

R 408.41019a
Source: 2012 AACS.

R 408.41019b
Source: 2012 AACS.

R 408.41019c
Source: 2012 AACS.

R 408.41020a
Source: 2012 AACS.

R 408.41021a
Source: 2012 AACS.

R 408.41021b
Source: 2012 AACS.

R 408.41022a
Source: 2012 AACS.

R 408.41023a
Source: 2012 AACS.

R 408.41024a
Source: 2012 AACS.

R 408.41025a
Source: 2012 AACS.

R 408.41025b
Source: 2012 AACS.

R 408.41026a
Source: 2012 AACS.

R 408.41027a
Source: 2012 AACS.

R 408.41028a
Source: 2012 AACS.

R 408.41029a
Source: 2012 AACS.

R 408.41030a
Source: 2012 AACS.

R 408.41031a
Source: 2012 AACS.

R 408.41032a
Source: 2012 AACS.

R 408.41033a
Source: 2012 AACS.

R 408.41034a
Source: 2012 AACS.

R 408.41041a
Source: 2012 AACS.

R 408.41051a
Source: 2012 AACS.

MATERIAL AND PERSONNEL HOISTS (ELEVATORS)

R 408.41065a
Source: 2012 AACS.

R 408.41066a
Source: 1995 AACS.

R 408.41067a
Source: 1995 AACS.

R 408.41068a
Source: 1995 AACS.

R 408.41069a
Source: 1995 AACS.

R 408.41070a
Source: 1995 AACS.

R 408.41070b
Source: 2012 AACS.

PERSONNEL HOISTS

R 408.41071a
Source: 2012 AACS.

R 408.41072a
Source: 1998-2000 AACS.

R 408.41073a
Source: 1995 AACS.

R 408.41074a Wire rope for personnel hoists.
Rule 1074a. Wire rope~~,~~ used on personnel hoists shall be taken out of service when any of the following conditions exist:
(a) In running ropes, where 6 randomly distributed broken wires in 1 lay or 3 broken wires in 1 strand in 1 lay are present.
(b) If abrasion or wear of 1/3 of the original diameter of outside individual wires, kinking, crushing, bird-caging, or any other damage that results in distortion of the rope structure occurs.
(c) If evidence of any heat damage or corrosion from any cause is present.
(d) If reductions from nominal diameter of more than 3/64 of an inch for diameters to and including 3/4 of an inch, 1/16 of an inch for diameters 7/8 of an inch to 1 1/8 inches, inclusive, or 3/32 of an inch for diameters 1 1/4 to 1 1/2 inches, inclusive, are present.
(e) In standing ropes where more than 2 broken wires in 1 lay in sections beyond end connections or more than 1 broken wire at an end connection, occur.
History: 1995 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41075a
Source: 2012 AACS.

BASE-MOUNTED DRUM PERSONNEL HOISTS

R 408.41077a
Source: 2012 AACS.

R 408.41099a
Source: 2012 AACS.

PART 11. FIXED AND PORTABLE LADDERS

R 408.41101
Source: 1993 AACS.

R 408.41102
Source: 2013 AACS.

R 408.41103
Source: 1993 AACS.

R 408.41104
Source: 1993 AACS.

R 408.41105 Definitions; S to W.
Rule 1105. (1) "Safety feet" means a safety device that is placed on the foot of the side rails of straight, sectional, or extension ladders to reduce the likelihood that the base will slip. Safety feet may be flat pads that are covered with a nonslip material, pointed metal projections, or spur wheels.
(2) "Side-step ladder" means a ladder that requires an employee who is getting off at the top of the ladder to step sideways from the ladder to reach the landing.
(3) "Single-cleat ladder" means a ladder that consists of a pair of parallel side rails that are connected with cleats which are joined to the side rails at regular intervals.
(4) "Single-rail ladder" means a portable ladder that has rungs, cleats, or steps which are mounted on a single rail instead of the normal 2 rails that are used on most other ladders.
(5) "Special-purpose ladder" means a portable ladder that represents either a modification or a combination of design or construction features in 1 or more of the general purpose types of ladders, as defined in R 408.41103(5) and (6), R 408.41104(5) and (6), and subrules (4) and (6) of this rule, in order to adapt the ladder to special or specific uses.
(6) "Stepladder" means a self-supporting portable ladder that is nonadjustable in length and that has flat steps and a hinged back. A stepladder's size is measured along the front edge of the side rails.
(7) "Steps" means the flat crosspieces of a ladder on which a person may step to ascend or descend.
(8) "Through ladder" means a ladder that requires an employee who is getting off at the top of the ladder to step through the ladder to reach the landing.
(9) "Trestle ladder" means a self-supporting portable ladder which is nonadjustable in length and which consists of 2 sections that are hinged at the top to form equal angles with the base. The size of the ladder is designated by the length of the side rails measured along the front edge.
(10) "Well" means a permanent complete enclosure around a fixed ladder that protects a climber. Proper clearance for a well will give the same protection as a cage.
(11) "Worn" means a reduction of the dimension of a wood or non-wood part by more than 10% of its original size.
History: 1979 AC; 1990 AACS; 1993 AACS; 2015 MR 23, Eff. Dec. 16, 2014.

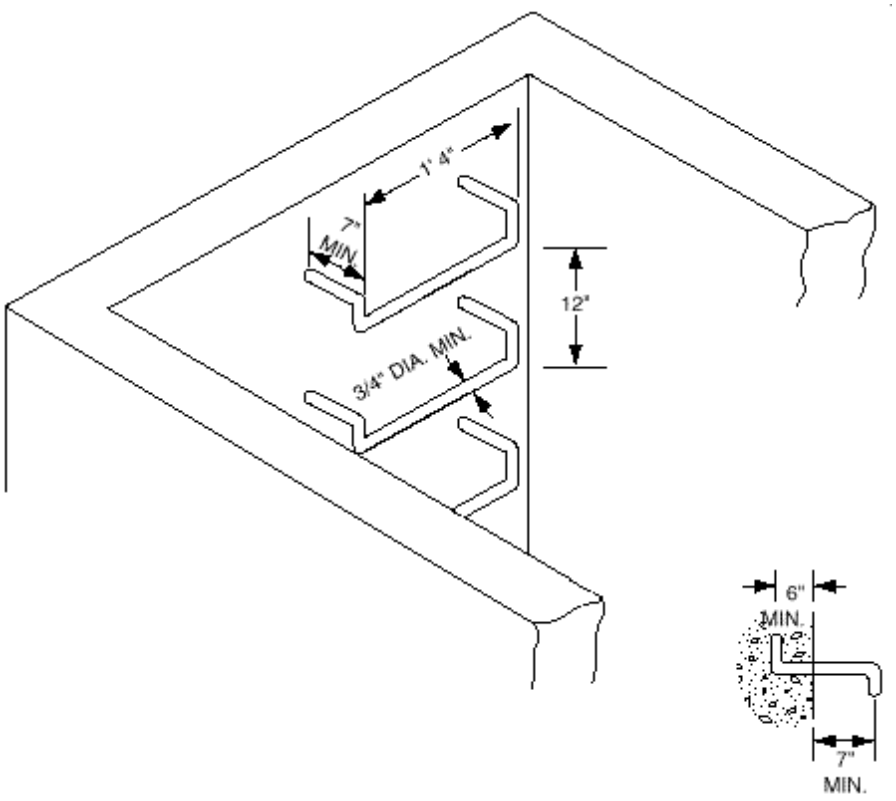
R 408.41111 Ladders.
Rule 1111. (1) A manufactured portable wood ladder shall be constructed and maintained as prescribed in the ANSI standard A14.1 “Ladders – Wood Safety Requirements,” 1990 edition, as adopted in R 408.41102a.
(2) A manufactured portable metal ladder shall be constructed and maintained as prescribed in the ANSI standard A14.2 “Ladders – Portable Metal – Safety Requirements,” 1990 edition, as adopted in R 408.41102a.

(3) A manufactured portable plastic ladder shall be constructed and maintained as prescribed in the ANSI standard A14.5 "Ladders – Portable Reinforced Plastic – Safety Requirements," 1982 edition with 1985 supplement, as adopted in R 408.41102a.
(4) Fixed ladders shall be constructed and maintained as prescribed in the ANSI standard A14.3 "Ladders – Fixed – Safety Requirements," 1984 edition, as adopted in R 408.41102a.
History: 1979 AC; 1990 AACS; 1993 AACS; 2013 AACS; 2015 MR 23, Eff. Dec. 16, 2014.

R 408.41112
Source: 1993 AACS.

R 408.41113 General requirements.
Rule 1113. (1) A ladder shall be provided at all personnel points of access if there is a break in elevation of 19 inches (48 cm) or more and if a ramp, runway, sloped embankment, stairway, or personnel hoist is not provided.
(2) When a building or structure has only 1 point of access between levels, that point of access shall be kept clear to permit the free passage of employees. When work must be performed or equipment must be used, that restricts the free passage of employees at the point of access, an employer shall provide a second point of access and the access must be used.
(3) When a building or structure has 2 or more points of access between levels, the employer shall ensure at least 1 point of access is kept clear to permit the free passage of employees.
(4) Employers shall provide and install all ladder fall protection systems that are required by this part and shall comply with all other pertinent requirements of this part before employees begin the work that necessitates the installation and use of ladders and their respective fall protection systems.
(5) Ladder rungs, cleats, and steps shall be parallel, level, and uniformly spaced when a ladder is in position for use.
(6) Rungs, cleats, and steps of portable ladders, except as provided in subrules (7) and (8) of this rule, and fixed ladders shall be spaced not less than 10 inches (25 cm) apart and not more than 14 inches (36 cm) apart, as measured between the center lines of the rungs, cleats, and steps .
(7) Rungs, cleats, and steps of step stools shall be not less than 8 inches (20 cm) apart and not more than 12 inches (31 cm) apart, as measured between center lines of the rungs, cleats, and steps.
(8) Rungs, cleats, and steps of the base section of extension trestle ladders shall be not less than 8 inches (20 cm), nor more than 18 inches (46 cm), apart, as measured between center lines of the rungs, cleats, and steps. The rung spacing on the extension section of the extension trestle ladder shall be not less than 6 inches (15 cm), nor more than 12 inches (31 cm), as measured between center lines of the rungs, cleats, and steps.
(9) The minimum clear distance between the sides of individual rung-type stepladders and the minimum clear distance between the side rails of other fixed ladders shall be 16 inches (41 cm).
(10) The minimum clear distance between side rails for all portable ladders shall be 11 1/2 inches (29 cm).
(11) The rungs of individual rung-type stepladders shall be shaped so that an employee's feet cannot slide off the end of the rungs. See figure 1.

FIGURE 1
SUGGESTED DESIGN FOR RUNGS ON INDIVIDUAL RUNG LADDERS



(12) The rungs and steps of fixed metal ladders that are manufactured after January 14, 1991, shall be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping.
(13) The rungs of steps of portable metal ladders shall be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping.
(14) Except when portable ladders are used to gain access to fixed ladders, such as ladders on utility towers, billboards, and other structures where the bottom of the fixed ladder is elevated to limit access, when 2 or more separate ladders are used to reach an elevated work area, the ladder shall be offset with a platform or landing between the ladders.
(15) Ladder components shall be surfaced in a manner that prevents employee injury due to punctures or lacerations and prevents the snagging of clothing.
History: 1993 AACS; 2015 MR 23, Eff. Dec. 16, 2014.

R 408.41115
Source: 2013 AACS.

R 408.41121 Inspection; faults and defects.
Rule 1121. (1) A ladder, as prescribed in this part, shall be used to provide safe access to all elevations, unless other means, such as steps, stairs, ramps, runways, or elevators, are provided.
(2) A ladder shall be inspected before use and after it has fallen or been involved in an accident to determine its condition.
(3) A ladder that has any of the following faults and defects shall be immediately tagged "DANGEROUS - DO NOT USE" and shall be withdrawn from service:
(a) Broken, worn, or missing rungs, cleats, or steps.
(b) Broken or split side rails.
(c) Broken or bent guides or iron spreaders.
(d) Broken or bent locks.
The tag shall be as prescribed in Construction Safety Standard Part 22 “Signals, Signs, Tags, and Barricades,” as referenced in R 408.41102a.

(4) Fixed ladders that have structural defects, such as broken or split rails or corroded components, shall be withdrawn from service until repaired. The requirement to withdraw a defective ladder from service is satisfied if 1 of the following provisions is complied with:
(a) The ladder is immediately tagged with the words "do not use" or similar language.
(b) The ladder is marked in a manner that readily identifies it as defective.
(c) The ladder is blocked, such as with a plywood attachment that spans several rungs.
(5) Ladder repairs shall restore the ladder to a condition that meets its original design criteria before the ladder is returned to use.
History: 1979 AC; 1990 AACS; 1993 AACS; 2015 MR 23, Eff. Dec. 16, 2014.

R 408.41122
Source: 2013 AACS.

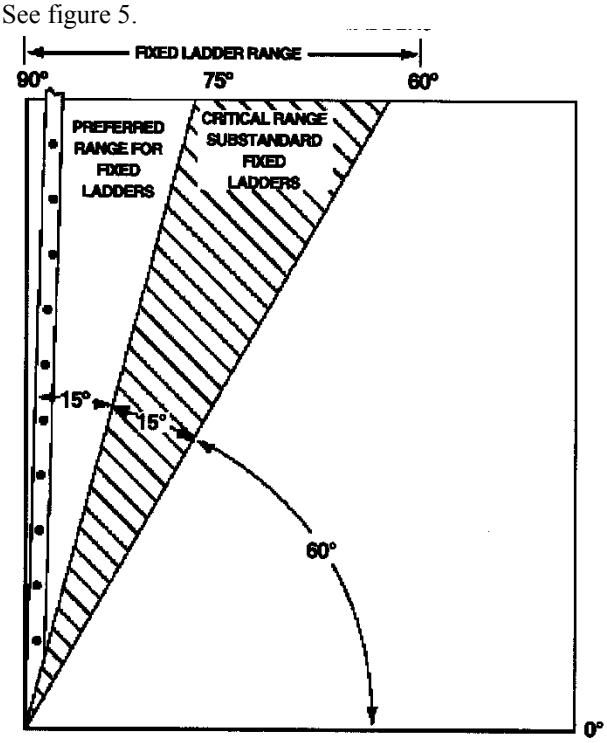
R 408.41123 Rescinded.
History: 1979 AC; 1990 AACS; 1993 AACS; 2013 AACS; 2015 MR 23, Eff. Dec. 16, 2014.

R 408.41124. Portable ladders.
Rule 1124. (1) A portable ladder shall be used at such a pitch that the horizontal projected distance from the top support to the base is not more than 1/4 of the vertical distance between these points.
(2) A portable ladder in use shall be equipped with appropriate safety feet, unless the ladder is tied, blocked, or otherwise secured to prevent it from being displaced. Slip-resistant feet shall not be used as a substitute for care in placing, lashing, or holding a ladder that is used upon slippery surfaces, including flat metal or concrete surfaces that are constructed so that they cannot be prevented from becoming slippery.
(3) A portable ladder that is used at such a pitch that the horizontal projected distance from the top support to the base is less than 1/5 of the vertical distance between these points shall be secured at the top to prevent tipping backward.
(4) A portable ladder that is used at a pitch of 80 degrees or more shall be in compliance with the requirements of a fixed ladder as prescribed in General Industry Safety Standard Part 3 “Fixed Ladders,” as referenced in R 408.41102a.
(5) When portable ladders are used for access to an upper landing surface, the ladder side rails shall extend not less than 3 feet (.9 m) above the upper landing surface to which the ladder is used to gain access; or, when such an extension is not possible because of the ladder’s length, then the ladder shall be secured at its top to rigid support that will not deflect and a grasping device, such as a grabrail, shall be provided to assist employees in mounting and dismounting the ladder. The side rails shall not extend in a manner that would permit ladder deflection under a load, by itself, to cause the ladder to slip off its support. The top of a non-self-supporting ladder shall be placed with the 2 rails supported equally, unless the ladder is equipped with a single support attachment.
(6) A manufactured portable metal ladder shall not be used for electrical work or where the ladder or an employee may contact electrical conductors.
A ladder shall have nonconductive siderails if the ladder is used where the employee or the ladder could contact exposed energized electrical equipment, except as provided in Construction Safety Standard Part 16 “Power Transmission and Distribution,” as referenced in R 408.41102a.
(7) A metal ladder shall not be used or moved unless a minimum of 20 feet is maintained between power transmission or distribution lines.
(8) A power transmission or distribution line or electrical apparatus shall be considered energized unless the property owner or utility indicates it is de-energized and the line or apparatus is visibly grounded. Where de-energizing is impractical, the minimum clearances set forth in table 1 shall be maintained between the ladder, employee, or material, whichever is closer.
(9) Table 1 reads as follows:

TABLE 1

VOLTAGE	MINIMUM CLEARANCE
To 50 kV	10 feet
Over 50 kV	10 feet plus .4 inch per kV

(10) An employee who is using a portable ladder shall not stand on the top 2 rungs or within 3 feet of the top of the ladder.
(11) Two portable ladders shall not be spliced together to provide long sections unless such ladders are specifically designed for such use.
(12) A portable 2-section extension ladder shall be erected so that the top section rests on the base section. The top section shall be the section nearest to the climber.
(13) A non-self-supporting ladder shall be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately 1/4 of the working length of the ladder that is the distance along the ladder between the foot and the top support.
(14) A fixed ladder shall be used at a pitch of not more than 90 degrees from the horizontal, as measured to the back side of the ladder.
See figure 5.



History: 1979 AC; 1990 AACS; 1993 AACS; 2013 AACS; 2015 MR 23, Eff. Dec. 16, 2014.

R 408.41125
Source: 2013 AACS.

R 408.41126
Source: 2013 AACS.

R 408.41127 Single and double-cleat ladders generally.
Rule 1127. (1) A job-built ladder shall not be more than 24 feet in length. If the length of a required job-built ladder would be more than the maximum length, 2 or more separate ladders shall be used and shall be offset with a platform between each ladder that is not supported by the ladders. Ladders used with a platform shall be secured at the top and bottom.
(2) The platform shall be designed to support 4 times the intended load. Guardrails and toeboards, as prescribed in Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.41102a, shall be erected on the exposed sides of the platform. Rails shall extend above the top landing at least 36 inches but not more than 42 inches to provide a handhold for mounting and dismounting, and cleats shall be eliminated above the landing level. When 2 or more separate job-built ladders are used with a platform, the ladders shall be completely offset from each other and the minimum horizontal distance between adjacent side rails shall be 6 inches.

(3) Side rails of a job-built ladder shall be continuous.
(4) Each cleat of a job-built ladder shall be a continuous member.
(5) A wood cleat shall be not less than nominal 1-inch by 4-inch construction grade lumber for a cleat less than 20 inches in length and not less than nominal 2-inch by 4- inch construction grade lumber for a cleat from 20 inches to 50 inches in length. Knot-free lumber shall be used for cleats.
(6) The cleats shall be uniformly spaced 12 inches top to top. A cleat shall be attached to the narrow face of each side rail using 2 10-d nails for nominal 1-inch by 4-inch cleats or 2 16-d nails for 2-inch by 4-inch cleats .
(7) Filler blocks shall be used on the rails between cleats. Filler blocks of the same thickness as the cleats shall be inserted between cleats and butted tightly against the underside of each cleat.
(8) Side rails shall not be cut into house cleats.
History: 1979 AC; 1990 AACS; 1996 AACS; 2015 MR 23, Eff. Dec. 9, 2014.

R 408.41128
Source: 1990 AACS.

R 408.41129
Source: 1990 AACS.

R 408.41130
Source: 2013 AACS.

R 408.41131
Source: 2013 AACS.

R 408.41132
Source: 2013 AACS.

R 408.41133
Source: 2013 AACS.

R 408.41140. Fixed ladders.
Rule 1140. A fixed ladder shall be as prescribed in General Industry Safety Standard Part 3 “Fixed Ladders,” as referenced in R 408.41102a.
History: 1990 AACS; 2013 AACS; 2015 MR 23, Eff. Dec. 16, 2014.

PART 12. SCAFFOLDS AND SCAFFOLD PLATFORMS

R 408.41201
Source: 1998-2000 AACS.

R 408.41203
Source: 1998-2000 AACS.

R 408.41204
Source: 1998-2000 AACS.

R 408.41205
Source: 1998-2000 AACS.

R 408.41206
Source: 1998-2000 AACS.

R 408.41207
Source: 1998-2000 AACS.

R 408.41208
Source: 1998-2000 AACS.

R 408.41209
Source: 1998-2000 AACS.

R 408.41210
Source: 2013 AACS.

R 408.41211
Source: 2013 AACS.

R 408.41212
Source: 1998-2000 AACS.

R 408.41213
Source: 1998-2000 AACS.

R 408.41214
Source: 1998-2000 AACS.

R 408.41215
Source: 1981 AACS.

R 408.41215
Source: 2013 AACS.

R 408.41217
Source: 2013 AACS.

R 408.41218
Source: 1981 AACS.

R 408.41219
Source: 1998-2000 AACS.

FLOOR AND GROUND SUPPORTED SCAFFOLDS

R 408.41221
Source: 2013 AACS.

R 408.41222
Source: 2013 AACS.

R 408.41223
Source: 1998-2000 AACS.

R 408.41224
Source: 2013 AACS.

R 408.41225
Source: 2013 AACS.

R 408.41226
Source: 2013 AACS.

R 408.41227
Source: 2013 AACS.

R 408.41228
Source: 2013 AACS.

R 408.41229
Source: 1998-2000 AACS.

SUSPENDED SCAFFOLDS

R 408.41231
Source: 2013 AACS.

R 408.41232
Source: 2013 AACS.

R 408.41233
Source: 2013 AACS.

R 408.41234
Source: 2013 AACS.

R 408.41235
Source: 2013 AACS.

R 408.41236
Source: 2013 AACS.

R 408.41237
Source: 2013 AACS.

R 408.41238
Source: 1996 AACS.

R 408.41239
Source: 1998-2000 AACS.

R 408.41240
Source: 1998-2000 AACS.

MOBILE SCAFFOLDS

R 408.41241
Source: 1998-2000 AACS.

R 408.41242
Source: 1997 AACS.

R 408.41243
Source: 2013 AACS.

R 408.41244

Source: 2013 AACS.

R 408.41245
Source: 2013 AACS.

R 408.41246
Source: 2013 AACS.

AUXILIARY SUPPORTED SCAFFOLDS

R 408.41251
Source: 1998-2000 AACS.

R 408.41253
Source: 2013 AACS.

R 408.41254
Source: 2013 AACS.

R 408.41255
Source: 2013 AACS.

R 408.41256
Source: 2013 AACS.

R 408.41256a
Source: 1998-2000 AACS.

R 408.41256b
Source: 1998-2000 AACS.

R 408.41257
Source: 1997 AACS.

R 408.41258
Source: 1997 AACS.

R 408.41259
Source: 1997 AACS.

R 408.41260
Source: 1997 AACS.

WIRE, FIBER, AND SYNTHETIC ROPE

R 408.41261
Source: 2013 AACS.

R 408.41262
Source: 2013 AACS.

R 408.41263
Source: 2013 AACS.

R 408.41264

Source: 2013 AACS.

PART 13. MOBILE EQUIPMENT

R 408.41301
Source: 1998-2000 AACS.

PART 14. TUNNELS, SHAFTS, CAISSONS, AND COFFERDAMS

GENERAL PROVISIONS

R 408.41401 Scope.
Rule 1401. This part applies to the construction, modification, and major repair of tunnels, shafts, caissons, chambers, passageways, cofferdams, any other aspect of tunnel construction, and the use and maintenance of equipment. This part does not apply to routine maintenance of an existing structure; excavation and trenching operations as prescribed by Construction Safety Standard Part 9 "Excavation, Trenching and Shoring," which is referenced in R 408.41410, or underground electrical transmission and distribution lines as prescribed in Construction Safety Standard Part 16 "Power Transmission and Distribution," which is referenced in R 408.41410. This part also applies to cut-and-cover excavations which are both physically connected to ongoing underground construction operations within the scope of this part and covered in such a manner as to create conditions characteristic of underground construction.
History: 1979 AC; 1993 AACS; 2003 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41405
Source: 2003 AACS.

R 408.41410 Adoption of standards by reference.
Rule 1410. (1) The following standards are adopted by reference in these rules and are available from the U.S. Government Printing Office Bookstore, 710 North Capitol Street N.W., Washington, DC, at the toll-free telephone number: 866-542-1800 or via the internet at web-site: www.ecfr.gov at no cost as of the time of adoption of these rules:
(a) The provisions of 30 C.F.R., Mineral Resources Parts 1-199 "Mine Safety and Health Administration, Department of Labor," revised July 1, 2000.
(b) The provisions of 42 C.F.R., Public Health Service, Part 84 "Approval of Respiratory Protective Devices," revised October 1, 2001.
(2) The Bureau of Construction Codes, Elevator Safety Board 1967 PA 227, MCL 408.801 to 408.824 and R 408.8511 to R 408.8524 are referenced in these rules and are available from the Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes, Elevator Safety Division, P.O. Box 30255, Lansing, Michigan 48909, or via the internet at web-site: www.michigan.gov/bcc, at no cost as of the time of adoption of these rules.
(3) The standards adopted in subrule (1) of this rule and referenced in subrule (2) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.
(4) Copies of the standards adopted in subrule (1) of this rule and referenced in subrule (2) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
(5) The following Michigan occupational safety and health administration (MIOSHA) standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143; or via the internet at web-site: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of the adoption of these rules, is 4 cents per page.
(a) Construction Safety Standard Part 1 "General Rules," R 408.40101 to R 408.40134.
(b) Construction Safety Standard Part 7 "Welding and Cutting," R 408.40701 to R 408.40762.
(c) Construction Safety Standard Part 9 "Excavation, Trenching and Shoring," R 408.40901 to R 408.40953.
(d) Construction Safety Standard Part 10 "Lifting and Digging Equipment," R 408.41001 to R 408.41099.
(e) Construction Safety Standard Part 16 "Power Transmission and Distribution," R 408.41601 to R 408.41658.

(f) Construction Safety Standard Part 17 "Electrical Installations," R 408.41701 to R 408.41734.
(g) Construction Safety Standard Part 18 "Fire Protection and Prevention," R 408.41801 to R 408.41884.
(h) Construction Safety Standard Part 21 "Guarding of Walking and Working Areas," R 408.42101 to R 408.42160.
(i) Construction Safety Standard Part 22 "Signals, Signs, Tags, and Barricades," R 408.42201 to R 408.42160.
(j) Construction Safety Standard Part 27 "Blasting and Use of Explosives," R 408.42701 to R 408.42799.
(k) Construction Safety Standard Part 45 "Fall Protection," R 408.44501 to R 408.44502.
(l) Occupational Health Standard Part 451 "Respiratory Protection," R 325.60051 to R 325.60052.
(m) Occupational Health Standard Part 665 "Underground Construction, Caissons, Cofferdams, and Compressed Air," R 325.62991 to R 325.62996.
History: 2003 AACS; 2013 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41454
Source: 2003 AACS.

R 408.41455
Source: 2003 AACS.

R 408.41456
Source: 2003 AACS.

R 408.41461 Advance notice of tunnel excavation.
Rule 1461. (1) Before the start of a tunnel, as defined in R 408.41456, which is 24 inches or more in diameter, height or width, and which will be occupied by an employee, a report prepared by the employer performing the tunnel excavation shall be sent to the Michigan Department of Licensing and Regulatory Affairs, Construction Safety and Health Division, 7150 Harris Drive, P.O. Box 30645, Lansing, Michigan 48909-8145, in addition to the following civil authorities in the area: hospital, police department, fire department, and sheriff department. The report shall contain all of the following information:
(a) Name of contractor or contractors.
(b) Starting date.
(c) Length of tunnel.
(d) Diameter of cut.
(e) Finished diameter.
(f) Number of shafts.
(g) Depth of shafts.
(h) Location of shafts.
(i) Method of tunneling.
(j) Maximum working pressure in tunnel or shaft.
(k) Type of primary liner.
(l) Number of shifts.
(m) Projected completion date.
(n) Projected maximum work force within tunnel.
(2) The employer shall notify parties notified pursuant to subrule (1) of this rule when the work has been completed.
(3) If, after the start of any tunnel project, a tunnel or shaft that the employer has shown to be constructed, modified, or repaired under atmospheric conditions requires the tunnel to be pressurized, then the employer shall notify the Construction Safety and Health Division at the Michigan Department of Licensing and Regulatory Affairs, 7150 Harris Drive, P.O. Box 30645, Lansing, Michigan 48909-8145, 24 hours before allowing employees to enter the tunnel.
(4) If the work operations of any occupied tunnel projects are discontinued for 30 consecutive days or longer, then the employer shall notify the construction safety and health division at the Michigan department of licensing and regulatory affairs, 24 hours before resuming work operations on the tunnel project.
History: 1979 AC; 2003 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41462
Source: 2013 AACS.

R 408.41463 Emergency provisions; plans; equipment; rescue crews.

Rule 1463. (1) The employer shall develop a plan to evacuate a tunnel in an emergency and the procedures to carry out the plan shall be made known to the employees and to the rescue team.
(2) An employer shall ensure that rescue teams are familiar with conditions at the jobsite.
(3) On jobsites where 25 or more employees work underground at 1 time, an employer shall provide, or make arrangements in advance with locally available rescue services to provide, at least 2 5-person rescue teams.
One of the teams shall be on the jobsite or within 1/2 hour of travel time from the entry point and the other team shall be within 2 hours of travel time from the entry point.
(4) On jobsites where fewer than 25 employees work underground at 1 time, an employer shall provide, or make arrangements in advance with locally available rescue services to provide, at least 1 5-person rescue team. The team shall either be on the jobsite or be within 1/2 hour of travel time from the entry point.
(5) On jobsites where flammable or noxious gases are encountered or anticipated in hazardous quantities, rescue team members shall practice donning and using self-contained breathing apparatus monthly.
(6) An emergency hoisting facility, such as a mud box or a crane, shall be readily available at a shaft that is used as a means of egress, unless a hoisting means is provided that is independent of an electrical power failure. The hoisting means shall be designed so that the load hoist drum is powered in both directions of rotation and so that the brake is automatically applied upon power release or failure.
(7) An employer shall provide an escape-only respirator that is a self-contained breathing apparatus with a minimum of a 5 minute air supply. Respirators shall be approved by the national institute for occupational safety and health as prescribed in the provisions of 42 C.F.R. Public Health Service, Part 84 "Approval of Respiratory Protective Devices," as adopted in R 408.41410. Respirators shall be used in accordance with Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.41410. Escape-only respirators shall be immediately available for each employee at work stations in underground areas where employees might be trapped by smoke or gas.
(8) Escape-only respirator that is a self-contained breathing apparatus shall be maintained in good operating condition. Employees shall be trained in its use.
(9) The employer shall maintain a rescue crew for each shift of all underground operations. The rescue crew shall be trained in rescue procedures, the use and limitations of a breathing apparatus, and the use of fire fighting equipment. The crews shall be retrained at least once each year. Local fire and police personnel may be used as rescue teams for tunnel operations. If local personnel are to be used, then the employer shall arrange for assistance before the start of the project.
(10) The employer shall provide the following minimum rescue equipment at the top of the shaft:
(a) Four units of 1/2-hour-rated, self-contained breathing apparatus.
(b) Four additional units of 1/2-hour-rated air bottles.
(c) Four bureau of mines flashlights or lanterns with additional batteries for each light. The flashlights shall be as prescribed in part 20 of subchapter B of the provisions of 30 C.F.R., Mineral Resources, Parts 1-199 "Mine Safety and Health Administration, Department of Labor," as adopted in R 408.41410.
(d) Two 2A-10BC fire extinguishers.
(e) One stretcher, wire basket type or equivalent with slings attached.
(f) One fire blanket.
(g) One 10-ton hand hydraulic rescue kit.
(h) One first aid kit as prescribed in Construction Safety Standard Part 1 "General Rules," as referenced in R 408.41410.
(11) At least 1 employee shall be on duty above ground when an employee is working underground. The primary duty of the employee who is above ground shall be to secure immediate aid for an employee who is underground in case of an emergency.
History: 1979 AC; 1982 AACS; 1993 AACS; 2003 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41464 Communication system; location; signals
Rule 1464. (1) In a tunnel that is more than 225 feet long, the employer shall provide a communication system at all of the following locations:
(a) The working face.
(b) The top of the shaft.
(c) The bottom of the shaft.
(d) The hoisting station, if provided.
(e) Each 1,000 feet of tunnel.
(f) The office, if provided. A public telephone or other communication system shall be provided or available to each tunnel project to secure outside emergency help.

(g) Hoist operators shall be provided with a closed-circuit voice communication system to each landing station. The system shall have speaker microphones located so that the operator can communicate with individual landing stations during hoist use.
(2) An employer shall establish and maintain direct communications for coordination of activities with other employers whose operations at the jobsite affect or may affect the safety of employees who are underground.
(3) If a tunnel is pressurized, then an employer shall provide all of the following additional locations with a communication system:
(a) The working chamber side of the manlock near the door.
(b) The interior of all locks.
(c) The lock attendant's station.
(d) The compressor plant.
(e) The first aid station.
(4) Communication systems shall be tested upon initial entry of each shift to the underground, and as often as necessary thereafter, to ensure that they are in working order.
(5) An employee who works alone underground in a hazardous location and who is both out of the range of natural unassisted voice communication and not under observation by other persons shall be provided with an effective means of obtaining assistance in an emergency.
(6) If a gassy condition exists, then all phones that are located within the tunnel shall conform to the United States Bureau of Mines Schedule 9b, Part 23 of the provisions of 30 C.F.R., Mineral Resources, Parts 1-199 "Mine Safety and Health Administration, Department of Labor," as adopted in R 408.41410. The telephone or other signal communication systems shall be independent of the tunnel power supply and shall be installed so that the use or disruption of any one phone or signal location will not disrupt the operation of the system from any other location.
History: 1979 AC; 1984 AACS; 1993 AACS; 2003 AACS; 2013 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41465
Source: 2013 AACS.

R 408.41466 Electrical requirements.
Rule 1466. (1) A power line shall be well separated or insulated from water lines, telephone lines, and air lines.
(2) Lighting circuits shall be located so that the movement of personnel or equipment will not damage the circuits or disrupt service.
(3) Electrical equipment and wiring shall be installed and maintained as prescribed in the provisions of subparts F to J of part 77 of the provisions of 30 C.F.R., Mineral Resources, Parts 1-199 "Mine Safety and Health Administration, Department of Labor," as adopted in R 408.41410. The provisions of subparts F to J are adopted with the following amendments:
(a) Article 305-1(a) is amended to read as follows: Temporary electrical power and lighting installations shall be permitted during the period of construction, remodeling, maintenance, repair, or demolition of buildings, structures, equipment, or similar activities which are located at ground level and which are part of facilities used for the construction of tunnels, shafts, and cofferdams.
(b) Article 310-15, is amended to read as follows: The maximum continuous ampacities for copper, aluminum, and copper-clad aluminum conductors shall be as specified in table 310-16 to 310-19 and accompanying notes 1 to 12. Power and lighting circuits may be loaded to the maximum design temperatures of the wire or cable insulation under the following conditions:
(i) A means shall be provided to disconnect the load if the feeder cable exceeds design temperature by more than 10% for 1 minute.
(ii) Power cable shall have a grounding and a pilot wire that conforms to the Insulated Power Cable Engineers Association (IPCEA) type G grounded cable (G-GC) or equivalent.
(iii) Power cable shall have a loose connector emergency shutdown ability.
(iv) Power cable shall have a ground fault emergency shutdown ability.
(v) Power cable shall have an arc between phases emergency shutdown ability.
(c) Oil filled transformers shall not be used underground unless they are located in a fire-resistant enclosure suitably vented to the outside and surrounded by a dike to retain the contents of the transformer in the event of rupture.
(4) All electrical power circuits that supply portable or hand-held tools, lights, or equipment shall be protected by approved ground-fault interrupters as prescribed in Construction Safety Standard Part 17 "Electrical Installations," as referenced in R 408.41410.

(5) The regular system of illumination shall be supplemented by lighting that can be activated upon the failure of the regular system. Supplemental lighting, such as approved flashlights or lanterns, shall be sufficient to allow all employees to evacuate the tunnel.
(6) Electrical installation in underground areas where oil, grease, or diesel fuel are stored shall be used only for lighting fixtures.
(7) Lighting fixtures in storage areas, or within 25 feet (7.62 meters) of underground areas where oil, grease, or diesel fuel are stored, shall be approved for class I, division 2 locations, as prescribed in Construction Safety Standard Part 17 "Electrical Installations," as referenced in R 408.41410.
History: 1993 AACS; 2003 AACS; 2013 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41467 Fire prevention and protection.
Rule 1467. (1) The applicable requirements for fire prevention and protection as prescribed in Construction Safety Standard Part 18 "Fire Prevention and Protection," as referenced in R 408.41410, shall be complied with in all tunnel and shaft operations.
(2) Smoking and open flames are prohibited. An employer is responsible for collecting all personal sources of ignition, such as matches and lighters, from all persons. Welding and cutting, where required, shall comply with the provisions of subrules (9), (10), (11), and (12) of this rule. A fire watch shall be maintained when hot work is performed.
(3) Not more than a 1-day supply of diesel fuel shall be stored in a tunnel or shaft. Gasoline or liquefied petroleum gas shall not be taken in a tunnel or shaft. Acetylene or methylacetylene propadiene stabilized gas may be used underground solely for welding, cutting, and other hot work and only as prescribed in Construction Safety Standard Part 7 "Welding and Cutting," as referenced in R 408.41410.
(4) The piping of diesel fuel from the surface to an underground location is permitted only if all of the following provisions are complied with:
(a) Diesel fuel is contained at the surface in a tank with a maximum capacity that is not more than the amount of fuel required to supply, for a 24-hour period, the equipment that is serviced by the underground fueling station.
(b) The surface tank is connected to the underground fueling station of an acceptable pipe or hose system that is controlled at the surface by a valve and at the shaft bottom by a hose nozzle.
(c) The pipe is empty at all times, except when transferring diesel fuel from the surface tank to a piece of equipment in use underground.
(d) Hoisting operations in the shaft are suspended during refueling operations if the supply piping in the shaft is not protected from damage.
(e) Acetylene, liquefied petroleum gas, and methylacetylene propadiene stabilized gas may be used underground only for welding, cutting, and other hot work and only in accordance with subrules (9), (10), (11), and (12) of this rule.
(f) Not more than the amount of fuel gas and oxygen cylinders necessary to perform welding, cutting, or other hot work during the next 24-hour period shall be permitted underground.
(5) Leaks and spills of flammable or combustible fluids shall be cleaned up immediately.
(6) Oil, grease, or diesel fuel that is stored in a tunnel or shaft shall be kept in tightly sealed containers in fire-resistant areas at safe distances from explosives, magazines, electrical installations, and shaft stations. Electrical installations in underground areas where oil, grease, or diesel fuel are stored shall be used only for lighting fixtures. Lighting fixtures in storage areas, or within 25 feet (7.62 meters) of underground areas where oil, grease, or diesel fuel are stored, shall be approved for class I, division 2 locations.
(7) Fire-resistant hydraulic fluids shall be used in hydraulically actuated underground machinery and equipment. For the purpose of this requirement, a fire-resistant hydraulic fluid means any liquid which has a flash point above 200 degrees Fahrenheit and which has a vapor pressure of not more than 40 p.s.i. (absolute) at 100 degrees Fahrenheit.
(8) An approved 4A:40B:C rating fire extinguisher or equivalent protection shall be provided at the drive pulley of an underground conveyor and at 300-foot intervals along the belt. A minimum of 2 2A-10BC approved fire extinguishers shall be provided at the tunneling machine.
(9) All of the following are additional requirements for gassy operations:
(a) Only acceptable equipment, maintained in suitable condition, shall be used in gassy operations.
(b) Mobile diesel-powered equipment used in gassy operations shall be either approved as prescribed in the requirements of 30 C.F.R. Part 36 "Mineral Resources," as adopted in R 408.41410 or shall be demonstrated by the employer to be fully equivalent to the mine safety and health administration approved equipment and shall be operated in accordance with that part.
(c) Each entrance to a gassy operation shall be prominently posted with signs notifying all entrants of the gassy classification.

(10) Fire-resistant hydraulic fluids shall be used in hydraulically-actuated underground machinery and equipment unless such equipment is protected by a fire suppression system or by multipurpose fire extinguisher or fire extinguishers of sufficient capacity for the type and size of hydraulic equipment involved, but rated at least 4A:40B:C.
(11) A noncombustible barrier shall be installed below welding or burning operations.
(12) In an underground operation, local gas checks shall be made before and during a welding or cutting operation and during a drilling operation that would penetrate the tunnel.
(13) Whenever 5% or more of the lower explosive limit for methane or other flammable gases is detected in any underground work area or in the air return, an employer shall take steps to increase ventilation air volume or otherwise control the gas concentration, unless the employer is operating in accordance with the potentially gassy or gassy operation requirements. Such additional ventilation controls may be discontinued when gas concentrations are reduced below 5% of the lower explosive limit, but shall be reinstituted whenever the 5% level is exceeded.
(14) Whenever 10% or more of the lower explosive limit for methane or other flammable gases is detected in the vicinity of welding, cutting, or other hot work, such work shall be suspended until the concentration of such flammable gas is reduced to less than 10% of the lower explosive limit.
(15) A fire watch shall be maintained around welding and cutting operations until all possibility of fire is eliminated. The fire watch shall be provided with a minimum of 1 approved 2A-10BC fire extinguisher.
(16) Flammable materials or supplies, other than those used during 1 shift, shall not be stored within 100 feet (30.48 meters) of any tunnel or shaft opening. If this is not feasible because of space limitations on the jobsite, then such materials may be located within the 100 foot limit, if both of the following provisions are complied with:
(a) The materials are located as far as practicable from the opening.
(b) A fire resistant barrier of not less than a 1-hour rating is placed between the stored material and the opening or additional precautions are taken that will protect the materials from ignition sources.
History: 1993 AACS; 2003 AACS; 2013 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41468
Source: 2013 AACS.

TUNNELS AND SHAFTS

R 408.41471
Source: 2003 AACS.

R 408.41472 Shafts; supports; inspections; lifelines.
Rule 1472. (1) A shaft that an employee is required to enter shall be provided with steel casing, concrete pipe, timber, or other material that is strong enough to support the surrounding earth.
(2) A shaft that is more than 5 feet in depth shall be braced to support the surrounding earth. The bracing shall be provided the full depth of the shaft, or, if rock is encountered, to not less than 5 feet into solid rock, and shall extend not less than 1 foot above the ground level.
(3) After a blasting operation, the bracing shall be inspected. If the bracing is found to be unsafe, then corrections shall be made before the shift operations are continued.
(4) A shaft or caisson shall be protected with a guardrail system as prescribed in Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.41410, or barricaded as prescribed in Construction Safety Standard Part 22 "Signals, Signs, Tags, and Barricades," as referenced in R 408.41410. A gate opening into the shaft shall be provided and shall be closed at all times, except when necessary to enter or leave the shaft or caisson.
History: 1979 AC; 1982 AACS; 1984 AACS; 1996 AACS; 2003 AACS; 2013 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41473
Source: 1979 AC.

R 408.41474 Blasting.
Rule 1474. (1) All blasting and explosives handling shall be conducted as prescribed in Construction Safety Standard Part 27 "Blasting and Use of Explosives," as referenced in R 408.41410.
(2) An employer shall not allow an employee to enter a shaft or a tunnel heading after blasting until air quality meets minimum requirements.

(3) Blasting wire shall be kept clear of electrical lines, pipes, rails, and other conductive material, excluding earth, to prevent explosives initiation or employee exposure to electric current.
(4) After blasting operations in shafts, a competent person shall determine if the walls, ladders, timbers, blocking, or wedges have loosened. If so, necessary repairs shall be made before employees other than those assigned to make the repairs are allowed in or below the affected areas.
History: 1979 AC; 2003 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41475 Haulage; inspection; braking; riding.
Rule 1475. (1) Haulage equipment that is to be used during a shift shall be inspected by a qualified person before the start of the shift. Known defects that affect the safety of employees shall be corrected before the equipment is used.
(2) A powered locomotive or other mobile equipment shall be provided with suitable brakes, an audible warning device for use by the operator as needed, and lights at both ends.
(3) Powered mobile haulage equipment that is subject to falling materials shall be equipped with a cab, canopy, or other protective device that is capable of protecting the operator from shifting or falling materials. For cabs where glazing is used, the glass shall be safety glass, or its equivalent, and shall be maintained and cleaned so that vision is not obstructed.
(4) Powered mobile equipment shall not be left unattended unless the power is off, all operating controls are in the neutral position, and the brakes are set or other equivalent precautions are taken to prevent rolling. The operating controls shall be designed to automatically return to a neutral position or shall be equipped with a deadman control.
(5) Backstops or automatic braking shall be installed on an inclined conveyor to prevent the conveyor from running out of control and creating a hazard for the employee.
(6) An employee shall not ride on either of the following unless specifically designed or adapted for transporting employees:
(a) A power-driven chain, belt, or bucket conveyor.
(b) Haulage equipment. An employee shall not ride haulage equipment unless it is equipped with seating for each passenger and protects passengers from being struck, crushed, or caught between other equipment or surfaces.
(7) An employer shall not use an endless belt-type man lift in underground construction.
(8) Cars that are dumped by hand shall be provided with tie-down chains or dumper blocks to prevent the cars from overturning.
(9) A rocker bottom or bottom-dump car shall be equipped with positive-locking devices.
(10) Equipment that is to be hauled shall be loaded or protected so as to prevent sliding or spillage.
(11) Parked rail haulage equipment shall be chocked or chained if subject to accidental movement.
(12) Berms, bumper blocks, safety hooks, or similar means shall be provided to prevent overtravel or overturning at dumping locations and, where necessary, at track dead ends.
(13) Supplies, materials, and tools, other than small hand tools, shall not be transported with employees in the same car and shall not be transported on top of a locomotive.
(14) A train that is used on an incline which would cause the cars to run out of control shall, in addition to couplings, have safety chains, or the equivalent, to connect the cars and the power haulage equipment in a train. The safety chains or other connections shall be capable of maintaining connection between cars in the event of coupler disconnect, failure, or breakage.
(15) When an employee is being transported in a train, the operator shall have clear vision beyond the forward end of the train for safe operation.
(16) Mobile equipment, including rail-mounted equipment, shall be stopped for manual connecting or service work.
(17) Employees shall not reach between moving cars during coupling operations.
(18) Couplings shall not be aligned, shifted, or cleaned when cars or locomotives are moving.
(19) Where switching facilities are available, occupied personnel cars shall be pulled, not pushed. If occupied personnel cars must be pushed and the visibility of the track is hampered, then a qualified person shall be stationed in the lead car to give signals to the locomotive operator.
History: 1979 AC; 1984 AACS; 1993 AACS; 2003 AACS; 2013 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41475a Hoisting unique to underground construction.
Rule 1475a. Except as modified by this standard, employers shall comply with all of the following:
(a) The requirements of Construction Safety Standard Part 10 “Lifting and Digging Equipment,” as referenced in R 408.41410, except that the limitation in R 408.41021a does not apply to routine access of employees to an underground worksite via a shaft.
(b) Ensure that material hoists comply with R 408.41065a, R 408.41070b, R 408.41074a, and R 408.41075a of Construction Safety Standard Part 10 “Lifting and Digging Equipment,” as referenced in R 408.41410.

(c) Ensure that personnel hoists comply with the personnel hoists requirements of R 408.41065a, R 408.41072a, R 408.41074a, and R 408.41075a and the elevator requirements of R 408.41065a, R 408.41074a, R 408.41075a of Construction Safety Standard Part 10 "Lifting and Digging Equipment," as referenced in R 408.41410.
History: 2013 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41476 General requirements for cranes and hoists.
Rule 1476. (1) A competent person shall check each safety device at least weekly during hoist use to ensure suitable operation and safe condition.
(2) Before hoisting personnel or material, the operator shall perform a test run of any cage or skip whenever it has been out of service for one complete shift, and whenever the assembly or components have been repaired or adjusted.
(3) An employee shall not ride on a material hoist, unless the hoist is in compliance with the requirements of R 408.41478(1).
(4) Before maintenance, repairs, or other work is commenced in the shaft that is served by a hoist, the hoist operator shall be informed of the maintenance, repairs, or other work and given suitable instructions. A sign warning that work is being done in the shaft shall be installed at the shaft collar, at the operator's station, and at each underground landing.
(5) Employees who are at the bottom of an excavated shaft shall be protected from the movement of equipment, tools, or materials overhead or the shaft shall be vacated during the operations that may be hazardous to persons below.
(6) If an employee is raised or lowered in a shaft, then all other hoisting operations in the shaft shall be stopped until the employee has disembarked at the bottom or top of the shaft.
(7) When a stationary hoist is being used, the drum-operating lever shall be of a type that returns automatically to the "stop" position when the operator's hand is removed, unless, as a substitute, the throttle that controls the drum speed automatically stops the drum and slows the engine to idling speed when the throttle is released.
(8) Only wire rope shall be used for hoisting and it shall be properly secured at both the drum and cage or skip ends. When the hoist is in use, not less than 2 full turns shall remain on the conventional drum hoist to protect the end that fastens at the drum from an overload.
(9) The connection between the hoisting rope and the cage or skip shall be of a type to prevent the cage from spinning.
(10) All hoists shall be equipped with a landing level indicator at the operator's station. Marking the hoist rope does not satisfy this requirement.
(11) Limit switches shall be used only to limit travel of loads when operational controls malfunction and shall not be used as a substitute for other operational controls.
(12) A warning light, suitably located to warn employees at the shaft bottom and subsurface shaft entrances, shall flash if a load is above the shaft bottom or subsurface entrances or if the load is being moved in the shaft. This subrule does not apply to fully enclosed hoistways.
(13) If a hoistway is not fully enclosed and employees are at the shaft bottom, then conveyances or equipment shall be stopped not less than 15 feet above the bottom of the shaft and held there until the signalperson at the bottom of the shaft directs the operator to continue lowering the load, except that the load may be lowered without stopping if the load or conveyance is within full view of a bottom signalperson who is in constant voice communication with the operator.
(14) Cage, skips, and load connections to the hoist rope shall be made so that the force of the hoist pull, vibration, misalignment, release of lift force, or impact will not disengage the connection. Moused or latched open-throat hooks do not meet this requirement.
(15) When using wire rope wedge sockets, means shall be provided to prevent wedge escapement and to ensure that the wedge is properly seated.
(16) Hoists shall be designed so that the load hoist-drum is powered in both directions of rotation and so that the brakes are automatically applied upon power release or failure.
(17) When a hoist is used for both personnel hoisting and material hoisting, the load and speed ratings for personnel and for materials shall be assigned to the equipment.
(18) Employees shall not ride on top of any cage, skip, or bucket, except when necessary to perform inspection or maintenance of the hoisting system, in which case they shall be protected by a body belt/harness fall prevention system.
(19) Material, tools, and supplies being raised or lowered, whether within a cage or otherwise, shall be secured or stacked in a manner to prevent the load from shifting, snagging, or falling into the shaft.
(20) Any connection between the hoisting rope and the cage or skip shall be compatible with the type of wire rope used for hoisting.
(21) Spin-type connections, where used, shall be maintained in a clean condition and protected from foreign matter that could affect their operation.
History: 1979 AC; 1984 AACS; 1993 AACS; 2003 AACS; 2013 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41477 Additional requirements for hoists.
Rule 1477. (1) A hoist used for raising or lowering materials in a shaft shall have a minimum factor of safety of 5, shall be designed and rated by a qualified engineer, and shall be constructed in accordance with the design. The design shall be constructed so that the hoist cannot exceed the maximum rated speed.
(2) The rated capacity of the hoist shall be posted at all working levels.
(3) To ensure suitable operation and safe condition of all functions and safety devices, each hoist assembly shall be inspected and load-tested to 100% of its rated capacity at the time of installation; after any repairs or alterations affecting its structural integrity; after the operation of any safety device; and annually when in use. The employer shall prepare a certification record which includes the date each inspection and load-test was performed; the signature of the person who performed the inspection and test; and a serial number or other identifier for the hoist that was inspected and tested. The most recent certification record shall be maintained on file until completion of the project.
(4) A competent person designated by the employer shall visually inspect the stationary hoist assembly, anchorages, and hoisting rope at the beginning of each shift.
(5) All unsafe conditions that are revealed by tests, checks, or inspections shall be corrected before use of the equipment.
(6) Hoist equipment and the operator shall be protected from inclement weather by a hoist house with a comfortable temperature maintained.
(7) Where glass is used in hoist house windows, the glass shall be safety glass or its equivalent.
(8) Hoist controls shall be arranged so that the operator can perform all operating cycle functions and reach the emergency power cutoff without having to reach beyond the operator's normal operating position.
(9) Controls for powered hoists shall be of the deadman-type with a non-locking switch or control.
(10) All hoists shall be equipped with landing level indicators at the operator's station. Marking the hoist rope does not satisfy this requirement.
(11) Material hoisting may be performed at speeds higher than the rated speed for personnel hoisting if the hoist and components have been designed for such higher speeds and if shaft conditions permit.
(12) Personnel and materials (other than small tools and supplies secured in a manner that will not create a hazard to employees) shall not be hoisted together in the same conveyance. However, if the operator is protected from the shifting of materials, then the operator may ride with materials in cages or skips which are designed to be controlled by an operator within the cage or skip.
(13) Line speed shall not exceed the design limitations of the systems.
(14) A fire extinguisher that is rated at least 2A:10B:C, multi-purpose, dry chemical, shall be mounted in each hoist house.
(15) Hoists shall be equipped with limit switches to prevent overtravel at the top and bottom of the hoistway.
(16) Hoist operators shall be provided with a closed-circuit voice communication system to each landing station, with speaker microphones located so that the operator can communicate with individual landing stations during hoist use.
(17) When sinking shafts 75 feet (22.86 m) or less in depth, cages, skips, and buckets that may swing, bump, or snag against shaft sides or other structural protrusions shall be guided by fenders, rails, ropes, or a combination of those means.
(18) When sinking shafts more than 75 feet (22.86 m) in depth, all cages, skips, and buckets shall be rope or rail guided to within a rail length from the sinking operation.
(19) Cages, skips, and buckets in all completed shafts, or in all shafts being used as completed shafts, shall be rope or rail-guided for the full length of their travel.
(20) Wire rope used in load lines of material hoists shall be capable of supporting, without failure, at least 5 times the maximum intended load or the factor recommended by the rope manufacturer, whichever is greater. Refer to R 408.41072a(14)(d) of Construction Safety Standard Part 10 "Lifting and Digging Equipment," as referenced in R 408.41410, for design factors for wire rope used in personnel hoists. The design factor shall be calculated by dividing the breaking strength of wire rope, as reported in the manufacturer's rating tables, by the total static load, including the weight of the wire rope in the shaft when fully extended.
History: 1979 AC; 2003 AACS; 2013 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41477a
Source: 2013 AACS.

R 408.41478 Additional requirements for personnel hoists.
Rule 1478. (1) A personnel hoist shall be used to raise or lower an employee in a tunnel shaft or caisson. A crane may be used to raise or lower an employee, if the crane and the work platform are as prescribed in Construction Safety Standard Part

10 "Lifting and Digging Equipment," as referenced in R 408.41410. The hoist shall be in compliance with 1967 PA 227, MCL 408.801 to 408.824, Bureau of Construction Codes, Elevator Safety Board, R 408.8511 to R 408.8524 as referenced in R 408.41410.
(2) All sides of personnel cages shall be enclosed by 1/2-inch (12.70 mm) wire mesh, at least no. 14 gauge or its equivalent, to a height of at least 6 feet (1.83 m). When the cage or skip is being used as a work platform, its sides may be reduced in height to 42 inches (1.07 m) when the conveyance is not in motion. All personnel cages shall be provided with a positive-locking door that only opens inward.
(3) Flammable or combustible liquids or gases shall not be permitted on the work platform if the platform is occupied by an employee or employees.
(4) Hoist drum systems shall be equipped with at least 2 means of stopping the load, each of which shall be capable of stopping and holding 150 % of the hoist's rated line pull. A broken-rope safety, safety catch, or arrestment device is not a permissible means of stopping.
(5) The operator shall remain within sight and sound of the signals at the operator's station.
(6) All personnel cages shall be provided with a protective canopy. The canopy shall be made of steel plate, at least 3/16-inch (4.763 mm) in thickness, or material of equivalent strength and impact resistance. The canopy shall be sloped to the outside, and so designed that a section may be readily pushed upward to afford emergency egress. The canopy shall cover the top in such a manner as to protect those inside from objects falling in the shaft.
(7) Personnel platforms operating on guide rails or guide ropes shall be equipped with broken-rope safety devices, safety catches or arrestment devices that will stop and hold 150 % of the weight of the personnel platform and its maximum rates load.
(8) During sinking operations in shafts where guides and safeties are not yet used, the travel speed of the personnel platform shall not exceed 200 feet (60.96 m) per minute. Governor controls set for 200 feet (60.96 m) per minute shall be installed in the control system and shall be used during personnel hoisting.
(9) The personnel platform may travel over the controlled length of the hoistway at rated speeds up to 600 feet (182.88 m) per minute during sinking operations in shafts where guides and safeties are used.
(10) The personnel platform may travel at rated speeds greater than 600 feet (182.88m) per minute in completed shafts.
History: 1979 AC; 1984 AACS; 1993 AACS; 1996 AACS; 2003 AACS; 2013 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41479 Flooding; safety screens; runways.
Rule 1479. If there is a danger of rapid flooding in a tunnel that has a bore of 16 feet or more in diameter, then the employer shall provide both of the following:
(a) A runway from the face to the bulkhead as high in the tunnel as practicable to maintain not less than a 6-foot vertical clearance from the surface of the runway upward to the surface of the tunnel. The runway shall be constructed of noncombustible material and shall have a standard railing installed securely along the length of the runway as prescribed in Construction Safety Standard Part 21 "Guarding of Walking and Working Areas," and Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.41410. If the runway is ramped under a safety screen, then the surface shall be made slip-resistant by cleats or other equivalent means.
(b) Metal safety screens or other equivalent means installed with the bottom of the screen 4 feet above the surface of the runway. The first screen shall be located not less than 400 feet from the face of the tunnel.
History: 1979 AC; 1984 AACS; 1996 AACS; 2003 AACS; 2014 MR 7, Eff. April 10, 2014.

COFFERDAMS AND CAISSONS

R 408.41481 Cofferdams.
Rule 1481. (1) A cofferdam shall be designed by a qualified engineer and shall be constructed and maintained in accordance with the design.
(2) If overtopping of the cofferdam by high waters is possible, then means shall be provided for controlled flooding of the work area.
(3) The employer shall develop and post warning signals for the evacuation of employees in case of an emergency.
(4) A cofferdam shall have not less than 2 means of egress.
Runways, bridges, or ramps shall be provided with guardrails as prescribed in Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.41410.
(5) If cofferdams are located close to navigable shipping channels, then warning devices that are visible to vessels in transit shall be provided.
History: 1979 AC; 1984 AACS; 1996 AACS; 2003 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41482 Caisson excavation; employee protection.
Rule 1482. (1) An employee who enters a caisson shall be protected by a steel or concrete casing designed by a qualified employee and approved by a registered engineer.
(2) A copy of the design specifications of the casing shall be maintained at the jobsite.
(3) In the case of belled-bottom caissons, the steel or concrete casing shall be provided for the full depth of that part of each caisson hole that is above the bell.
(4) An employer shall not permit an employee to work below the casing in running or unstable soil.
(5) The steel or concrete caisson shall extend not less than 12 inches above the ground line.
(6) Each employee who is required to enter a caisson excavation shall have a lanyard attached to a body harness and to the load line of a crane. The attachment to the load line shall utilize a screwpin shackle.
(7) An employee whose lanyard is attached to the load line of a crane shall be permitted to be lowered to the bottom of the caisson in the muck bucket.
(8) The maximum rate of travel when lowering an employee shall be 100 feet per minute. Free-spooling when lowering employees into a caisson is prohibited.
(9) All employees shall be removed from the caisson when material is being hoisted from the caisson.
(10) A secondary mechanical means that is capable of removing an employee from the caisson shall be readily available in case the crane performing the caisson work breaks down.
(11) A top person shall be stationed at the caisson and shall constantly monitor any employees who are in the caisson.
(12) A positive means of communication shall be maintained between employees working in the caisson and the top person.
(13) The air quality of a caisson shall be tested and maintained in accordance with Occupational Health Standard Part 665 "Underground Construction, Caissons, Cofferdams, and Compressed Air," as referenced in R 408.41410.
(14) Where space permits, a caisson shall have a stairway for its entire height and shall have landing platforms not more than 20 feet apart. Where this is impracticable, a ladder shall be installed and landing platforms shall be located not more than 20 feet apart to break the climb.
History: 1979 AC; 1984 AACS; 1996 AACS; 2013 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.41483 Caissons used under pressure.
Rule 1483. (1) A caisson used under pressure shall be subjected to a hydrostatic test equal to 200% of the working pressure before being used on a job, at which pressure it shall be tight. The caisson shall be stamped on the outside shell about 12 inches from each flange to show the pressure to which it has been subjected.
(2) All caissons that have a diameter or side greater than 10 feet shall be provided with a man lock and shaft for the exclusive use of employees. In addition to the gauge in the locks, an accurate gauge shall be maintained on the outer and inner side of each bulkhead. These gauges shall be accessible at all times and kept in accurate working order.
(3) In caisson operations where employees are exposed to compressed air working environments, employers shall comply with Occupational Health Standard Part 665 "Underground Construction, Caissons, Cofferdams, and Compressed Air," as referenced in R 408.41410.
History: 1989 AACS; 2003 AACS; 2014 MR 7, Eff. April 10, 2014.

PART 16. POWER TRANSMISSION AND DISTRIBUTION

R 408.41601
Source: 1982 AACS.

R 408.41610
Source: 2013 AACS.

R 408.41625
Source: 1982 AACS.

R 408.41626
Source: 1982 AACS.

R 408.41627

Source: 2013 AACS.

R 408.41628
Source: 1982 AACS.

R 408.41629
Source: 1982 AACS.

R 408.41630
Source: 2005 AACS.

R 408.41631
Source: 1982 AACS.

R 408.41632
Source: 2005 AACS.

R 408.41633
Source: 2013 AACS.

R 408.41634
Source: 2005 AACS.

R 408.41635
Source: 2005 AACS.

R 408.41636
Source: 2005 AACS.

R 408.41637
Source: 2005 AACS.

R 408.41638
Source: 2005 AACS.

R 408.41639
Source: 1982 AACS.

R 408.41640
Source: 1982 AACS.

R 408.41641
Source: 2005 AACS.

R 408.41642
Source: 2005 AACS.

R 408.41643
Source: 2005 AACS.

R 408.41644
Source: 1985 AACS.

R 408.41645
Source: 2010 AACS.

R 408.41646
Source: 2005 AACS.

R 408.41647
Source: 2005 AACS.

R 408.41648
Source: 1985 AACS.

R 408.41649
Source: 1985 AACS.

R 408.41650
Source: 2005 AACS.

R 408.41651
Source: 1982 AACS.

R 408.41652
Source: 1982 AACS.

R 408.41653
Source: 2005 AACS.

R 408.41654
Source: 1982 AACS.

R 408.41655
Source: 1982 AACS.

R 408.41656
Source: 1982 AACS.

R 408.41657
Source: 1982 AACS.

R 408.41658
Source: 2013 AACS.

PART 17. ELECTRICAL INSTALLATIONS

R 408.41701
Source: 1979 AC.

R 408.41717
Source: 1979 AC.

R 408.41718
Source: 1979 AC.

R 408.41719
Source: 2013 AACS.

R 408.41720
Source: 1979 AC.

R 408.41722
Source: 1979 AC.

R 408.41723
Source: 1979 AC.

R 408.41724
Source: 1979 AC.

R 408.41725
Source: 2013 AACS.

R 408.41726
Source: 1979 AC.

R 408.41727
Source: 1979 AC.

R 408.41728
Source: 2013 AACS.

R 408.41729
Source: 1979 AC.

R 408.41730
Source: 1979 AC.

R 408.41731
Source: 1979 AC.

R 408.41732
Source: 1979 AC.

R 408.41733
Source: 1982 AACS.

R 408.41734
Source: 1979 AC.

PART 18. FIRE PROTECTION AND PREVENTION

R 408.41801
Source: 2002 AACS.

R 408.41802
Source: 2013 AACS.

R 408.41836
Source: 2002 AACS.

R 408.41837
Source: 2002 AACS.

R 408.41838
Source: 2002 AACS.

R 408.41841
Source: 2013 AACS.

R 408.41842
Source: 2013 AACS.

R 408.41850
Source: 2013 AACS.

R 408.41851
Source: 2002 AACS.

R 408.41852
Source: 2013 AACS.

R 408.41853
Source: 2002 AACS.

R 408.41854
Source: 1983 AACS.

R 408.41855
Source: 1983 AACS.

R 408.41856
Source: 1983 AACS.

R 408.41861
Source: 2002 AACS.

R 408.41862
Source: 1983 AACS.

R 408.41863
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R 408.41864
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R 408.41865
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R 408.41866
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R 408.41867
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R 408.41868
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R 408.41869
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R 408.41871
Source: 2002 AACS.

R 408.41872
Source: 2013 AACS.

R 408.41873
Source: 1983 AACS.

R 408.41874
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R 408.41875
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R 408.41876
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R 408.41877
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R 408.41878
Source: 1983 AACS.

R 408.41879
Source: 1983 AACS.

R 408.41881
Source: 1983 AACS.

R 408.41882
Source: 1983 AACS.

R 408.41883
Source: 1983 AACS.

R 408.41884
Source: 2013 AACS.

PART 19. TOOLS

R 408.41901
Source: 1979 AC.

R 408.41902
Source: 2013 AACS.

R 408.41926
Source: 1989 AACS.

R 408.41927
Source: 1989 AACS.

R 408.41928
Source: 1989 AACS.

R 408.41929
Source: 1989 AACS.

R 408.41931
Source: 2013 AACS.

R 408.41932
Source: 2013 AACS.

R 408.41933
Source: 1989 AACS.

R 408.41934
Source: 2013 AACS.

R 408.41935
Source: 2013 AACS.

R 408.41936
Source: 1982 AACS.

R 408.41937
Source: 1989 AACS.

R 408.41938
Source: 1979 AC.

R 408.41941
Source: 1979 AC.

R 408.41942
Source: 1979 AC.

R 408.41943
Source: 2013 AACS.

R 408.41944
Source: 1997 AACS.

R 408.41945
Source: 2013 AACS.

R 408.41949
Source: 2013 AACS.

R 408.41950
Source: 1979 AC.

R 408.41951
Source: 1989 AACS.

R 408.41952
Source: 2013 AACS.

R 408.41953
Source: 2013 AACS.

R 408.41954
Source: 203 AACS.

R 408.41955
Source: 1989 AACS.

R 408.41956
Source: 2013 AACS.

R 408.41957
Source: 2013 AACS.

R 408.41958
Source: 1997 AACS.

R 408.41959
Source: 2013 AACS.

R 408.41960
Source: 1989 AACS.

R 408.41961
Source: 1995 AACS.

R 408.41962
Source: 1989 AACS.

R 408.41963
Source: 1997 AACS.

R 408.41964
Source: 2013 AACS.

R 408.41966
Source: 1995 AACS.

R 408.41967
Source: 1979 AC.

R 408.41968
Source: 1979 AC.

R 408.41969
Source: 1979 AC.

R 408.41970
Source: 2013 AACS.

R 408.41971
Source: 2013 AACS.

R 408.41972
Source: 1989 AACS.

R 408.41973
Source: 1989 AACS.

R 408.41974
Source: 2013 AACS.

R 408.41975
Source: 2013 AACS.

R 408.41976
Source: 1989 AACS.

R 408.41977
Source: 2013 AACS.

R 408.41978
Source: 1989 AACS.

R 408.41979
Source: 2013 AACS.

R 408.41980
Source: 2013 AACS.

PART 20. DEMOLITION

R 408.42001
Source: 1981 AACS.

R 408.42023
Source: 1998-2000 AACS.

R 408.42031
Source: 2013 AACS.

R 408.42032
Source: 1996 AACS.

R 408.42033
Source: 1981 AACS.

R 408.42034
Source: 2013 AACS.

R 408.42041
Source: 2013 AACS.

R 408.42043
Source: 2013 AACS.

R 408.42044
Source: 1981 AACS.

R 408.42045
Source: 2013 AACS.

R 408.42046

Source: 2013 AACS.

R 408.42047
Source: 2013 AACS.

PART 21. GUARDING OF WALKING AND WORKING AREAS

R 408.42101
Source: 1996 AACS.

R 408.42121
Source: 1996 AACS.

R 408.42122
Source: 1996 AACS.

R 408.42123
Source: 1996 AACS.

R 408.42127
Source: 1993 AACS.

R 408.42128
Source: 1993 AACS.

R 408.42129
Source: 1993 AACS.

R 408.42130
Source: 1993 AACS.

R 408.42131
Source: 2013 AACS.

R 408.42140
Source: 1997 AACS.

R 408.42141
Source: 1997 AACS.

R 408.42142
Source: 1997 AACS.

R 408.42143
Source: 1997 AACS.

R 408.42144
Source: 1997 AACS.

R 408.42145
Source: 2013 AACS.

R 408.42146
Source: 1997 AACS.

R 408.42147
Source: 1997 AACS.

R 408.42148
Source: 1997 AACS.

R 408.42149
Source: 2013 AACS.

R 408.42150
Source: 1996 AACS.

R 408.42151
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R 408.42152
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R 408.42153
Source: 1997 AACS.

R 408.42154
Source: 1989 AACS.

R 408.42155
Source: 1993 AACS.

R 408.42156
Source: 2013 AACS.

R 408.42157
Source: 2013 AACS.

R 408.42158
Source: 1997 AACS.

R 408.42159
Source: 2013 AACS.

R 408.42160
Source: 2013 AACS.

PART 22. SIGNALS, SIGNS, TAGS, AND BARRICADES

R 408.42201
Source: 2001 AACS.

R 408.42209
Source: 2013 AACS.

R 408.42210
Source: 1997 AACS.

R 408.42211
Source: 2001 AACS.

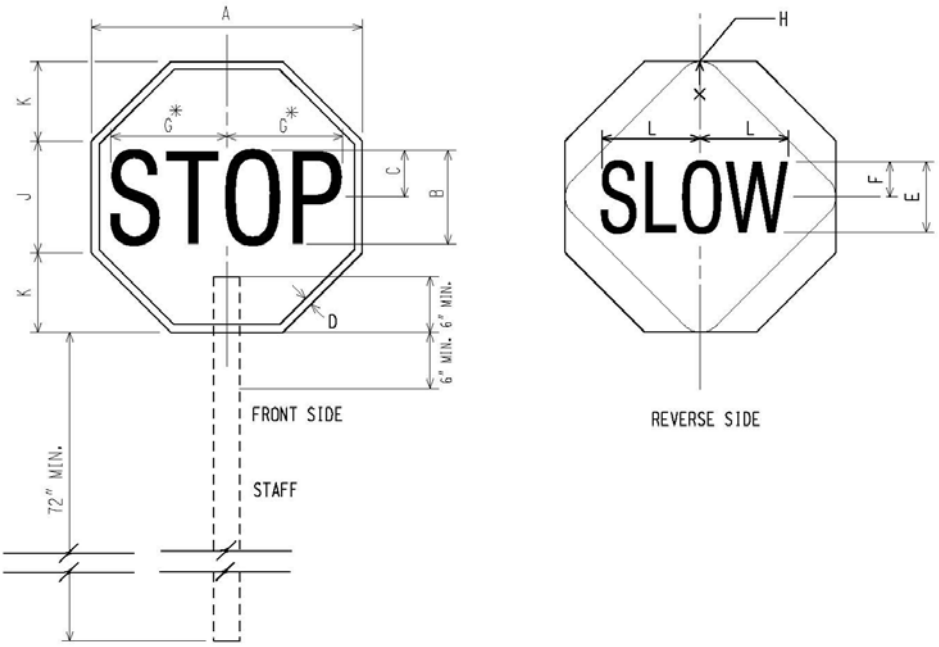
R 408.42212
Source: 2001 AACS.

R 408.42213
Source: 2013 AACS.

R 408.42221 Duties of employer.
Rule 2221. An employer shall provide, install, and maintain signals, signs, barricades, and tags, as prescribed by this part, where an employee might be, or would likely be, injured if not alerted to the hazard.
History: 1979 AC; 1995 AACS; 2001 AACS; 2014 MR 1, Eff. Jan. 21, 2014.

R 408.42222
Source: 2001 AACS.

R 408.42223 Traffic control.
Rule 2223. (1) Traffic control devices shall be installed and maintained as prescribed in Part 6 of the 2011 MMUTCD, which is adopted by reference in R 408.42209.
(2) Signaling directions by traffic regulators shall conform to the provisions of Part 6 of the 2011 MMUTCD, which is adopted by reference in R 408.42209.
(3) A hand-held paddle sign shall have 2 faces and it shall be attached to a staff of suitable design that will allow the entire unit to be held and controlled by 1 traffic regulator. The bottom of the sign shall be a minimum of 6 feet above the roadway surface. The sign shall be fastened to the staff so that no part of the legend is obscured. The portion of the staff within the sign face shall match the sign colors. The sign shall not be less than 18 by 18 inches and the letters shall have a minimum height of 6 inches (150 millimeters). All letters and spacing between letters shall be as prescribed in Part 6 of the 2011 MMUTCD, which is adopted by reference in R 408.42209. The legend shall be optically centered horizontally on the sign. One side of the sign shall display a "STOP" face and the other side shall display the message "SLOW," except that if it is necessary for 1 traffic regulator to stop 2 directions of traffic at the same time, then a "STOP" face shall be used on each side of the sign. The "STOP" face shall have a red background with white letters and border. The "SLOW" face shall have an orange background with black letters and border. The shape of the sign shall be octagonal and the portions of the sign other than the diamond-shaped "SLOW" face shall be black. When the sign paddle is used during hours of darkness, the red and white of the "STOP" face and the orange of the "SLOW" face shall be reflectorized. Sheet metal or other light semi-rigid material may be used for mounting the "STOP" and "SLOW" faces.
(4) The paddle sign shall be as follows:



R1-1a

*SPACING REDUCED 40%

SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
MINIMUM	18	6 C	3	.5	6 B	3	7.75	1.5	7.5	5.25	6.25
SPECIAL	24	8 C	4	.62	8 B	3.5	10	1.5	9.87	7.06	8.25

Note: "Special" sign dimensions are recommended for single traffic regulator operations.
(5) An employer shall provide, and a traffic regulator shall wear, high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107, "High-Visibility Safety Apparel and Headwear," 2004 edition, (see Section 1A.11), which is adopted by reference in R 408.42209, or equivalent revisions, and labeled as meeting the ANSI 107-2004 standard performance for Class 2 or 3 risk exposure.
(6) A traffic regulator shall also wear head, eye, and foot protection as prescribed in Construction Safety Standard Part 6 Personal Protective Equipment, R 408.42209.
History: 1979 AC; 1982 AACS; 1995 AACS; 2001 AACS; 2006 AACS; 2013 AACS; 2014 MR 1, Eff. Jan. 21, 2014.

R 408.42224 Barricades for construction operations on other than public right-of-way.
Rule 2224. A barricade shall be provided to obstruct or direct an employee from a hazardous area of a construction operation not otherwise affected by another standard.
History: 1979 AC; 2001 AACS; 2014 MR 1, Eff. Jan. 21, 2014.

R 408.42225
Source: 2013 AACS.

R 408.42229 Signs generally.
Rule 2229. (1) If conditions warrant the use of a sign size that is not specified in Tables 2 to 5, then the ratio of the height of the identifying panel, such as "DANGER" or "CAUTION," to the width of the sign shall be maintained as prescribed in the tables.
(2) Signs shall be removed or covered when the hazard addressed by the sign no longer exists.
History: 1995 AACS; 2001 AACS; 2014 MR 1, Eff. Jan. 21, 2014.

R 408.42230
Source: 2001 AACS.

R 408.42231
Source: 1995 AACS.

R 408.42232
Source: 1997 AACS.

R 408.42233
Source: 2001 AACS.

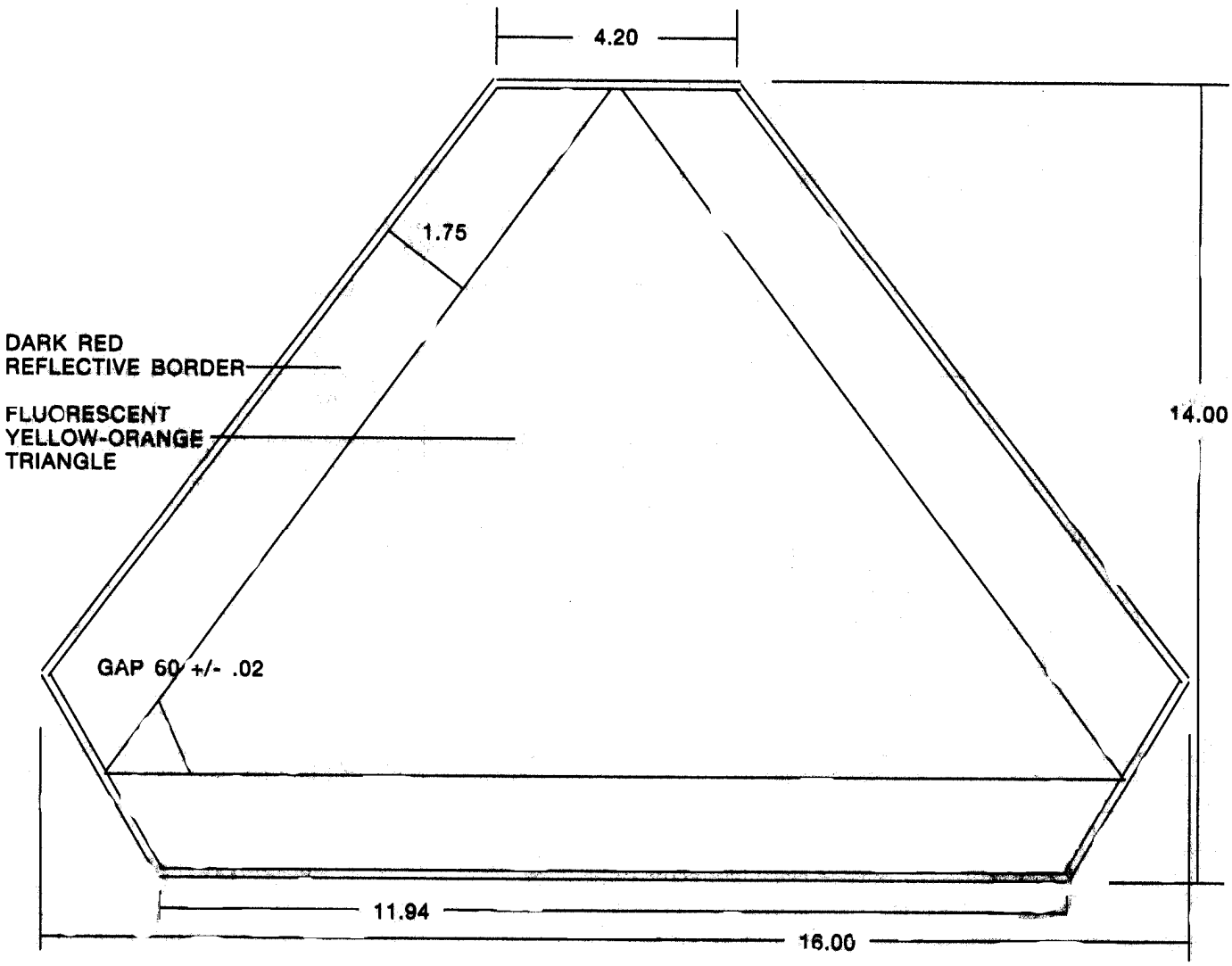
R 408.42235
Source: 2006 AACS.

R 408.42238
Source: 2013 AACS.

R 408.42241 Accident prevention tags generally.
Rule 2241. (1) An appropriate accident prevention tag shall be used as a temporary means of warning an employee of an existing hazard, such as defective tools or equipment. A tag shall not be used in place of an accident prevention sign or considered a complete warning method.
(2) A tag shall be large enough to attract attention to the hazard but not less than 2 3/8 inches (59 millimeters) by 4 3/4 inches (119 millimeters).
(3) The signal word shall be in bold type.
History: 1979 AC; 2001 AACS; 2014 MR 1, Eff. Jan. 21, 2014.

R 408.42242
Source: 1979 AC.

R 408.42243 Signs for slow-moving vehicles.
Rule 2243. A sign as prescribed in this rule shall be attached to the rear of any vehicle that, by design, moves at 25 miles per hour or less on any public, private, or temporary road.



(Note: Dimensions are in decimal inches.)

History: 1995 AACS; 2001 AACS; 2014 MR 1, Eff. Jan. 21, 2014.

PART 24. TAR KETTLES

R 408.42401
Source: 1991 AACS.

R 408.42402
Source: 2013 AACS.

R 408.42403
Source: 2013 AACS.

R 408.42404
Source: 2013 AACS.

R 408.42405
Source: 2013 AACS.

R 408.42406
Source: 2013 AACS.

R 408.42407
Source: 2013 AACS.

PART 25. CONCRETE CONSTRUCTION

R 408.42501
Source: 2003 AACS.

R 408.42502
Source: 2013 AACS.

R 408.42503
Source: 2013 AACS.

R 408.42516
Source: 2003 AACS.

R 408.42517
Source: 2003 AACS.

R 408.42518
Source: 2013 AACS.

R 408.42519
Source: 2003 AACS.

R 408.42520
Source: 2013 AACS.

R 408.42521
Source: 2013 AACS.

R 408.42522
Source: 2013 AACS.

R 408.42523
Source: 2003 AACS.

R 408.42524
Source: 2013 AACS.

R 408.42525
Source: 2013 AACS.

R 408.42526
Source: 2013 AACS.

R 408.42527
Source: 2013 AACS.

R 408.42528
Source: 2013 AACS.

R 408.42531
Source: 2013 AACS.

R 408.42532
Source: 2013 AACS.

R 408.42533
Source: 2013 AACS.

R 408.42534
Source: 2013 AACS.

R 408.42535
Source: 2013 AACS.

PART 26. STEEL AND PRECAST ERECTION

R 408.42601
Source: 2002 AACS.

R 408.42602
Source: 2013 AACS.

R 408.42604
Source: 2002 AACS.

R 408.42605 Definitions; D to M.
Rule 2605. (1) "Decking hole" means a gap or void more than 2 inches (5.1 cm) in its least dimension and less than 12 inches (30.5 cm) in its greatest dimension in a floor, roof, or other walking/working surface. Pre-engineered holes in cellular decking for wires, cables, and the like are not included in this definition.
(2) "Derrick floor" means an elevated floor of a building or structure that has been designated to receive hoisted pieces of steel before final placement.
(3) "Double connection" means an attachment method where the connection point is intended for 2 pieces of steel that share common bolts on either side of a central piece.
(4) "Double connection seat" means a structural attachment that, during the installation of a double connection, supports the first member while the second member is connected.
(5) "Erection bridging" means the bolted diagonal bridging that is required to be installed before releasing the hoisting cables from the steel joists.
(6) "Fall restraint system" means a fall protection system that prevents the user from falling any distance. The system is comprised of either a body belt or body harness, together with an anchorage, connectors, and other necessary equipment. The other components typically include a lanyard, and may also include a lifeline and other devices.
(7) "Final interior perimeter" means the perimeter of a large permanent open space within a building such as an atrium or courtyard. This does not include openings for stairways, elevator shafts, and the like.
(8) "Girt, in systems-engineered metal buildings" means a "Z" or "C" shaped member formed from sheet steel spanning between primary framing and supporting wall material.

(9) "Headache ball" means a solid iron weight, usually spherical, used to keep the loadline taut and positioned above the hook.
(10) "Hoisting equipment" means commercially manufactured lifting equipment designed to lift and position a load of known weight to a location at some known elevation and horizontal distance from the equipment's center of rotation. "Hoisting equipment" includes, but is not limited to, all of the following:
(a) Cranes.
(b) Derricks.
(c) Tower cranes.
(d) Barge-mounted derricks or cranes.
(e) Gin poles.
(f) Gantry hoist systems.
A "come-a-long," that is, a mechanical device, usually consisting of a chain or cable attached at each end, that is used to facilitate movement of materials through leverage is not considered "hoisting equipment."
(11) "Leading edge" means the unprotected side and edge of a floor, roof, or formwork for a floor or other walking/working surface, such as a deck, which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed.
(12) "Metal decking" means a commercially manufactured, structural grade, cold-rolled metal panel formed into a series of parallel ribs. As used in this part, the term includes metal floor and roof decks, standing seam metal roofs, other metal roof systems, and other products, such as bar gratings, checker plate, expanded metal panels, and similar products. After installation and proper fastening, these decking materials serve a combination of functions, including, but not limited to, any of the following:
(a) A structural element designed in combination with the structure to resist, distribute, and transfer loads, stiffen the structure, and provide a diaphragm action.
(b) A walking/working surface.
(c) A form for concrete slabs.
(d) A support for roofing systems.
(e) A finished floor or roof.
(13) "Multiple lift rigging" means a rigging assembly manufactured by wire rope rigging suppliers that facilitates the attachment of up to 5 independent loads to the hoist rigging of a crane.
History: 2002 AACS; 2007 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.42606
Source: 2002 AACS.

R 408.42607
Source: 2002 AACS.

R 408.42608 Site layout, erection plan, and construction sequence.
Rule 2608. (1) Before authorizing the commencement of steel erection, the controlling contractor shall ensure that the steel erector is provided with the following written notifications:
(a) The concrete in the footings, piers, and walls and the mortar in the masonry piers and walls has attained, on the basis of an appropriate ASTM standard test method of field-cured samples, either 75% of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection.
(b) Any repairs, replacements, and modifications to the anchor bolts were conducted in accordance with R 408.42626(5) and (6).
(2) A steel erection contractor shall not erect steel unless it has received written notification that the concrete in the footings, piers, and walls or the mortar in the masonry piers and walls has attained, on the basis of an appropriate ASTM standard test method of field-cured samples, either 75% of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection.
(3) The controlling contractor shall ensure that both of the following are provided and maintained:
(a) Adequate access roads into and through the site for the safe delivery and movement of derricks, cranes, trucks, other necessary equipment, and the material to be erected and means and methods for pedestrian and vehicular control. However, this requirement does not apply to roads outside of the construction site.
(b) A firm, properly graded, drained area which is readily accessible to the work and which has adequate space for the safe

storage of materials and the safe operation of the erector's equipment.
(4) All hoisting operations in steel erection shall be preplanned to ensure that the requirements of R 408.42609(5) and (6) are met.
(5) If an employer elects, due to conditions specific to the site, to develop alternate means and methods that provide employee protection in accordance with R 408.42609(4),–R 408.42634(4), or R 408.42638(4), then a site-specific erection plan shall be developed by a qualified person and be available at the work site. Guidelines for establishing a site-specific erection plan are contained in appendix A.
History: 2002 AACS; 2007 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.42609. Hoisting and rigging.
Rule 2609. (1) All the provisions of Construction Safety Standard Part 10 "Lifting and Digging Equipment," as referenced in R 408.42602 apply to hoisting and rigging.
(2) The headache ball, hook or load shall not be used to transport personnel except as provided in subrule (3) of this rule.
(3) Cranes or derricks may be used to hoist employees when work under this rule is being conducted, provided either of the following provisions is met:
(a) All of the requirements of the Construction Safety Standard Part 10 "Lifting and Digging Equipment," R 408.41021a, except for R 408.41021a(1), as referenced in R 408.42602.
(b) All of the requirements of the Construction Safety Standard Part 28 "Personnel Hoisting in Steel Erection," as referenced in R 408.42602.
(4) Safety latches on hooks shall not be deactivated or made inoperable, except in either of the following situations:
(a) When a qualified rigger has determined that the hoisting and placing of purlins and single joists can be performed more safely by doing so.
(b) When equivalent protection is provided in a site-specific erection plan.
(5) Routes for suspended loads shall be preplanned to ensure that no employee is required to work directly below a suspended load, except for the following employees:
(a) Employees engaged in the initial connection of the steel.
(b) Employees necessary for the hooking or unhooking of the load.
(6) When working under suspended loads, all of the following criteria shall be met:
(a) Materials being hoisted shall be rigged to prevent unintentional displacement.
(b) Hooks with self-closing safety latches or their equivalent shall be used to prevent components from slipping out of the hook.
(c) All loads shall be rigged by a qualified rigger.
History: 1985 AACS; 2002 AACS; 2007 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.42610
Source: 2002 AACS.

R 408.42611
Source: 1997 AACS.

R 408.42612
Source: 1997 AACS.

R 408.42613
Source: 1997 AACS.

R 408.42614
Source: 2010 AACS.

R 408.42615
Source: 2002 AACS.

R 408.42616
Source: 2007 AACS.

R 408.42617
Source: 2002 AACS.

R 408.42618
Source: 2002 AACS.

R 408.42620
Source: 2002 AACS.

R 408.42621
Source: 2002 AACS.

R 408.42622
Source: 2002 AACS.

R 408.42623
Source: 2002 AACS.

R 408.42624
Source: 2007 AACS.

R 408.42625
Source: 2007 AACS.

R 408.42626 Column anchorage, erection stability, repair, replacement, and anchor rods (anchor bolts).
Rule 2626. (1) All columns shall be anchored by a minimum of 4 anchor rods (anchor bolts).
(2) Each column anchor rod, or anchor bolt assembly, including the column-to-base plate weld and the column foundation, shall be designed to resist a minimum eccentric gravity load of 300 pounds (136.2 kg) located 18 inches (.46 m) from the extreme outer face of the column in each direction at the top of the column shaft.
(3) Columns shall be set on level finished floors, pre-grouted leveling plates, leveling nuts, or shim packs that are adequate to transfer the construction loads.
(4) All columns shall be evaluated by a competent person to determine whether guying or bracing is needed. If guying or bracing is needed, then the employer shall have it installed.
(5) Anchor rods (anchor bolts) shall not be repaired, replaced, or field-modified without the approval of the project structural engineer of record.
(6) Before the erection of a column, the controlling contractor shall provide written notification to the steel erector if there has been any repair, replacement, or modification of the anchor rods, or anchor bolts, of that column.
History: 2002 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.42628
Source: 2007 AACS.

R 408.42629 Double connections.
Rule 2629. (1) If 2 structural members on opposite sides of a column web, or a beam web over a column, are connected sharing common connection holes, then at least 1 bolt with its wrench-tight nut shall remain connected to the first member unless a shop-attached or field-attached seat or equivalent connection device is supplied with the member to secure the first member and prevent the column from being displaced (see appendix H for examples of equivalent connection devices).
(2) If a seat or equivalent device is used, then the seat, or device, shall be designed to support the load during the double connection process. The seat or equivalent device shall be adequately bolted or welded to both a supporting member and the first member before the nuts on the shared bolts are removed to make the double connection.
History: 2002 AACS; 2007 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.42630
Source: 2002 AACS.

R 408.42632
Source: 2002 AACS.

R 408.42634
Source: 2007 AACS.

R 408.42636
Source: 2007 AACS.

R 408.42638
Source: 2002 AACS.

R 408.42640
Source: 2002 AACS.

R 408.42642
Source: 2002 AACS.

R 408.42643 Systems-engineered metal buildings.
Rule 2643. (1) All of the requirements of this part apply to the erection of systems engineered metal buildings, except for R 408.42626, R 408.42634, R 408.42636, and R 408.42638.
(2) Each structural column shall be anchored by a minimum of 4 anchor rods, or anchor bolts.
(3) Rigid frames shall have 50% of their bolts or the number of bolts specified by the manufacturer, whichever is greater, installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.
(4) Construction loads shall not be placed on any structural steel framework unless the framework is safely bolted, welded, or otherwise adequately secured.
(5) In girt and eave strut-to-frame connections, when girts or eave struts share common connection holes, at least 1 bolt with its wrench-tight nut shall remain connected to the first member unless a manufacturer-supplied, field-attached seat or similar connection device is present to secure the first member so that the girt or eave strut is always secured against displacement.
(6) Both ends of all steel joists or cold-formed joists shall be fully bolted or welded to the support structure before any of the following:
(a) Releasing the hoisting cables.
(b) Allowing an employee on the joists.
(c) Allowing any construction loads on the joists.
(7) Purlins and girts shall not be used as an anchorage point for a fall arrest system unless written approval is obtained from a qualified person.
(8) Purlins may only be used as a walking/working surface when installing safety systems, after all permanent bridging has been installed and fall protection is provided.
(9) Construction loads may be placed only within a zone that is within 8 feet (2.5 m) of the centerline of the primary support member.
History: 2002 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.42644
Source: 2013 AACS.

R 408.42645
Source: 2002 AACS.

R 408.42646
Source: 2002 AACS.

R 408.42648
Source: 2007 AACS.

R 408.42650

Source: 2002 AACS.

R 408.42651 Criteria for fall protection equipment; custody of fall protection.
Rule 2651. (1) Guardrail systems, safety net systems, personal fall arrest systems, positioning device systems and their components shall conform to the criteria in Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.42602. (See appendix G)
(2) Fall arrest system components shall be used in fall restraint systems and shall conform to the criteria in Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.42602. (See appendix G) Either body belts or body harnesses shall be used in fall restraint systems.
(3) Perimeter safety cables shall meet the criteria for guardrail systems in Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.42602. (See appendix G)
(4) Fall protection provided by the steel erector shall remain in the area where steel erection activity has been completed, to be used by other trades, only if the controlling contractor or its authorized representative has done both of the following:
(a) Directed the steel erector to leave the fall protection in place.
(b) Inspected and accepted control and responsibility of the fall protection before authorizing persons other than steel erectors to work in the area.
History: 2002 AACS; 2007 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.42653
Source: 2002 AACS.

R 408.42654
Source: 2002 AACS.

R 408.42655 Special training.
Rule 2655. (1) An employer shall ensure that each employee who performs multiple lift rigging has been provided training in both of the following areas:
(a) The nature of the hazards associated with multiple lifts.
(b) The proper procedures and equipment to perform multiple lifts required by R 408.42610.
(2) An employer shall ensure that each connector has been provided training in all of the following areas:
(a) The nature of the hazards associated with connecting.
(b) The establishment, access, proper connecting techniques, and work practices required by R 408.42629(1) and (2) and R 408.42646.
(c) Specific training on personnel hoisting as prescribed in Construction Safety Standard Part 28. "Personnel Hoisting in Steel Erection," as referenced in R 408.42602.
(3) Where CDZs are being used, an employer shall assure that each employee has been provided training in both of the following areas:
(a) The nature of the hazards associated with work within a controlled decking zone.
(b) The establishment, access, proper installation techniques, and work practices required by R 408.42620, R 408.42622, R 408.42640, and R 408.42648.
History: 2002 AACS; 2007 AACS; 2014 MR 7, Eff. April 10, 2014.

R 408.42656
Source: 2002 AACS.

PART 27. BLASTING AND USE OF EXPLOSIVES

R 408.42701
Source: 1982 AACS.

R 408.42724
Source: 1982 AACS.

R 408.42725
Source: 1982 AACS.

R 408.42726
Source: 1982 AACS.

R 408.42727
Source: 1982 AACS.

R 408.42728
Source: 1982 AACS.

R 408.42731
Source: 1982 AACS.

R 408.42732
Source: 2013 AACS.

R 408.42733
Source: 2013 AACS.

R 408.42734
Source: 1982 AACS.

R 408.42735
Source: 1988 AACS.

R 408.42737
Source: 1982 AACS.

R 408.42741
Source: 2013 AACS.

R 408.42742
Source: 1982 AACS.

R 408.42743
Source: 2013 AACS.

R 408.42744
Source: 1982 AACS.

R 408.42751
Source: 1982 AACS.

R 408.42752
Source: 1982 AACS.

R 408.42753
Source: 1982 AACS.

R 408.42754
Source: 1982 AACS.

R 408.42755
Source: 2013 AACS.

R 408.42756
Source: 2013 AACS.

R 408.42757
Source: 1982 AACS.

R 408.42758
Source: 1982 AACS.

R 408.42759
Source: 2013 AACS.

R 408.42761
Source: 1982 AACS.

R 408.42762
Source: 1982 AACS.

R 408.42763
Source: 1982 AACS.

R 408.42799
Source: 2013 AACS.

PART 28 PERSONNEL HOISTING IN STEEL ERECTION

R 408.42801
Source: 2007 AACS.

R 408.42804
Source: 2007 AACS.

R 408.42806
Source: 2007 AACS.

R 408.42809
Source: 2007 AACS.

PART 29. COMMUNICATION TOWERS

R 408.42901
Source: 2009 AACS.

R 408.42904
Source: 2009 AACS.

R 408.42907
Source: 2009 AACS.

R 408.42910
Source: 2009 AACS.

R 408.42913
Source: 2009 AACS.

R 408.42916
Source: 2009 AACS.

R 408.42919
Source: 2009 AACS.

R 408.42922
Source: 2009 AACS.

R 408.42925
Source: 2009 AACS.

R 408.42928
Source: 2009 AACS.

R 408.42931
Source: 2009 AACS.

R 408.42934
Source: 2009 AACS.

R 408.42937
Source: 2009 AACS.

R 408.42940
Source: 2009 AACS.

R 408.42943
Source: 2009 AACS.

PART 30. TELECOMMUNICATIONS

R 408.43001
Source: 2013 AACS.

R 408.43002
Source: 2005 AACS.

R 408.43003
Source: 2013 AACS.

R 408.43004
Source: 2013 AACS.

R 408.43005
Source: 2005 AACS.

R 408.43006
Source: 2013 AACS.

PART 31. DIVING OPERATIONS

R 408.43101
Source: 2013 AACS.

R 408.43103
Source: 2013 AACS.

R 408.43104
Source: 2013 AACS.

R 408.43105
Source: 2013 AACS.

R 408.43106
Source: 2013 AACS.

R 408.43107
Source: 2013 AACS.

R 408.43109
Source: 2013 AACS.

R 408.43111
Source: 2013 AACS.

R 408.43112
Source: 2013 AACS.

R 408.43113
Source: 2013 AACS.

R 408.43114
Source: 2013 AACS.

R 408.43121
Source: 2013 AACS.

R 408.43122
Source: 2013 AACS.

R 408.43123
Source: 2013 AACS.

R 408.43124
Source: 2013 AACS.

R 408.43125
Source: 2013 AACS.

R 408.43126
Source: 2013 AACS.

R 408.43127
Source: 2013 AACS.

R 408.43131
Source: 2013 AACS.

R 408.43132
Source: 2013 AACS.

R 408.43133
Source: 2013 AACS.

R 408.43134
Source: 2013 AACS.

R 408.43141
Source: 2013 AACS.

R 408.43142
Source: 2013 AACS.

R 408.43145
Source: 2013 AACS.

R 408.43146
Source: 2013 AACS.

R 408.43151
Source: 2013 AACS.

R 408.43152
Source: 2013 AACS.

R 408.43153
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R 408.43154
Source: 2013 AACS.

R 408.43155
Source: 2013 AACS.

R 408.43156
Source: 2013 AACS.

R 408.43157
Source: 2013 AACS.

R 408.43158
Source: 2013 AACS.

R 408.43161
Source: 2013 AACS.

R 408.43162
Source: 2013 AACS.

PART 32. AERIAL WORK PLATFORMS

R 408.43201
Source: 2008 AACS.

R 408.43202
Source: 2008 AACS.

R 408.43203
Source: 2013 AACS.

R 408.43204
Source: 2008 AACS.

R 408.43204a
Source: 2013 AACS.

R 408.43205
Source: 2013 AACS.

R 408.43206
Source: 2013 AACS.

R 408.43207
Source: 2013 AACS.

R 408.43208
Source: 2013 AACS.

R 408.43209
Source: 2008 AACS.

R 408.43210
Source: 2008 AACS.

R 408.43212
Source: 2013 AACS.

R 408.43214
Source: 2013 AACS.

R 408.43216
Source: 2013 AACS.

R 408.43220
Source: 2008 AACS.

PART 42. HAZARD COMMUNICATION

R 408.44201 Scope and application.
Rule 4201. (1) These rules establish requirements to ensure that the hazards of all chemicals produced or imported by chemical manufacturers or importers are evaluated and that information concerning the hazards is transmitted to affected employers and communicated to employees. These rules establish requirements to ensure that markings, placards, and labels required on hazardous materials and explosives, both in transportation and at stationary facilities, are retained until the materials have been removed to the extent that the materials do not pose a hazard.
(2) The regulations adopted by R 408.44202 shall apply to all chemical manufacturers, chemical importers, and employers pursuant to the provisions of 29 C.F.R. §1910.1200 and 29 C.F.R. §1926.59.
(3) The regulations adopted by R 408.44203 shall apply to workplaces pursuant to the provisions of 29 C.F.R. §1910.1201, 29 C.F.R. §1926.61, and 29 C.F.R. §1928.21.
(4) Section 14a(1) of 1974 PA 154, MCL 408.1014(1) adopted the original federal standard by reference. In addition, sections 14b to 14l of 1974 PA 154, MCL 408.1014b to 408.1014l, set forth additional requirements for Michigan employers. The regulations adopted by R 408.44202 will have the force and effect of law, but only to the extent they are consistent with

section 14a(1) of 1974 PA 154, MCL 408.1014a(1). If there is any inconsistency, section 14a(1) of 1974 PA 154, MCL 408.1014a(1) will control.
History: 1995 AACS; 2014 MR 2, Eff. Feb. 5, 2014.

R 408.44202 Hazard communication; adoption by reference.
Rule 4202. (1) The following federal occupational safety and health administration (OSHA) regulations from the Code of Federal Regulations are adopted by reference in these rules:
(a) 29 C.F.R. §1910.1200 "Hazard Communication," February 8, 2013.
(b) 29 C.F.R. §1926.59 "Hazard Communication," June 20, 1996.
(2) The adopted federal regulations shall have the same force and effect as a rule promulgated under 1974 PA 154, MCL 408.1001 to 408.1094.
History: 1995 AACS; 2012 AACS; 2014 MR 2, Eff. Feb. 5, 2014.

R 408.44203 Retention of department of transportation markings, placards, and labels; adoption by reference.
Rule 4203. (1) The following federal occupational safety and health administration (OSHA) regulations from the Code of Federal Regulations are adopted by reference in these rules:
(a) 29 C.F.R. §1910.1201 "Retention of DOT markings, placards and labels," July 19, 1994.
(b) 29 C.F.R. §1926.61 "Retention of DOT markings, placards and labels," June 20, 1996.
(c) 29 C.F.R. §1928.21 "Applicability of Standards in 29 CFR Part 1910," March 7, 1996.
(2) The adopted federal regulations shall have the force and effect as a rule promulgated under 1974 PA 154, MCL 408.1001 to 408.1094.
History: 1995 AACS; 2012 AACS; 2014 MR 2, Eff. Feb. 5, 2014.

R 408.44204 Availability of adopted rules.
Rule 4204. (1) The standards adopted in these rules are available from the United States Department of Labor, Occupational Safety and Health Administration website: www.osha.gov, at no charge, as of the time of adoption of these rules.
(2) The standards adopted in these rules are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.
(3) The standards adopted in these rules may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
History: 2014 MR 2, Eff. Feb. 5, 2014.

PART 45. FALL PROTECTION

R 408.44501
Source: 1996 AACS.

R 408.44502
Source: 1996 AACS.

PART 51. AGRICULTURAL TRACTORS

R 408.45101
Source: 1997 AACS.

PART 53. FARM FIELD EQUIPMENT

R 408.45301
Source: 1979 AC.

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

SAFETY STANDARDS FOR AGRICULTURE

PART 55 AGRICULTURAL OPERATIONS

R 408.45501. Adoption by reference of federal standards.
Rule 45501. (1) The following federal occupational safety and health administration (OSHA) regulations are adopted by reference in these rules:
(a) 29 C.F.R. §1928.21, 'Applicability of standards for agricultural operations,' as amended March 7, 1996.
(b) 29 C.F.R. §1928.110, 'Field sanitation for agricultural operations,' as amended June 8, 2011.
(2) The adopted federal regulations shall have the same force and effect as a rule promulgated under 1974 PA 154, MCL 408.1001 to 408.1094.
(3) A reference to C.F.R. §1910.142 'Temporary labor camps,' means Occupational Health Standard Part 511 'Temporary Labor Camps,' as referenced in R 408.45502.
(4) A reference to C.F.R. §1910.111(a) and (b) 'Storage and handling of anhydrous ammonia,' means General Industry Safety Standard Part 78 'Storage and Handling of Anhydrous Ammonia,' as referenced in R 408.45502.
(5) A reference to C.F.R. §1910.266 'Logging operations,' means General Industry Safety Standard Part 51 'Logging,' as referenced in R 408.45502.
(6) A reference to C.F.R. §1910.145 "Specifications for accident prevention signs and tags,' means General Industry Safety Standard Part 37 'Accident Prevention Signs and Tags,' as referenced in R 408.45502.
(7) A reference to C.F.R. §1910.1200 'Hazard communication,' and §1910.1201 'Retention of DOT markings, placards and labels,' means Occupational Health Standard Part 430 'Hazard Communication,' as referenced in R 408.45502.
(8) A reference to C.F.R. §1910.1027 'Cadmium,' means Occupational Health Standard Part 309 'Cadmium,' as referenced in R 408.45502.
History: 2014 MR 21, Eff. November 19, 2014.

R 408.45502 Availability of documents.
Rule 45502. (1) The OSHA regulations adopted by reference in these rules are available from the United States Department of Labor, Occupational Safety and Health Administration, via the internet at website www.osha.gov, at no charge as of the time of adoption of these rules.
(2) The regulations adopted in these rules are available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.
(3) Copies of the regulations adopted in these rules may be obtained from the publisher or may be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
(4) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
(a) General Industry Safety Standard Part 37 'Accident Prevention Signs and Tags,' R 408.13701 to R 408.13736.
(b) General Industry Safety Standard Part 51 'Logging,' R 408.15101 to R 408.15181.
(c) General Industry Safety Standard Part 78 'Storage and Handling of Anhydrous Ammonia,' R 408.17801.
(d) Occupational Health Standard Part 309 'Cadmium,' R 325.51851 to R 325.1027.
(e) Occupational Health Standard Part 430 'Hazard Communication,' R 325.77002 to R 325.77003.
(f) Occupational Health Standard Part 511 'Temporary Labor Camps,' R 325.51131 to R 325.51143.
History: 2014 MR 21, Eff. November 19, 2014.

PART 91. PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS

R 408.49101. Scope.
Rule 9101. (1) This part applies to the manufacturing, keeping, having, storing, selling, transporting, and using of explosives, blasting agents, and pyrotechnics. These rules do not apply to the sale and use (public display) of pyrotechnics, commonly known as fireworks, or to the use of explosives in the form prescribed in the official United States pharmacopeia.
(2) The manufacture of explosives, as defined in General Industry Safety Standard Part 55 "Explosives and Blasting Agents," as referenced in R 408.49102, shall also be in compliance with the requirements contained in the provisions of these rules.

(3) The manufacture of pyrotechnics as defined in General Industry Safety Standard Part 55 "Explosives and Blasting Agents," as referenced in R 408.49102, shall also be in compliance with the provisions of these rules.
History: 1993 AACS; 1998-2000 AACS; 2014 MR 4, Eff. Feb. 25, 2014.

R 408.49102. Adoption of standards by reference.
Rule 9102. (1) The following federal occupational safety and health administration (OSHA) regulations are adopted by reference in these rules.
(a) 29 C.F.R. §1926.64 "Process safety management of highly hazardous chemicals," effective March 26, 2012.
(b) 29 C.F.R. §1926.64 Appendix A "List of highly hazardous chemicals, toxics and reactives (mandatory)," effective June 30, 1993.
(2) All of the following provisions apply with respect to the regulations adopted in subrule (1) of this rule:
(a) A reference to 29 C.F.R. §1910.1200 "Hazard communication," and 29 C.F.R. §1926.59 "Hazard communication," means Occupational Health Standard Part 430 "Hazard Communication;" General Industry Safety Standard Part 92 "Hazard Communication;" and Construction Safety Standard Part 42 "Hazard Communication;" as referenced in R 408.49103.
(b) A reference to 29 C.F.R. §1926.65 "Hazardous waste operations and emergency response," means Occupational Health Standard Part 432 "Hazardous Waste Operations and Emergency Response," as referenced in R 408.49103.
(3) The provisions of 29 C.F.R. §1926.64 and 29 C.F.R. §1926.64 Appendix A have the same force and effect as rules promulgated under Michigan Occupational Safety and Health Act, 1974 PA 154, MCL 408.1001 to 408.1094.
(4) The standards adopted in subrule (1) of this rule are available from the United States Department of Labor, Occupational Safety and Health Administration website: www.osha.gov, at no charge as of the time of adoption of these rules.
(5) The standards adopted in subrule (1) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.
(6) The standards adopted in subrule (1) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, plus $20.00 for shipping and handling.
History: 1993 AACS; 1998-2000 AACS; 2014 MR 4, Eff. Feb. 25, 2014.

R 408.49103. MIOSHA referenced standards.
Rule 3. The following Michigan occupational safety and health (MIOSHA) standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.
(a) Construction Safety Standard Part 42 "Hazard Communication," R 408.44201 to R 408.44203.
(b) General Industry Safety Standard Part 92 "Hazard Communication," R 408.19201 to R 408.19203.
(c) Occupational Health Standard Part 430 "Hazard Communication," R 325.77001 to R 325.77003.
(d) General Industry Safety Standard Part 55 "Explosives and Blasting Agents," R 408.15501.
(e) Occupational Health Standard Part 432 "Hazardous Waste Operations and Emergency Response," R 325.52101 to R 325.52137.
History: 2014 MR 4, Eff. Feb. 25, 2014.

DEPARTMENT OF EDUCATION

VOCATIONAL-TECHNICAL EDUCATION SERVICE

STANDARDS FOR ISSUANCE OF WORK PERMITS

R 409.1
Source: 1980 AACS.

R 409.2
Source: 1980 AACS.

R 409.3
Source: 1980 AACS.

R 409.4
Source: 1980 AACS.

R 409.5
Source: 1980 AACS.

R 409.6
Source: 1980 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

WORKER'S COMPENSATION APPELLATE COMMISSION

ADMINISTRATIVE APPELLATE PROCEDURE

R 418.1
Source: 1991 AACS.

R 418.2
Source: 2007 AACS.

R 418.3
Source: 1991 AACS.

R 418.4
Source: 2007 AACS.

R 418.5
Source: 1991 AACS.

R 418.6
Source: 2007 AACS.

R 418.7
Source: 2006 AACS.

R 418.8
Source: 2007 AACS.

WORKER'S COMPENSATION BOARD OF MAGISTRATES

R 418.51
Source: 1996 AACS.

R 418.52
Source: 1996 AACS.

R 418.53
Source: 1996 AACS.

R 418.54
Source: 1996 AACS.

R 418.55
Source: 2010 AACS.

R 418.56
Source: 2007 AACS.

R 418.57
Source: 1996 AACS.

R 418.58
Source: 1996 AACS.

BUREAU OF WORKER'S DISABILITY COMPENSATION

WORKER'S COMPENSATION HEALTH CARE SERVICES

PART 1. GENERAL PROVISIONS

R 418.101
Source: 1998-2000 AACS.

R 418.102
Source: 1998-2000 AACS.

R 418.103
Source: 1998-2000 AACS.

R 418.104
Source: 1998-2000 AACS.

R 418.105
Source: 1998-2000 AACS.

R 418.106
Source: 1998-2000 AACS.

R 418.107
Source: 1998-2000 AACS.

R 418.108
Source: 1998-2000 AACS.

R 418.109
Source: 1998-2000 AACS.

R 418.110
Source: 1998-2000 AACS.

R 418.111
Source: 1998-2000 AACS.

R 418.112
Source: 1998-2000 AACS.

R 418.113
Source: 1998-2000 AACS.

R 418.114
Source: 1998-2000 AACS.

R 418.115
Source: 1998-2000 AACS.

R 418.116
Source: 1998-2000 AACS.

R 418.117
Source: 1998-2000 AACS.

R 418.118
Source: 1998-2000 AACS.

R 418.119
Source: 1998-2000 AACS.

R 418.120
Source: 1998-2000 AACS.

R 418.121
Source: 1998-2000 AACS.

R 418.122
Source: 1998-2000 AACS.

R 418.123
Source: 1998-2000 AACS.

R 418.124
Source: 1998-2000 AACS.

R 418.125
Source: 1998-2000 AACS.

R 418.126
Source: 1998-2000 AACS.

R 418.127
Source: 1998-2000 AACS.

R 418.128
Source: 1998-2000 AACS.

R 418.129
Source: 1998-2000 AACS.

R 418.130
Source: 1998-2000 AACS.

R 418.131
Source: 1998-2000 AACS.

R 418.132
Source: 1998-2000 AACS.

PART 2. MEDICINE AND EVALUATION AND MANAGEMENT SERVICES

R 418.201
Source: 1998-2000 AACS.

R 418.202
Source: 1998-2000 AACS.

R 418.203
Source: 1998-2000 AACS.

R 418.204
Source: 1998-2000 AACS.

R 418.205
Source: 1998-2000 AACS.

R 418.206
Source: 1998-2000 AACS.

R 418.207
Source: 1998-2000 AACS.

R 418.208
Source: 1998-2000 AACS.

R 418.209
Source: 1998-2000 AACS.

R 418.210
Source: 1998-2000 AACS.

R 418.211
Source: 1998-2000 AACS.

R 418.212
Source: 1998-2000 AACS.

R 418.213
Source: 1998-2000 AACS.

R 418.214
Source: 1998-2000 AACS.

R 418.215
Source: 1998-2000 AACS.

R 418.216
Source: 1998-2000 AACS.

PART 3. ANESTHESIA

R 418.301
Source: 1998-2000 AACS.

R 418.302
Source: 1998-2000 AACS.

R 418.303
Source: 1998-2000 AACS.

R 418.304
Source: 1998-2000 AACS.

R 418.305
Source: 1998-2000 AACS.

R 418.306
Source: 1998-2000 AACS.

R 418.307
Source: 1998-2000 AACS.

R 418.308
Source: 1998-2000 AACS.

R 418.309
Source: 1998-2000 AACS.

PART 4. SURGERY

R 418.401
Source: 1998-2000 AACS.

R 418.402
Source: 1998-2000 AACS.

R 418.403
Source: 1998-2000 AACS.

R 418.404
Source: 1998-2000 AACS.

R 418.405
Source: 1998-2000 AACS.

R 418.406
Source: 1998-2000 AACS.

R 418.407
Source: 1998-2000 AACS.

R 418.408
Source: 1998-2000 AACS.

R 418.409
Source: 1998-2000 AACS.

R 418.410
Source: 1998-2000 AACS.

R 418.411
Source: 1998-2000 AACS.

R 418.412
Source: 1998-2000 AACS.

R 418.413
Source: 1998-2000 AACS.

R 418.414
Source: 1998-2000 AACS.

R 418.415
Source: 1998-2000 AACS.

R 418.416
Source: 1998-2000 AACS.

R 418.417
Source: 1998-2000 AACS.

R 418.418
Source: 1998-2000 AACS.

PART 5. RADIOLOGY, RADIATION THERAPY, AND NUCLEAR MEDICINE

R 418.501
Source: 1998-2000 AACS.

R 418.502
Source: 1998-2000 AACS.

R 418.503
Source: 1998-2000 AACS.

R 418.504
Source: 1998-2000 AACS.

R 418.505
Source: 1998-2000 AACS.

R 418.506
Source: 1998-2000 AACS.

R 418.507
Source: 1998-2000 AACS.

R 418.508
Source: 1998-2000 AACS.

R 418.509
Source: 1998-2000 AACS.

PART 6. PATHOLOGY AND LABORATORY

R 418.601
Source: 1998-2000 AACS.

R 418.602
Source: 1998-2000 AACS.

R 418.603

Source: 1998-2000 AACS.

R 418.604
Source: 1998-2000 AACS.

R 418.605
Source: 1998-2000 AACS.

R 418.606
Source: 1998-2000 AACS.

R 418.607
Source: 1998-2000 AACS.

R 418.608
Source: 1998-2000 AACS.

R 418.609
Source: 1998-2000 AACS.

R 418.610
Source: 1998-2000 AACS.

R 418.611
Source: 1998-2000 AACS.

R 418.612
Source: 1998-2000 AACS.

PART 7. DENTAL

R 418.701
Source: 1998-2000 AACS.

R 418.702
Source: 1998-2000 AACS.

R 418.703
Source: 1998-2000 AACS.

R 418.704
Source: 1998-2000 AACS.

R 418.705
Source: 1998-2000 AACS.

PART 8. AMBULANCE SERVICE

R 418.801
Source: 1998-2000 AACS.

R 418.802
Source: 1998-2000 AACS.

PART 9. HOME HEALTH AGENCY

R 418.901
Source: 1998-2000 AACS.

R 418.902
Source: 1998-2000 AACS.

R 418.903
Source: 1998-2000 AACS.

R 418.904
Source: 1998-2000 AACS.

R 418.905
Source: 1998-2000 AACS.

PART 10. PHARMACY AND MEDICAL SUPPLY SERVICE

R 418.1001
Source: 1998-2000 AACS.

R 418.1002
Source: 1998-2000 AACS.

R 418.1003
Source: 1998-2000 AACS.

R 418.1004
Source: 1998-2000 AACS.

R 418.1005
Source: 1998-2000 AACS.

R 418.1006
Source: 1998-2000 AACS.

R 418.1007
Source: 1998-2000 AACS.

PART 11. OCCUPATIONAL THERAPY AND PHYSICAL THERAPY

R 418.1101
Source: 1998-2000 AACS.

R 418.1102
Source: 1998-2000 AACS.

R 418.1103
Source: 1998-2000 AACS.

R 418.1104
Source: 1998-2000 AACS.

R 418.1105
Source: 1998-2000 AACS.

R 418.1106

Source: 1998-2000 AACS.

PART 12. ORTHOTIC AND PROSTHETIC EQUIPMENT

R 418.1201
Source: 1998-2000 AACS.

R 418.1202
Source: 1998-2000 AACS.

R 418.1203
Source: 1998-2000 AACS.

R 418.1204
Source: 1998-2000 AACS.

PART 13. HEARING SERVICE

R 418.1301
Source: 1998-2000 AACS.

R 418.1302
Source: 1998-2000 AACS.

PART 14. VISION AND PROSTHETIC OPTICAL SERVICE

R 418.1401
Source: 1998-2000 AACS.

R 418.1402
Source: 1998-2000 AACS.

PART 15. MISCELLANEOUS SUPPLIER

R 418.1501
Source: 1998-2000 AACS.

R 418.1502
Source: 1998-2000 AACS.

R 418.1503
Source: 1998-2000 AACS.

PART 16. FACILITY SERVICE

R 418.1601
Source: 1998-2000 AACS.

R 418.1602
Source: 1998-2000 AACS.

R 418.1603
Source: 1998-2000 AACS.

R 418.1604
Source: 1998-2000 AACS.

R 418.1605
Source: 1998-2000 AACS.

R 418.1606
Source: 1998-2000 AACS.

R 418.1607
Source: 1998-2000 AACS.

R 418.1608
Source: 1998-2000 AACS.

R 418.1609
Source: 1998-2000 AACS.

R 418.1610
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R 418.1611
Source: 1998-2000 AACS.

R 418.1612
Source: 1998-2000 AACS.

R 418.1613
Source: 1998-2000 AACS.

R 418.1614
Source: 1998-2000 AACS.

R 418.1615
Source: 1998-2000 AACS.

R 418.1616
Source: 1998-2000 AACS.

R 418.1617
Source: 1998-2000 AACS.

PART 17. TECHNICAL AND PROFESSIONAL HEALTH CARE REVIEW

R 418.1701
Source: 1998-2000 AACS.

R 418.1702
Source: 1998-2000 AACS.

R 418.1703
Source: 1998-2000 AACS.

R 418.1704
Source: 1998-2000 AACS.

R 418.1705
Source: 1998-2000 AACS.

R 418.1706
Source: 1998-2000 AACS.

R 418.1707
Source: 1998-2000 AACS.

R 418.1708
Source: 1998-2000 AACS.

PART 18. DATA ACQUISITION FROM CARRIERS, PROVIDERS, AND FACILITIES

R 418.1801
Source: 1998-2000 AACS.

R 418.1802
Source: 1998-2000 AACS.

R 418.1803
Source: 1998-2000 AACS.

R 418.1804
Source: 1998-2000 AACS.

PART 19. PROCESS FOR RESOLVING DIFFERENCES BETWEEN CARRIER AND PROVIDER REGARDING BILL

R 418.1901
Source: 1998-2000 AACS.

R 418.1902
Source: 1998-2000 AACS.

R 418.1903
Source: 1998-2000 AACS.

R 418.1904
Source: 1998-2000 AACS.

R 418.1905
Source: 1998-2000 AACS.

PART 20. RECONSIDERATION AND APPEAL OF ACTIONS OF REGARDING HOSPITAL'S MAXIMUM PAYMENT RATIO AND CERTIFICATION OF CARRIER'S PROFESSIONAL REVIEW PROGRAM

R 418.2001
Source: 1998-2000 AACS.

R 418.2002
Source: 1998-2000 AACS.

R 418.2003
Source: 1998-2000 AACS.

R 418.2004

Source: 1998-2000 AACS.

R 418.2005
Source: 1998-2000 AACS.

PART 21. PAYMENT

R 418.2101
Source: 1998-2000 AACS.

R 418.2102
Source: 1998-2000 AACS.

R 418.2103
Source: 1998-2000 AACS.

R 418.2104
Source: 1998-2000 AACS.

R 418.2105
Source: 1998-2000 AACS.

R 418.2106
Source: 1998-2000 AACS.

R 418.2107
Source: 1998-2000 AACS.

R 418.2108
Source: 1998-2000 AACS.

R 418.2109
Source: 1998-2000 AACS.

R 418.2110
Source: 1998-2000 AACS.

R 418.2111
Source: 1998-2000 AACS.

R 418.2112
Source: 1998-2000 AACS.

R 418.2113
Source: 1998-2000 AACS.

R 418.2114
Source: 1998-2000 AACS.

R 418.2115
Source: 1998-2000 AACS.

R 418.2116
Source: 1998-2000 AACS.

R 418.2117
Source: 1998-2000 AACS.

R 418.2118
Source: 1998-2000 AACS.

R 418.2119
Source: 1998-2000 AACS.

PART 22. BILLING BY PRACTITIONER OR HEALTH CARE ORGANIZATION

R 418.2201
Source: 1998-2000 AACS.

R 418.2202
Source: 1998-2000 AACS.

R 418.2203
Source: 1998-2000 AACS.

R 418.2204
Source: 1998-2000 AACS.

R 418.2205
Source: 1998-2000 AACS.

R 418.2206
Source: 1998-2000 AACS.

PART 23. FEE SCHEDULE

R 418.2301
Source: 1998-2000 AACS.

R 418.2302
Source: 1998-2000 AACS.

R 418.2303
Source: 1998-2000 AACS.

R 418.2304
Source: 1998-2000 AACS.

R 418.2305
Source: 1998-2000 AACS.

R 418.2306
Source: 1998-2000 AACS.

R 418.2307
Source: 1998-2000 AACS.

R 418.2308
Source: 1998-2000 AACS.

R 418.2308a
Source: 1998-2000 AACS.

R 418.2309
Source: 1998-2000 AACS.

R 418.2310
Source: 1998-2000 AACS.

R 418.2311
Source: 1998-2000 AACS.

R 418.2312
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R 418.2313
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R 418.2314
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R 418.2315
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R 418.2316
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R 418.2317
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R 418.2318
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R 418.2319
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R 418.2320
Source: 1998-2000 AACS.

R 418.2321
Source: 1998-2000 AACS.

R 418.2322
Source: 1998-2000 AACS.

R 418.2323
Source: 1998-2000 AACS.

R 418.2324
Source: 1998-2000 AACS.

R 418.2325
Source: 1998-2000 AACS.