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
Source: 1998-2000 AACS.

R 408.31a
Source: 1998-2000 AACS.

R 408.32
Source: 1998-2000 AACS.

R 408.32a
Source: 1998-2000 AACS.

R 408.33
Source: 1998-2000 AACS.

PART 2. HEARINGS

R 408.34
Source: 1998-2000 AACS.

R 408.35
Source: 1998-2000 AACS.

R 408.36

Source: 1984 AACS.

R 408.37
Source: 1998-2000 AACS.

R 408.38
Source: 1998-2000 AACS.

R 408.39
Source: 1998-2000 AACS.

R 408.40
Source: 1998-2000 AACS.

R 408.40a
Source: 1998-2000 AACS.

R 408.40b
Source: 1998-2000 AACS.

R 408.40c
Source: 1998-2000 AACS.

R 408.40d
Source: 1998-2000 AACS.

R 408.40e
Source: 1998-2000 AACS.

R 408.40f
Source: 1998-2000 AACS.

R 408.40g
Source: 1998-2000 AACS.

R 408.40h
Source: 1998-2000 AACS.

PART 3. INSURANCE

R 408.41b
Source: 1998-2000 AACS.

R 408.41c
Source: 1998-2000 AACS.

R 408.42
Source: 1998-2000 AACS.

R 408.42a
Source: 1998-2000 AACS.

R 408.42b
Source: 1998-2000 AACS.

R 408.43

Source: 1998-2000 AACS.

R 408.43a
Source: 2007 AACS.

R 408.43b
Source: 2013 AACS.

R 408.43c
Source: 1998-2000 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, 45% 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; 2015 MR 20, Eff. Oct. 21, 2015

R 408.43k
Source: 2007 AACS.

R 408.43m
Source: 2007 AACS.

R 408.43n
Source: 1998-2000 AACS.

R 408.43q
Source: 2007 AACS.

R 408.43s
Source: 2003 AACS.

R 408.43t
Source: 2006 AACS.

PART 4. MISCELLANEOUS

R 408.44
Source: 1998-2000 AACS.

R 408.45
Source: 2014 AACS.

R 408.46
Source: 1998-2000 AACS.

R 408.48
Source: 2013 AACS.

PART 5. REVIEW AND APPEAL

R 408.49
Source: 1998-2000 AACS.

R 408.50
Source: 1998-2000 AACS.

R 408.51
Source: 1998-2000 AACS.

R 408.52
Source: 1998-2000 AACS.

PART 6. DEFINITIONS

R 408.59
Source: 2013 AACS.

SKI AREA SAFETY BOARD

GENERAL RULES

R 408.61
Source: 2014 AACS.

R 408.62
Source: 2008 AACS.

R 408.65
Source: 2007 AACS.

R 408.66
Source: 1997 AACS.

R 408.67
Source: 2014 AACS.

R 408.68
Source: 1997 AACS.

R 408.69
Source: 1997 AACS.

R 408.70
Source: 2014 AACS.

R 408.71
Source: 1997 AACS.

R 408.75
Source: 2014 AACS.

R 408.76
Source: 2014 AACS.

R 408.77
Source: 1998-2000 AACS.

R 408.78
Source: 1998-2000 AACS.

R 408.79
Source: 2014 AACS.

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
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.802
Source: 2007 AACS.

R 408.803
Source: 2014 AACS.

R 408.805
Source: 1997 AACS.

R 408.806
Source: 2014 AACS.

R 408.807
Source: 1997 AACS.

R 408.809
Source: 1997 AACS.

R 408.811
Source: 1997 AACS.

R 408.813
Source: 2014 AACS.

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
Source: 2014 AACS.

PART 2. DESIGN, CONSTRUCTION, AND OPERATION

R 408.821
Source: 2014 AACS.

R 408.822
Source: 1997 AACS.

R 408.824

Source: 2014 AACS.

R 408.825
Source: 2014 AACS.

R 408.826
Source: 2014 AACS.

R 408.827
Source: 2014 AACS.

R 408.828
Source: 1983 AACS.

R 408.829
Source: 1983 AACS.

R 408.830
Source: 2014 AACS.

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
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.849
Source: 2014 AACS.

R 408.851
Source: 2014 AACS.

R 408.852
Source: 2014 AACS.

R 408.854
Source: 1983 AACS.

R 408.856
Source: 2014 AACS.

PART 3. PROCEDURES

R 408.871
Source: 2014 AACS.

R 408.872
Source: 1983 AACS.

R 408.873
Source: 2014 AACS.

R 408.874
Source: 1983 AACS.

R 408.876
Source: 2003 AACS.

R 408.877
Source: 2014 AACS.

R 408.881
Source: 2014 AACS.

R 408.882
Source: 2014 AACS.

R 408.883
Source: 2014 AACS.

R 408.885
Source: 2014 AACS.

R 408.886
Source: 2014 AACS.

R 408.887
Source: 2014 AACS.

R 408.891
Source: 2014 AACS.

PART 4. PARTICIPATORY RIDES--GO-KARTS

R 408.891a
Source: 2014 AACS.

R 408.893
Source: 2014 AACS.

R 408.895
Source: 2014 AACS.

R 408.897
Source: 2014 AACS.

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
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R 408.4241
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R 408.4242
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R 408.4244
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R 408.4246
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R 408.4251
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R 408.4253
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R 408.4255
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R 408.4257
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R 408.4258
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R 408.4259
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R 408.4260
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R 408.4263
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R 408.4265
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R 408.4267
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R 408.4268
Source: 1979 AC.

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 408.4292
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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.

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PART 4. INSPECTION OF FUSION WELDING

R 408.4401
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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
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R 408.4513
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R 408.4515
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R 408.4517
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R 408.4581
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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
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R 408.4696
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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 408.4798
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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
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R 408.4857
Source: 1998-2000 AACS.

R 408.4859
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R 408.4888
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R 408.4890
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R 408.4893
Source: 2006 AACS.

PART 9. LOW-PRESSURE SIDE OF REDUCING VALVES

R 408.4901
Source: 1997 AACS.

R 408.4910
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R 408.4920
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R 408.4970
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R 408.4980
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R 408.4990
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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
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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
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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 Definitions; A to E.
Rule 203. As used in this part:
(a) "Act" means 1978 PA 90, MCL 409.101 et seq.
(b) "Clay construction products" means all of the following:
(i) Brick.
(ii) Hollow structural tile.
(iii) Sewer pipe and kindred products.
(iv) Refractories.

(v) Other clay products, such as any of the following:
(A) Architectural terra cotta.
(B) Glazed structural tile.
(C) Roofing tile.
(D) Stove lining.
(E) Chimney pipes and tops.
(F) Wall coping.
(G) Drain tile.
(c) "Confined space" means an enclosed area which does not have a natural or mechanically induced supply of fresh air, including all of the following:
(A) A bin.
(B) A tank.
(C) A vessel.
(D) A vault.
(E) A well.
(d) "Construction operation" means the work designated in subsector 233 - building, developing, and general contracting, subsector 234 - heavy construction, and subsector 235 - special trade contractors, of the 1997 North American industry classification system (NAICS) manual, which are adopted by reference. Subsector 233 - building, developing, and general contracting, subsector 234 - heavy construction, and subsector 235 - special trade contractors, of the 1997 NAICS manual are available for inspection at www.census.gov/eos/www/naics/reference_files_tools/1997/sec23.htm, and are available for inspection at, and for distribution at no charge from, the Michigan Department of Education, Office of Career and Technical Education, 608 W. Allegan Street, P.O. Box 30712, Lansing, MI 48909.
(e) "Crane" means a power-driven machine which is for lifting and lowering a load and moving it horizontally and in which the hoisting mechanism is an integral part of the machine.
(f) "Derrick" means a power-driven apparatus consisting of a mast or equivalent members held at the top by guys and braces, with or without a boom, for use with a hoisting mechanism and operating ropes.
(g) "Department" means the department of education.
(h) "Director" means the director of the department or his or her authorized representative.
(i) "Elevator" means any power-driven hoisting or lowering mechanism equipped with a car or platform which moves in guides in a substantially vertical direction. This includes both passenger and freight elevators, but does not include dumbwaiters.
(j) "Employ" means engage, permit, or allow to work.
(k) "Employer" means a person, firm, or corporation which employs a minor and includes the state or a political subdivision of the state, an agency or instrumentality of the state, and an agent of an employer.
(l) "Exempt" means employment or services performed that are not covered by these rules.
(m) "Explosives" or "articles containing explosive components" means any chemical compound, mixture, or device, the primary purpose of which is to function by explosion; that is, substantially instantaneous decomposition with the release of heat and gas. Explosives include, but are not limited to, all of the following:
(i) Ammunition.
(ii) Black powder.
(iii) Blasting caps.
(iv) Blasting agents.
(v) Fulminate of mercury.
(vi) Fireworks.
(vii) Detonating primers.
(viii) Dynamite.
(ix) Lead azide.
(x) Nitroglycerin.
(xi) Picric acid.
(xii) Smokeless powder.
History: 1988 AACS; 2003 AACS; 2006 AACS; 2015 MR 5, Eff. March, 13, 2015.

R 408.6204 Definitions; H to O.

Rule 204. As used in this part:
(a) "Hazardous substances" means a contaminant, substance, or mixture of substances which is toxic, corrosive, an irritant, a strong sensitizer, or flammable or which generates pressure through decomposition, heat, or other means, if the substance or mixture of substances is capable of causing substantial personal injury, impairment, or substantial illness through absorption, inhalation, or personal contact. The signal word to designate the degree of hazard is "DANGER" as prescribed in R 408.11612 of the Michigan Administrative Code.
(b) "Hoist" means a power-driven apparatus for raising or lowering a load by the application of a pulling force that does not include a car or platform running in guides.
(c) "Low-lift platform truck" means a self-loading truck equipped with a load platform intended primarily for transporting, but not the tiering of, loaded skid platforms.
(d) "Manlift" means a device intended for the conveyance of persons which consists of platforms or brackets mounted on or attached to an endless belt, cable, chain, or similar method of suspension, which operates in a substantially vertical direction, and which is supported by and driven through pulleys, sheaves, or sprockets at the top or bottom.
(e) "Minor" means a person under 18 years of age, but does not include any of the following:
(i) An individual 16 years of age or older who has completed the requirements for graduation from high school.
(ii) An individual 16 years of age or older who has successfully passed the general educational development test.
(iii) An emancipated individual as defined by section 4 of 1968 PA 293, as amended, MCL 722.4.
(f) "Motorized hand truck" means a truck designed for the transportation of, but not the tiering of, materials that are to be controlled by a walking operator.
(g) "Motor vehicle" means any automobile, truck, truck-tractor, trailer, semitrailer, motorcycle, or similar vehicle propelled or drawn by mechanical power and designed for use as a means of transportation, but does not include any vehicle operated exclusively on rails.
(h) "Occupations in connection with logging" means all work performed in connection with any of the following:
(i) The felling of timber.
(ii) The bucking or converting of timber into any of the following:
(A) Logs.
(B) Poles.
(C) Piles.
(D) Ties.
(E) Bolts.
(F) Pulpwood.
(G) Chemical wood.
(H) Excelsior wood.
(I) Cordwood.
(J) Fence posts.
(K) Similar products.
(iii) The collecting, skidding, yarding, loading, transporting, and unloading of the products specified in paragraph (ii) of this subdivision in connection with logging.
(iv) The constructing, repairing, and maintaining of roads, railroads, flumes, or camps used in connection with logging.
(v) The moving, installing, rigging, and maintenance of machinery or equipment used in logging.
(i) "Occupations in or about slaughtering and meat-packing establishments, rendering plants, or wholesale, retail, or service establishments" means all work performed in or about such establishments in connection with any of the following:
(i) Work on the killing floor, in curing cellars, and in hide cellars.
(ii) Work involving the recovery of lard and oils.
(iii) Work involving the tankage or rendering of any of the following:
(A) Dead animals.
(B) Animal offal.
(C) Animal fats.
(D) Scrap meats.
(E) Blood and bones into stock feeds.
(F) Tallow.

(G) Inedible greases.
(H) Fertilizer ingredients.
(I) Similar products.
(iv) Work involving the operation or feeding of all power-driven meat-processing machines.
(v) Work involving any boning operations.
(vi) Work involving the hand-lifting or hand-carrying of any carcass or half carcass of beef, pork, or horse or any quarter carcass of beef or horse.
(vii) Work involving the pushing or dropping of any suspended carcass, half carcass, or quarter carcass.
(j) "Occupations in the operation of any sawmill, lath mill, shingle, or cooperage stock mill" means all work performed in or about any such mill in connection with any of the following:
(i) Storing of logs and bolts.
(ii) Converting logs or bolts into sawn lumber, laths, shingles, or cooperage stock.
(iii) Storing, drying, and shipping lumber, laths, shingles, cooperage stock, or other products of such mills.
(iv) Other work performed in connection with the operation of any sawmill, lath mill, shingle mill, or cooperage stock mill.
(k) "Operations in and around a mine or quarry" means all work performed at any of the following locations:
(i) Underground in mines or quarries.
(ii) On the surface at underground mines and underground operations.
(iii) At or about placer mining operations.
(iv) At or about bore-hole mining operations.
(v) At or about dredging operations for clay, sand, or gravel.
(vi) In or about all metal mills, washer plants, or grinding mills which reduce the bulk of the extracted minerals.
(vii) At or about any other crushing, grinding, screening, sizing, washing, or cleaning operations performed upon the extracted minerals, except where such operations are performed as a part of a manufacturing process.
(l) "Outside helper" means any individual, other than the driver, whose work includes riding on a motor vehicle outside the cab.
History: 1988 AACS; 2015 MR 5, Eff. March, 13, 2015.

R 408.6205
Source: 1988 AACS.

R 408.6206 Exemptions.
Rule 206. These rules shall not apply to, or prohibit a minor from engaging in, the following activities or exempt employment:
(a) Employment of a student minor 14 years of age or older by an employer if a written agreement or contract is entered into between the employer and the board of education of the school district in which the student minor is enrolled.
(b) Employment in a business owned and operated by the parent or guardian of a minor.
(c) Employment of a student minor by a school, academy, or college in which a student minor who is 14 years of age or older is enrolled.
(d) Domestic work or chores in connection with private residences.
(e) Soliciting, distributing, selling, or offering for sale newspapers, magazines, periodicals, or political or advertising matter.
(f) Shoe shining.
(g) Services performed as members of recognized youth-oriented organizations that are engaged in citizenship training and character building, if the services are not intended to replace employees in occupations for which workers are ordinarily paid.
(h) Farm work designated in sector 11-agriculture, forestry, fishing, and hunting, of the 1997 North American industry classification system (NAICS) manual, if the employment is not in violation of a standard established by the department. Sector 11 of the 1997 NAICS manual is available for inspection at www.census.gov/eos/www/naics/reference_files_tools/1997/sec11.htm, and is available for inspection and for distribution at no charge at the Michigan Department of Education, Office of Career and Technical Education, 608 W. Allegan Street, P.O. Box 30712, Lansing, MI 48909.

(i) Nonhazardous construction work or operations performed as an unpaid volunteer, if the construction work or operations are performed under adult supervision for a charitable housing organization. As used in this subdivision:
(i) "Charitable housing organization" means a nonprofit charitable organization the primary purpose of which is the construction or renovation of residential housing for low-income individuals.
(ii) "Family income" and "statewide median gross income" mean those terms as defined in section 11 of the state housing development authority act of 1966, 1966 PA 346, MCL 125.1411.
(iii) "Low-income person" means a person with a family income of not more than 60% of the statewide median gross income.
(iv) "Nonhazardous construction work or operations" means construction work or operations that are performed at a construction site of a new or renovated single family home and do not involve the use of power tools, woodworking machinery, or hazardous substances or other activities that would constitute a great risk of serious injury. Activities that would constitute a great risk of serious injury include, but are not limited to, all of the following:
(A) Excavation.
(B) Highway, bridge, or street construction.
(C) Wrecking.
(D) Demolition.
(E) New commercial or new multiple residential construction.
History: 1988 AACS; 2006 AACS; 2015 MR 5, Eff. March, 13, 2015.

R 408.6207
Source: 1988 AACS.

R 408.6208 Prohibited occupations; construction; excavation; roofing; wrecking; demolition; ship-breaking operations; working with explosive materials, hazardous substances, radioactive substances, respiratory equipment; working in a confined space; machine operation and maintenance; operating special equipment; working with power-driven hoisting apparatus; occupations requiring use of motor vehicle.
Rule 208. (1) A minor less than 16 years of age shall not be employed in any occupations in a construction operation, as defined in R 408.6203(d), to include repair or the cleanup of a construction site.
(2) A minor shall not be employed in any occupation involving construction work; additions; improvements; excavating; highway, bridge, and street construction; roofing, as defined in R 408.6203(d), or wrecking; demolition; or ship-breaking operations.
(3) A minor shall not be employed in any occupation in or about plants or establishments which manufacture or store explosive materials or articles containing explosive materials, as defined in R 408.6203(m), including ammunition exceeding .60 caliber in size, except where both of the following criteria are met:
(a) None of the work performed in the area involves the mixing, transportation, handling, or use of explosive materials.
(b) The minor's work area is separated from the hazardous area by the distance prescribed for inhabited buildings in table 1, or the minor's work area is separated from the hazardous area by an earthen bank not less than 8 feet in height.
(4) Table 1 reads as follows:
Distances for Storage of Explosives

Explosives g		Distance in feet when storage is barricaded b,c,d,e			
Pounds Over	Pounds not over	From inhabited Buildings	From passenger railways	From public highways	Separation of maga-zines f
2	5	70	30	30	6
5	10	90	35	35	8
10	20	110	45	45	10
20	30	125	50	50	11
30	40	140	55	55	12
40	50	150	60	60	14

50	75	170	70	70	15
75	100	190	75	75	16
100	125	200	80	80	18
125	150	215	85	85	19
150	200	235	95	95	21
200	250	255	105	105	23
250	300	270	110	110	24
300	400	295	120	120	27
400	500	320	130	130	29
500	600	340	135	135	31
600	700	355	145	145	32
700	800	375	150	150	33
800	900	390	155	155	35
900	1,000	400	160	160	36
1,000	1,200	425	170	165	39
1,200	1,400	450	180	170	41
1,400	1,600	470	190	175	43
1,600	1,800	490	195	180	44
1,800	2,000	505	205	185	45
2,000	2,500	545	220	190	49
2,500	3,000	580	235	195	52
3,000	4,000	635	255	210	58
4,000	5,000	685	275	225	61
5,000	6,000	730	295	235	65
6,000	7,000	770	310	245	68
7,000	8,000	800	320	250	72
8,000	9,000	835	335	255	75
9,000	10,000	865	345	260	78
10,000	12,000	875	370	270	82
12,000	14,000	885	390	275	87
14,000	16,000	900	405	280	90
15,000	18,000	940	420	285	94
18,000	20,000	975	435	290	98
20,000	25,000	1,055	470	315	105
25,000	30,000	1,130	500	340	112
30,000	35,000	1,205	525	360	119
35,000	40,000	1,275	550	380	124
40,000	45,000	1,340	570	400	129
45,000	50,000	1,400	590	420	135
50,000	55,000	1,460	610	440	140
55,000	60,000	1,515	630	455	145
60,000	65,000	1,565	645	470	150
65,000	70,000	1,610	660	485	155
70,000	75,000	1,655	675	500	160
75,000	80,000	1,695	690	510	165
80,000	85,000	1,730	705	520	170
85,000	90,000	1,760	720	530	175
90,000	95,000	1,790	730	540	180
95,000	100,000	1,815	745	545	185
100,000	110,000	1,835	770	550	195
110,000	120,000	1,855	790	555	205
120,000	130,000	1,875	810	560	215
130,000	140,000	1,890	835	565	225
140,000	150,000	1,900	850	570	235

150,000	160,000	1,935	870	580	245
160,000	170,000	1,965	890	590	255
170,000	180,000	1,990	905	600	265
180,000	190,000	2,010	920	605	275
190,000	200,000	2,030	935	610	285
200,000	210,000	2,055	955	620	295
210,000	230,000	2,100	980	635	315
230,000	250,000	2,155	1,010	650	335
250,000	275,000	2,215	1,040	670	360
275,000	300,000	2,275	1.075	690	385

Notes to Table

Note a. All types of blasting caps in strengths through No. 8 shall be rated at 1 1/2 (0.68 kg) of explosives per 1,000 caps.
Note b. "Barricaded" means that a building containing explosives is effectually screened from a magazine, building, railway, or highway, either by a natural barricade or by an artificial barricade of such height that a straight line from the top of any sidewall of the building containing explosives to the eave line of any magazine or building, or to a point 12 feet (3.66 m) above the center of a railway or highway, will pass through such intervening or artificial barricade.
Note c. "Artificial barricade" means an artificial mound or revetted wall of earth of a minimum thickness of 3 feet (0.92 m).
Note d. "Natural barricade" means natural features of the ground, such as hills or timber of sufficient density that the surrounding exposures which require protection cannot be seen from the magazine when the trees are bare of leaves.
Note e. When a building containing explosives is not barricaded, the distances shown in Table 1 shall be doubled.
Note f. When 2 or more storage magazines are located on the same property, each magazine shall comply with minimum distances specified from inhabited buildings, railways, and highways, and, in addition, they shall be separated from each other by not less than the distances shown for "Separation of magazines," except that the quantity of explosives contained in cap magazines shall govern in regard to the spacing of the cap magazines from magazines containing other explosives. If any 2 or more magazines are separated from each other by less than the specified "Separation of magazines" distances, then such 2 or more magazines, as a group, shall be considered as 1 magazine, and the total quantity of explosives stored in such group shall be treated as if stored in a single magazine located on the site of any magazine of the group and shall comply with the distances specified from other magazines, inhabited buildings, railways, and highways.
Note g. This table applies only to the manufacture and permanent storage of commercial explosives. It is not applicable to the transportation of explosives or any handling or temporary storage necessary or incident thereto. It is not intended to apply to bombs, projectiles, or other heavily encased explosives.
Note h. 1 pound = 0.454 kg; 1 foot = 0.305 m.
(5) A minor shall not be employed in any occupation involving the use of or exposure to hazardous substances, as defined in R 408.6204(a).
(6) A minor shall not be employed to work in any workroom in which any of the following occurs:
(a) Radium is stored or used in the manufacture of self-luminous compounds.
(b) A self-luminous compound, as defined in R 408.6205(h), is made, processed, packaged, stored, used, or worked on.
(c) Incandescent mantles made from fabric and solutions containing thorium salts are manufactured, processed, or packaged.
(d) Other radioactive substances are present in the air in average concentrations exceeding 10% of the maximum permissible concentrations in the air recommended for occupational exposure as set forth in the 40-hour week column of table 1 of the national committee on radiation protection report no. 22, entitled "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure," June 5, 1959, which is adopted by reference in these rules and is available for inspection and for distribution at no charge at the Michigan Department of Education, Office of Career and Technical Education, 608 W. Allegan Street, P.O. Box 30712, Lansing, MI 48909. This report may be purchased from the National Council

on Radiation Protection and Measurements, 7910 Woodmont Avenue, Suite 400, Bethesda, MD 20814-3095, at a cost of $20.00.
(7) A minor shall not be employed in any occupation which requires the use of respiratory equipment, as defined in R 408.6205(g).
(8) A minor under 16 years of age shall not be employed in any occupation involving work in a confined space, as defined in R 408.6203(c).
(9) A minor shall not be employed in any occupation involving the operations, setup, repair, adjustment, oiling, or cleaning of any of the following machines:
(a) Power-driven woodworking machinery, as defined in R 408.6205(e).
(b) Power-driven metal-forming, metal-punching, and metal-shearing machines, as defined in R 408.6205(c).
(c) Power-driven bakery machines, as defined in R 408.6205(a).
(d) Power-driven paper products machinery, as defined in R 408.6205(d).
(e) Power-driven saws.
(f) Power-driven meat-processing machines, as defined in R 408.6205(b).
(10) A minor shall not operate, or assist in the operation of, including the starting, stopping, adjusting, feeding, or any other activity involving physical contact with, any of the following machines:
(a) Trencher or earth-moving equipment.
(b) Tractors exceeding 20 power-take-off horsepower, including connecting or disconnecting an implement or any of its parts to or from such a tractor; except that minors 16 to 17 years of age who are provided operating instructions from their employers may operate such tractors.
(11) A minor shall not be employed in work which involves any of the following activities:
(a) The operation of a power-driven hoisting apparatus, including an elevator, power industrial truck, crane, derrick, or hoist, except for the operation of an unattended automatic operation passenger elevator.
An employer may apply for a deviation for 16- and 17-year-old minors to operate a motorized hand truck and low-lift platform truck, as defined in R 408.6204(c) and (f), in accordance with R 408.6303.
(b) Riding on a manlift or on a freight elevator, except for a freight elevator which is operated by an assigned operator.
(c) Assisting in the operation of a crane, derrick, or hoist as traditionally performed by crane hookers, crane chasers, hookers-on, riggers, rigger helpers, and similar occupations.
(12) A minor under 16 years of age shall not work under equipment or machinery which has been elevated by a hoist, jack, blocks, or hydraulic power system.
(13) A minor shall not be employed in any occupation which requires the operation of a motor vehicle on any public road or highway, except when such operation is occasional and incidental to the minor's primary work activities and if all of the following requirements are complied with:
(a) The gross vehicle weight does not exceed 6,000 pounds.
(b) The operation is restricted to daylight hours.
(c) The minor holds a state license valid for the type of motor vehicle operation involved in the job performed and has completed a state-approved driver education course.
(d) The vehicle is equipped with a seat belt or similar device for the driver and for each helper, and the employer has instructed each minor that such belts or other devices must be used.
(e) The operation does not involve the transporting of passengers or the towing of vehicles.
(14) A minor shall not be employed as an outside helper on any motor vehicle on a public highway.
History: 1988 AACS; 2003 AACS; 2006 AACS; 2015 MR 5, Eff. March 13, 2015.

R 408.6209 Prohibited occupations; manufacture of brick, tile, and kindred products; welding and heat treating; brazing and soldering; tanning; logging and sawmilling; mining; working in foundry; operating lawn care equipment; working in slaughtering or meat-packing establishments; working from ladders or scaffolding; firefighting.
Rule 209. (1) A minor shall not be employed in any occupation involving exposure to the manufacturing of clay construction products, as defined in R 408.6203(b), or of silica refractory products, as defined in R 408.6205(i).
(2) A minor under 16 years of age shall not be employed to directly engage in welding or cutting with gas, arc, or resistance methods.
(3) A minor under 16 years of age shall not be employed to directly engage in heat treating, brazing, or soldering, except for soldering with a hand-held soldering gun or iron.

(4) A minor shall not be employed to directly engage in any aspect of the tanning process.
(5) A minor shall not be employed in any occupation, as defined in R 408.6204(h), in connection with logging or in the operation of any sawmill, lath mill, shingle mill, or cooperage stock mill, as defined in R 408.6204(j).
(6) A minor shall not be employed in any operation in or around a mine or quarry, as defined in R 408.6204(k).
(7) A minor under 16 years of age shall not be employed in any occupation involving ore reduction process, the casting of metals, or other activities with direct exposure to blast furnaces.
(8) A minor under 16 years of age shall not be employed in any occupation involving the operation of power-driven lawn mowers or cutters.
(9) A minor shall not be employed in occupations in or about slaughtering and meat-packing establishments, rendering plants, or wholesale, retail, or service establishments, as defined in R 408.6204(i).
(10) A minor under 16 years of age shall not be employed in any occupation requiring the use of ladders, scaffolds, or their substitutes.
(11) A minor shall not be employed to engage in the extinguishment of fires, except that a minor who is 16 or 17 years of age may be employed for forest fire suppression on fire control mop-up work in a crew organization under the direct supervision of a crew or line fire boss.
History: 1988 AACS; 2015 MR 5, Eff. March 13, 2015.

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

R 408.6301 Definitions.
Rule 301. As used in this part:
(a) "Act" means 1978 PA 90, as amended, MCL 409.101 et seq.
(b) "Community" means a group of people having common interests who live in the same locality.
(c) “Department” means the department of education.
(d) "Deviation" means a variance from the established hours or hazardous occupations granted by the department to a specific employer or individual.
(e) "Family hardship" means a condition whereby the economic well-being of the household in which a minor resides is dependent upon the earnings of the minor.
History: 1988 AACS; 2015 MR 5, Eff. March 13, 2015.

R 408.6302
Source: 2014 AACS.

R 408.6303
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R 408.6304
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R 408.6305
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R 408.6306
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R 408.6307
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R 408.6308
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R 408.6309
Source: 2006 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

ELEVATORS

CHAPTER 1. GENERAL PROVISIONS

R 408.7001
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R 408.7002
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CHAPTER 2. ALL ELEVATORS

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R 408.7027
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CHAPTER 3. ASME A17.1 MODIFICATIONS

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R 408.7032
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CHAPTER 4. ASME A18.1 MODIFICATIONS

R 408.7061
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R 408.7062
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R 408.7062a
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R 408.7063
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R 408.7066a
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R 408.7067
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R 408.7068
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CHAPTER 5. ASME A90-1 MODIFICATIONS

R 408.7069
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CHAPTER 6. ANSI A10.4 MODIFICATIONS

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R 408.7072
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CHAPTER 7. SEWER LIFT STATION PERSONNEL ELEVATORS

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R 408.8636a
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R 408.8639b
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R 408.8692
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R 408.8693
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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
Source: 2014 AACS.

R 408.9003
Source: 1998-2000 AACS.

R 408.9004
Source: 1998-2000 AACS.

R 408.9005
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R 408.9006
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R 408.9007
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R 408.9008
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R 408.9009
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R 408.9010
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R 408.9011
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R 408.9012
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R 408.9013
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R 408.9014
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R 408.9015
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R 408.9016
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R 408.9017
Source: 1998-2000 AACS.

R 408.9018
Source: 1982 AACS.

R 408.9019
Source: 2014 AACS.

R 408.9020
Source: 1998-2000 AACS.

R 408.9021
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R 408.9022
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R 408.9023
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R 408.9024
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R 408.9025
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R 408.9026
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R 408.9027
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R 408.9028
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R 408.9029
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R 408.9030
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R 408.9031
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R 408.9032
Source: 1998-2000 AACS.

R 408.9033
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R 408.9034
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R 408.9035
Source: 2006 AACS.

R 408.9036
Source: 2014 AACS.

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
Source: 1979 AC.

R 408.10215
Source: 1979 AC.

R 408.10217
Source: 1989 AACS.

R 408.10219
Source: 1989 AACS.

R 408.10220
Source: 1979 AC.

R 408.10221
Source: 1979 AC.

R 408.10223

Source: 1989 AACS.

R 408.10227
Source: 1979 AC.

R 408.10228
Source: 1989 AACS.

R 408.10230
Source: 1989 AACS.

R 408.10231
Source: 1989 AACS.

R 408.10232
Source: 1979 AC.

R 408.10233
Source: 1989 AACS.

R 408.10235
Source: 1989 AACS.

R 408.10236
Source: 1989 AACS.

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

Source: 1994 AACS.

R 408.10311
Source: 1994 AACS.

R 408.10321
Source: 1979 AC.

R 408.10323
Source: 1994 AACS.

R 408.10324
Source: 1994 AACS.

R 408.10325
Source: 1979 AC.

R 408.10326
Source: 1979 AC.

R 408.10328
Source: 1979 AC.

R 408.10331
Source: 1979 AC.

R 408.10333
Source: 1994 AACS.

R 408.10335
Source: 1979 AC.

R 408.10341
Source: 1979 AC.

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
Source: 1979 AC.

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
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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
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R 408.10521
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R 408.10524
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R 408.10525
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R 408.10526
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R 408.10527
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R 408.10528
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R 408.10529
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R 408.10532
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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
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R 408.10567
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R 408.10568
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R 408.10569
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R 408.10570
Source: 2013 AACS.

R 408.10571
Source: 1992 AACS.

R 408.10572
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R 408.10573
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R 408.10574
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R 408.10575
Source: 2008 AC.

R 408.10576
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R 408.10577
Source: 1992 AACS.

R 408.10578
Source: 1992 AACS.

R 408.10579
Source: 2013 AACS.

R 408.10580
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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
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R 408.10585
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R 408.10586
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R 408.10587
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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 Scope.
Rule 601. (1) These rules specify requirements for means of egress for employee use required by the advent of hazardous conditions such as fire, explosion, and natural disaster.
(2) These rules apply to workplaces in general industry except mobile workplaces such as vehicles or vessels.
(3) These rules cover the minimum requirements for exit routes that employers must provide in their workplace so that employees may evacuate the workplace safely during an emergency. These rules cover the minimum requirements for emergency action plans and fire prevention plans.
History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10602
Source: 1979 AC.

R 408.10603 Definitions; B to F.
Rule 603. (1) "Breakaway door" means a door that is designed to slide in normal operation and which will swing open in any position when a maximum pressure of 50 pounds is applied to the latch side of the door in an emergency.

(2) "Draw bolt" means a metal bar or rod in the mechanism of a lock that is thrown or withdrawn by turning the key or retracting a lever.
(3) “Electroluminescent” means a light-emitting capacitor. Alternating current excites phosphor atoms when placed between the electrically conductive surfaces to produce light. This light source is typically contained inside the device.
(4) "Fire area of a building" means that space contained within component structural parts that has a fire resistance sufficient to prevent the further spread of fire that originates therein.
(5) "Fire door" means a fire-resistive door assembly, including the frame and hardware.
(6) "Fire resistance" means the property of a material or assembly to withstand fire or give protection from it.
(7) "Flammable" means subject to easy ignition and rapid flaming combustion.
(8) "Floor area" or "gross area" means the floor area within the perimeter of the outside walls of a building, with no deductions for any of the following:
(a) Hallways.
(b) Stairs.
(c) Closets.
(d) Thickness of walls.
(e) Columns.
(f) Other features.
(9) "Flush bolt" means a door bolt that is designed so that when applied it is flush with the face or edge of the door.
History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10604 Definitions; H to M.
Rule 604. (1) "Hasp and staple" means a fastening device that consists of a slotted hinge plate and a loop (staple).
(2) "Hazardous area" means an area of a building, or portion thereof, used for purposes that involve highly combustible, highly flammable, or explosive products or materials which are likely to burn with extreme rapidity or which may produce poisonous fumes or gases, including highly toxic or noxious acids, alkalines, or irritant hazards; which cause the division of material into fine particles or dust subject to explosion or spontaneous combustion; or which constitute a high fire hazard because of the form, character, or volume of the material used.
(3) "Hazard of contents" means the relative danger of the start and spread of fire, the danger of smoke or gases generated, and the danger of explosion or other occurrence potentially endangering the lives and safety of employees in a building. Where certain features of a building are such as to involve a hazard greater than the hazard of the contents, the greater degree of hazard shall govern.
(4) “High hazard area” means an area inside a workplace in which operations include high hazard materials, processes, or contents.
(5) "High hazard contents" means combustibles of a character or quantity that burn with extreme rapidity or from which extremely poisonous fumes or explosions are to be expected in the case of fire.
(6) "Horizontal exit" means a way of passage from a building to an area of refuge in another building on approximately the same level or a way of passage through or around a fire-resistant wall or fire-resistant partition to an area of refuge on approximately the same level in the same building which affords safety from fire or smoke in the area of escape and areas communicating therewith.
(7) "Listed” means equipment that is listed if it is of a kind mentioned in a list that is published by a nationally recognized testing laboratory that makes periodic inspections of the production of such equipment and that states that such equipment meets nationally recognized standards or has been tested and found safe for use in a specified manner.
(8) "Low hazard contents" means combustibles of such low combustibility that self-propagating fire cannot occur and that consequently the only probable danger will be from panic, fumes, smoke, or fire from some external source.
(9) "Means of egress” also known as an “exit route” means a continuous and unobstructed path of exit travel from any point within a workplace to a place of safety, including refuge areas. A means of egress includes both vertical and horizontal areas along the route of travel. A means of egress or an exit route consists of 3 separate parts and are defined as follows:
(a) "Exit access" means that portion of a means of egress or an exit route which leads to an exit. An example of an exit access is a corridor on the 5th floor of an office building that leads to a 2-hour fire resistance-rated enclosed stairway.

(b) "Exit" means that portion of a means of egress or an exit route that is separated from the area of a building from which escape is to be made by a wall, floor, door, or other means which provides the protected path necessary to proceed with reasonable safety to the exterior of the building. An example of an exit is a 2-hour fire resistance-rated enclosed stairway that leads from the 5th floor of an office building to the outside of the building.
(c) "Exit discharge" means that portion of an exit route that leads directly outside or to a street, walkway, refuge area, public way, or open space with access to the outside. An example of an exit discharge is a door at the bottom of a 2-hour fire resistance-rated enclosed stairway that discharges to a place of safety outside the building.
History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10605 Definitions; N to S.
Rule 605. (1) "Nationally recognized testing laboratory." See 29 C.F.R. §1910.7 "Definition and requirements for a nationally recognized testing laboratory," as adopted in R 408.10606, for the definition.
(2) "Noncombustible building" means a building that is constructed of materials that do not support fire.
(3) "Occupant load" means the total number of persons that may occupy a workplace or portion of a workplace at any one time. The occupant load of a workplace is calculated by dividing the gross floor area of the workplace or portion of the workplace by the occupant load factor for that particular type of workplace occupancy. Information regarding the "Occupant load" is located in NFPA 101 "Life Safety Code," 2009 edition and in the "International Fire Code" 2009 edition, as adopted in R 408.10606.
(4) "Ordinary hazard contents" means combustibles that are liable to burn with moderate rapidity and to give off a considerable volume of smoke, but from which neither extremely poisonous fumes nor explosions are to be expected in case of fire.
(5) "Refuge area" means either of the following:
(a) A space along an exit route that is protected from the effects of fire by separation from other spaces within the building by a barrier with at least a 1-hour fire resistance-rating.
(b) A floor with at least 2 spaces, separated from each other by smoke-resistant partitions, in a building protected throughout by an automatic sprinkler system that complies with General Industry Safety Standard Part 9 "Fixed Fire Equipment," as referenced in R 408.10606.
(6) "Self-closing" means equipped with an approved device which will ensure closing without manual assistance after having been opened.
(7) "Sprinklered" means equipped with an approved automatic sprinkler system that is properly maintained.
(8) "Street" means a public thoroughfare that is 30 or more feet in width, that has been dedicated or deeded to the public for public use, and that is accessible for use by a fire department in fighting fires. An enclosed space or tunnel, even though used for vehicular and pedestrian traffic, is not considered a street.
(9) "Self-luminous" means a light source that is illuminated by a self-contained power source, like tritium, and that operates independently from external power sources. Batteries are not acceptable self-contained power sources. The light source is typically contained inside the device.
(10) "Surface bolt" means a locking bolt that is installed on the surface of a door.
History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10606 Adoption of standards by reference; access to other MIOSHA rules.
Rule 606. (1) The National Fire Protection Association NFPA 101 "Life Safety Code," 2009 edition, is adopted by reference in these rules 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 $93.00.
(2) The "International Fire Code" 2009 edition, is adopted by reference in these rules and is available from International Code Council, 500 New Jersey Avenue, NW, 6th floor, Washington, DC 20001, USA, telephone number: 1-800-786-4452, or via the internet at website: www.iccsafe.org; at a cost as of the time of adoption of these rules of $113.00.
(3) 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. §1910.7 "Definition and requirements for a nationally recognized testing laboratory."
(b) 29 C.F.R. 1910.165 "Employee alarm systems"
(4) The standards adopted in these rules are 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.

(5) Copies of the standards adopted in these rules may be obtained from the publisher or may 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.
(6) 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, Michigan, 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 3 "Fixed Ladders," R 408.10301 to R 408.10372.
(c) General Industry Safety Standard Part 9 "Fixed Fire Equipment," R 408.10901 to R 408. 10999.
History: 1954 ACS 62, Eff. May 18, 1970; rescinded 1954 ACS 79, Eff. May 16, 1974 ; 2015 MR 8, Eff. April 29, 2015.

R 408.10608
Source: 1990 AACS.

R 408.10611 Design of buildings and structures.
Rule 611. (1) The danger to employees must be minimized.
(2) A building or structure designed for human occupancy shall be provided with exits, as prescribed in this part, that permit prompt escape in case of fire or other emergency.
(3) Exits and other safeguards shall be designed so that an employee's safety or preservation of life in case of fire or other emergency is not dependent solely on a single safeguard. Additional safeguards shall be provided for life safety in case any single safeguard is ineffective due to human or mechanical failure.
(4) Exit routes shall be kept free of explosive or highly flammable furnishings or other decorations.
(5) A building or structure shall be constructed, arranged, equipped, maintained, and operated to avoid undue danger to the lives and safety of the employees from fire, smoke, fumes, or panic during the period of time necessary for escape from the building or structure.
(6) An employee alarm system must be operable. Employers shall install and maintain an operable employee alarm system that has a distinctive signal to warn employees of fire or other emergencies, unless employees can promptly see or smell a fire or other hazard in time to provide adequate warning to them. The employee alarm system must comply with General Industry Safety Standard Part 9 "Fixed Fire Equipment," and 29 C.F.R. 1910.165 "Employee alarm systems" as adopted in R 408.10606.
History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10612 Occupancy of new buildings.
Rule 612. During new construction, employees shall not occupy a workplace until the exit routes required by these rules are completed and ready for employee use for the portion of the workplace they occupy.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10613 Occupancy and use during repairs and alterations.
Rule 613. (1) During repairs or alterations, employees shall not occupy a workplace unless the exit routes required by these rules are available and existing fire protections are maintained, or until alternate fire protection is furnished that provides an equivalent level of safety.
(2) Employees shall not be exposed to hazards of flammable or explosive substances or equipment used during construction, repairs, or alterations, that are beyond the normal permissible conditions in the workplace, or that would impede exiting the workplace.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10614
Source: 1979 AC.

CLASSES OF OCCUPANCY AND HAZARD OF CONTENTS

R 408.10621 Classes of occupancy.
Rule 621. A building or part thereof shall be classified as follows:
(a) A hotel, which includes a building, portion of a building, or group of buildings which is under the same management and in which there are more than 16 sleeping accommodations for hire that are primarily used by transients, whether designated as a hotel, apartment hotel, inn, club, or motel or by any other name.
(b) Mercantile occupancy, which includes a store, market, and other room or building for the display and sale of merchandise. Examples of this occupancy are as follows:
(i) Supermarkets.
(ii) Department stores.
(iii) Shopping centers.
(iv) Drugstores.
(v) Auction rooms.
(c) Business occupancy, which means a place used for the transaction of business, other than that covered under mercantile occupancy, for the keeping of accounts and records and for similar purposes. Examples of this occupancy are as follows:
(i) Doctors' and dentists' offices.
(ii) City and township halls.
(iii) Courthouses.
(iv) Libraries.
(v) Schools.
(d) An industrial occupancy, which includes a factory that makes products of all kinds and a property devoted to operations such as processing, assembling, mixing, packaging, finishing or decorating, repairing, and similar operations. Examples of this group are as follows:
(i) Laboratories.
(ii) Dry cleaning plants.
(iii) Power plants.
(iv) Pumping stations.
(v) Smokehouses.
(vi) Laundries.
(vii) Creameries.
(viii) Gas plants.
(ix) Refineries.
(x) Sawmills.
(e) A storage occupancy, which includes a building that is used primarily for the storage or sheltering of goods, merchandise, products, vehicles, or animals. Examples of this group are as follows:
(i) Warehouses.
(ii) Cold storage operations.
(iii) Freight terminals.
(iv) Truck and marine terminals.
(v) Bulk oil storage.
(vi) Parking garages.
(vii) Hangars.
(viii) Grain elevators.
(ix) Barns.
(x) Stables.
(f) Miscellaneous occupancies, which means those buildings covered in the provisions of R 408.10691 to R 408.10697.
History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10622
Source: 1979 AC.

R 408.10623 Employee emergency action plans.
Rule 623. (1) An employer shall have an emergency action plan whenever required by a particular Michigan occupational safety and health act standard. The requirements in these rules apply to each such emergency action plan.
(2) An emergency action plan shall be in writing, kept in the workplace, and available to employees for review. However, an employer with 10 or fewer employees may communicate the plan orally to employees.
(3) An emergency action plan shall include at a minimum all of the following:
(a) Procedures for reporting a fire or other emergency.
(b) Procedures for emergency evacuation, including type of evacuation and exit route assignments.
(c) Procedures to be followed by employees who remain to operate critical plant operations before they evacuate.
(d) Procedures to account for all employees after evacuation.
(e) Procedures to be followed by employees performing rescue or medical duties.
(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.
(4) An employer shall establish an employee alarm system that is in compliance with the provisions of General Industry Safety Standard Part 9 "Fixed Fire Equipment," and 29 C.F.R. 1910.165 "Employee alarm systems" as adopted in R 408.10606. 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.
(5) An employer shall establish in the emergency action plan the types of evacuation to be used in emergency circumstances.
(6) 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.
(7) The employer shall review the plan, at the following times, with each employee to whom the plan applies:
(a) When the plan is developed.
(b) If an employee's responsibilities or designated actions under the plan change.
(c) If the plan is changed.
(8) An employer shall review, with each employee, upon initial assignment, those parts of the plan that the employee must know to protect the employee in an emergency.
History: 1993 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10624 Fire prevention plans.
Rule 624. (1) An employer shall have a fire prevention plan whenever they are required by a particular Michigan occupational safety and health act standard. The requirements in these rules apply to each such fire prevention plan.
(2) A fire prevention plan must be in writing, be kept in the workplace, and be made available to employees for review. However, an employer with 10 or fewer employees may communicate the plan orally to employees.
(3) An employer shall control the accumulations of flammable and combustible waste materials and residues so that they do not contribute to a fire emergency. The control procedures shall be included in the written fire prevention plan.
(4) An employer shall inform employees of the fire hazards of the materials and processes to which they are exposed.
(5) An employer shall review, with each employee, upon initial assignment, those parts of the fire prevention plan that the employee must know to protect the employee in an emergency.
(6) An employer shall regularly and properly maintain, according to established procedures, equipment and systems that are installed on heat-producing equipment to prevent the accidental ignition of combustible materials. The maintenance procedures shall be included in the written fire prevention plan.
(7) Minimum elements of a fire prevention plan shall include all of the following information:
(a) A list of all major fire hazards, proper handling and storage procedures for hazardous materials, potential ignition sources and their control, and the type of fire protection equipment necessary to control each major hazard.
(b) Procedures to control accumulations of flammable and combustible waste materials.
(c) Procedures for regular maintenance of safeguards installed on heat-producing equipment to prevent the accidental ignition of combustible materials.
(d) The name or job title of employees responsible for maintaining equipment to prevent or control sources of ignition or fires.
(e) The name or job title of employees responsible for the control of fuel source hazards.

History: 1993 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10627 Compliance with alternate exit-route codes.
Rule 627. MIOSHA shall deem an employer demonstrating compliance with the exit-route provisions of the NFPA 101 "Life Safety Code," 2009 edition or the exit-route provisions of the "International Fire Code" 2009 edition, as adopted in R 408.10606, to be in compliance with the corresponding requirements in these rules.
History: 2015 MR 8, Eff. April 29, 2015.

MEANS OF EGRESS

R 408.10631 Construction, maintenance, and changes.
Rule 631. (1) The components of a means of egress including doors, stairs, ramps, passages, and signs shall be of substantial construction and shall be maintained in an operable condition.
(2) An exit shall be not less than 28 inches (71.1 cm) wide at all points, except where specifically permitted elsewhere in this part. Where there is only 1 exit access leading to an exit or exit discharge, the width of the exit and exit discharge shall be at least equal to the width of the exit access.
(3) The ceiling of an exit route shall be at least 7 feet 6 inches (2.3 m) high. Any projection from the ceiling shall not reach a point less than 6 feet 8 inches (2.0 m) from the floor.
(4) The width of an exit route shall be sufficient to accommodate the maximum permitted occupant load of each floor served by the exit route.
(5) Objects that project into the exit route shall not reduce the width of the exit route to less than the minimum width requirements for exit routes.
(6) Exit routes must be kept free of explosive or highly flammable furnishings or other decorations.
(7) A space formed with movable or folding partitions and occupied by more than 20 persons shall have an approved means of egress.
(8) An alteration, addition, or change of occupancy that would reduce means of egress below the requirements for a new building is prohibited.
(9) Furnishings and decorations of an explosive or highly flammable character shall not be used in any occupancy.
(10) Where fire retardant paints or solutions are used, they shall be renewed, as necessary to maintain their fire retardant properties.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10632 Obstructions.
Rule 632. (1) An employer shall ensure that exit routes are free and unobstructed. No materials or equipment may be placed, either permanently or temporarily, within the exit route. The exit access shall not go through a room that can be locked, such as a bathroom, to reach an exit or exit discharge, nor may it lead into a dead-end corridor. Stairs or a ramp shall be provided where the exit route is not substantially level.
(2) A lock, fastening device, or barrier shall not be installed or used on a means of egress in a manner that will prevent or hinder free escape from the inside of a building.
(3) Exit route doors shall be free of any device or alarm that could restrict emergency use of the exit route if the device or alarm fails.
(4) Devices such as turnstiles and gates shall not be placed so as to obstruct a means of egress.
(5) No combustible or flammable debris, waste, or other material, the burning of which would render hazardous egress from the building shall be placed, stored, or kept on, under, at the bottom of, or adjacent to a means of egress or elevator. Where a means of egress is being obstructed by the placement of movable objects, aisles shall be marked and railings or permanent barriers provided to protect the means of egress against encroachment. Railing or standard barrier as per General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.10606.
(6) Each exit route door shall be free of decorations or signs that obscure the visibility of the exit route door. A mirror shall not be placed on an exit door or be placed in or adjacent to an exit in a manner to confuse the direction of exit.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10633 Permissible exits and exit components.

Rule 633. (1) Approved exits for all occupancies regulated by this part shall be restricted to the following permissible types: doors, inside or outside stairs, horizontal exits, ramps, escalators, and fire escapes for existing occupancies.
(2) An exit shall consist only of approved components. An exit shall be constructed as an integral part of the building or permanently affixed thereto.
(3) Stairs, landings, and other exit components shall be guarded against falls over open edges, and guards and handrails shall continue the full length of the guarded exit component.
(4) An exit protected by separation from other parts of the building shall have the separating construction meet the following:
(a) The separation shall have not less than a 1-hour fire-resistance rating when the exit connects 3 stories or less. This applies whether the stories connected are above or below the story at which the exit discharge is located.
(b) The separation shall have not less than a 2-hour fire-resistance rating when the exit connects 4 or more stories, whether above or below the floor of discharge.
(c) An opening into an exit must be protected by a self-closing fire door that remains closed or automatically closes in an emergency upon the sounding of a fire alarm or employee alarm system.
(d) An opening in an exit enclosure shall be confined to that which is necessary for access to the enclosure from a normally occupied space and for egress from the enclosure.
(5) Each exit route shall be a permanent part of the workplace.
(6) Each fire door, including its frame and hardware, shall be listed or approved by a nationally recognized testing laboratory. For the definition of a "nationally recognized testing laboratory, see 29 C.F.R. §1910.7 “Definition and requirements for a nationally recognized testing laboratory,” as adopted in R 408.10606.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10634 Number of exits.
Rule 634. (1) An employer shall ensure that there are an adequate number of exit routes.
(2) Where the contents of a building are classified as high hazard, there shall be not less than 2 exits which are accessible in different directions. All doors shall swing in the direction of exit travel. Where floor areas are divided into rooms, there shall be not less than 2 ways of escape from every room, however small, except for toilet rooms that are not located in areas of high hazard classification.
(3) The exit routes shall be located as far away as practical from each other so that if 1 exit route is blocked by fire or smoke, employees can evacuate using the second exit route.
(4) At least 2 exit routes shall be available in a workplace to permit prompt evacuation of employees and other building occupants during an emergency, except as allowed in subrule (6) of this rule.
(5) More than 2 exit routes shall be available in a workplace if the number of employees, the size of the building, its occupancy, or the arrangement of the workplace is such that all employees would not be able to evacuate safely during an emergency.
(6) A single exit route is permitted where the number of employees, the size of the building, its occupancy, or the arrangement of the workplace is such that all employees would be able to evacuate safely during an emergency.
Note: For assistance in determining the number of exit routes necessary for your workplace, consult NFPA 101 “Life Safety Code,” 2009 edition or “International Fire Code” 2009 edition, as adopted in R 408.10606.
History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10635
Source: 1979 AC.

R 408.10636 Maximum travel distance to exits.
Rule. 636. Table 1 reads as follows:

TABLE 1			
Type of occupancy	Maximum travel distance to exits (in feet)		Dead-end limits (in feet)
	Unsprinklered	Sprinklered	
Mercantile, ordinary hazard	150	250	50
Mercantile, high hazard	75	75	0
Business	200	300	50
Industrial	200	250	50
Industrial, high hazard	0	75	0
Storage, low and ordinary hazard	200	400	100
Storage, high hazard	75	100	0
Hotels	100	200	50
Note: For miscellaneous structures, See R 408.10691 to R 408.10697			

History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10637 Rescinded.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10638 Rescinded.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10639 Capacity as affected by population.
Rule 639. (1) The capacity of a means of egress from a building, floor, balcony, tier, or other occupied space shall be sufficient for the population thereof. The population for industrial and storage occupancies shall be based on the maximum number of employees or persons that may be in the space at any time as determined by actual count. All other types of occupancies shall be not less than the number computed in accordance with the provisions of table 2.
(2) Mercantile occupancy in a single-story, noncombustible building with an approved, fully equipped automatic sprinkler system that is in compliance with General Industry Safety Standard Part 9 "Fixed Fire Equipment," as referenced in R 408.10606, may increase the square footage requirement in table 2 by 100%.
(3) The population of an occupancy shall be limited to the existing exit capacity of a building or space.
(4) Where an exit serves more than 1 floor, only the population of each floor considered individually need be used in computing the capacity of the exit at that level, if the exit capacity is not decreased in the direction of exit travel. Where a means of egress from floors above and below converge at an intermediate level, the capacity of the exit from the point of convergency shall be not less than the combined capacity of the converging exits.
(5) Table 2 reads as follows:

TABLE 2	
Type of occupancy	Square feet per person
Mercantile, street floor or sales basement	30

Mercantile, other floors	60
Mercantile, office	100
Mercantile, storage	300
Business	100
Hotel	200
Industrial	100

Note: The computed population of an occupancy is obtained by dividing the total floor area of a building, floor, or fire area by the indicated square feet per person. Total floor area means the floor area within the perimeter of the outside walls of a building, with no deductions for any of the following:
(a) Hallways.
(b) Stairs.
(c) Closets.
(d) Thickness of walls.
(e) Columns.
(f) Other features.

(6) The capacity of an exit route shall be adequate. Information regarding the "Occupant load" is located in NFPA 101 “Life Safety Code,” 2009 edition and in the “International Fire Code” 2009 edition, as adopted in R 408.10606.
(7) Exit routes shall support the maximum permitted occupant load for each floor served.
(8) The capacity of an exit route shall not decrease in the direction of exit route travel to the exit discharge.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10641 Exit access and discharge.
Rule 641. (1) An exit access shall not be through a room subject to locking.
(2) An exit access shall be so arranged that it will not be necessary to travel through any area of high hazard occupancy in order to reach the nearest exit.
(3) The minimum width of an exit access shall be at least equal to the required width of the exit to which it leads, but not less than 34 inches. The headroom clearance shall be not less than 6 feet 8 inches from the floor.
(4) An exit discharge shall discharge directly outside or to a street, walkway, refuge area, public way, or to a yard, court or other open space with access to the outside.
(5) Stairs and other exits shall be arranged to make clear the direction of egress to the street. Where an exit stairs continues beyond the floor of discharge, it shall be interrupted at the floor of discharge by a partition, door or other effective means.
(6) Exit access by the way of an exterior balcony, porch, gallery, or roof shall be in compliance with all of the following:
(a) Be kept free from accumulations of snow and ice.
(b) Be permanent direct route without obstructions, such as railings, gates, barriers, or other objects, that might divide the space into sections or rooms. Where furniture or other movable objects might block the path of travel, they shall be secured in place or a standard barrier as prescribed in General Industry Safety Standard Part 2 “Floor and Wall Openings, Stairways, and Skylights,” as referenced in R 408.10606, shall protect the path of travel.
(c) Have no dead ends in excess of 20 feet.
(d) Comply with this part as to requirements for width and arrangement.
(7) The street, walkway, refuge area, public way, or open space to which an exit discharge leads shall be large enough to accommodate the building occupants likely to use the exit route.
(8) An exit door shall be unlocked.
(9) An outdoor exit route is permitted.
(10) The outdoor exit route shall have all of the following:

(a) Guardrails to protect unenclosed sides if a fall hazard exists.
(b) Be covered if snow or ice is likely to accumulate along the route, unless the employer can demonstrate that any snow or ice accumulation will be removed before it presents a slipping hazard.
(c) Be reasonably straight and have smooth, solid, substantially level walkways.
(d) Not have a dead-end that is longer than 20 feet (6.2 m).
(11) An exit access shall be so arranged that employees will not have to travel toward a high hazard area, unless the path of travel is effectively shielded from the high hazard area by suitable partitions or other physical barriers.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

DOORS AND STAIRS

R 408.10643 Doors; general provisions.
Rule 643. (1) A door assembly, including the doorway, frame, door, and necessary hardware, may be used as a component in a means of egress when it conforms to the requirements of this part. As such, the assembly is designated as an exit door.
(2) A single leaf of an exit door shall be not less than 28 inches nor more than 48 inches in width.
(3) Where a door or gate opens directly on a stairway, a platform shall be provided, and the swing of the door or gate shall not reduce the floor area leading to the stairs to a width less than 20 inches.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10644 Door swing.
Rule 644. (1) A side-hinged exit door shall be used. The force required to fully open any door in the means of egress shall not be more than 5 pounds applied to the latch side of the door. The door shall swing with exit travel when serving an area of high hazard occupancy or a building, floor, or area with a population of more than 50 persons.
(2) If 1 or more approved exits are provided and the travel distance requires additional exits, a mechanically aided sliding door may be used to exit to the outside of a building constructed before May 15, 1970, under the following conditions:
(a) The occupancy shall be classified as a low or ordinary storage hazard or an ordinary mercantile hazard.
(b) The mechanical aid to the door shall allow the door to be opened quickly and easily by 1 person.
(c) The mechanical aid of the door shall not be rendered inoperative by fire or the lack of maintenance.
(3) An exit door that gives access to a stairway shall swing in the direction of exit travel, shall not block stairs or landings during its swing, and shall not interfere with the full use of the stairway when open.
(4) An exit door at the foot of stairs from upper floors or at the head of stairs from basements shall swing with exit travel.
(5) A screen door or storm door that is part of a required exit shall not swing against the direction of exit travel in any case where doors are required to swing with exit travel.
(6) A side-hinged door shall be used to connect any room to an exit route.
(7) The door that connects any room to an exit route shall swing out in the direction of exit travel if the room is designed to be occupied by more than 50 people or if the room is a high hazard area; for example, it contains contents that are likely to burn with extreme rapidity or explode.
History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10645 Locks, fastening devices, and closing mechanism.
Rule 645. (1) Employees shall be able to open an exit route door from the inside at all times without keys, tools, or special knowledge. A device such as a panic bar that locks only from the outside is permitted on exit discharge doors.
(2) A latch or other fastening device on an exit door shall be provided with a knob, handle, panic bar, or other simple type of releasing device. Slide bolts, hasps, hooks and eyes, and similar types of locking devices that are difficult to open against door pressure shall not be installed or used.
(3) A fire door to a stair enclosure or horizontal exit shall be provided with a reliable self-closing mechanism and shall not, at any time, be secured in the open position.

(4) An exit route door may be locked from the inside only in mental, penal, or correctional facilities and then only if supervisory personnel are continuously on duty and the employer has a plan to remove occupants from the facility during an emergency.

History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10646
Source: 1979 AC.

R 408.10647 Revolving doors.

Rule 647. (1) A revolving door shall be considered an approved exit door only if all of the following conditions are satisfied:

(a) The door shall be installed before the prohibition listed in subrule (2) of this rule.

(b) The number of revolving doors used as exit doors shall not be more than the number of swinging doors used as exit doors within 20 feet thereof.

(c) A revolving door without an adjacent swinging door may serve as an exit for a street floor elevator lobby if no stairway or door from other parts of the building discharges through the lobby and the lobby has no occupancy other than as a means of travel between elevators and the street.

(d) A revolving door shall be equipped with means to prevent its rotation at more than 12 1/2 revolutions per minute.

(e) A revolving door shall not be used at the foot of stairs from upper floors or at the head of stairs from the basement or other lower floors.

(f) A revolving door credited as an exit door shall have a rated capacity of 1/2 unit of exit width.

(2) A revolving door that is installed after June 15, 1990, shall not be considered an approved exit door.

History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10651
Source: 1979 AC.

R 408.10661 Horizontal exits.

Rule 661. (1) A fire area or area of refuge with a horizontal exit shall have, in addition to the horizontal exit or exits, at least 1 means of egress leading to the outside, or have access to an adjacent fire area containing an outside means of egress.

(2) Where either side of a horizontal exit is occupied, the doors used in connection with the horizontal exit shall be unlocked.

(3) The floor area on either side of a horizontal exit shall be sufficient to hold the occupants of both floor areas allowing not less than 3 square feet clear floor area per person.

(4) Where a horizontal exit serves areas on both sides of a wall, there shall be adjacent openings with swinging doors at each, opening in opposite directions, with signs on each side of the wall or partition indicating as the exit door which swings with the travel from that side; or other approved arrangements providing doors always swinging with any possible exit travel.

History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10664 Ramps.

Rule 664. (1) A ramp may be a component in a means of egress when it conforms to the requirements of this part. A ramp which is constructed after June 15, 1990, and which is less than the minimum measurements prescribed in this rule shall not be considered as an approved part of a means of egress.

(2) A ramp and the platforms and landings associated therewith shall be designed for not less than 100 pounds per square foot live load.

(3) The slope of a ramp shall not vary between landings. A landing shall be level and the changes in direction of travel, if any, shall be made only at landings.

(4) A ramp in a building that is more than 3 stories in height shall be made of noncombustible construction. A ramp floor and landings shall be solid and without perforations.

(5) A ramp shall have a nonslip surface.

(6) A ramp shall have a minimum width of 44 inches and a maximum slope of 1 inch in 12 inches.

History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10667
Source: 1979 AC.

R 408.10671 Fire escape stairs.
Rule 671. (1) Fire escape stairs may be used as a required exit only in existing buildings. Fire escape stairs shall not constitute more than 50% of the required exit capacity. Fire escape stairs shall not constitute any part of the required exits for a new building.
(2) Fire escape stair dimensions shall be in accordance with table 4.

TABLE 4	
Minimum Width	22 inches clear between rails
Minimum horizontal dimension of a landing or platform	22 inches
Maximum rise	9 inches
Minimum tread, exclusive of nosing	9 inches
Spiral winders	Not permitted
Maximum height between landings	12 feet

(3) Fire escape stairs shall have walls or approved guards, and handrails on both sides.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10672
Source: 1979 AC.

R 408.10673 Exposure to fire escape stairs.
Rule 673. Fire escape stairs shall be so arranged that they will be subject to exposure by the smallest possible number of window and door openings. Every opening, any portion of which is within the following limits, shall be completely protected by approved fire doors or metal frame wired glass windows, as follows:
(a) A horizontal opening if within 15 feet of a balcony, platform or stairway constituting a part of the escape proper. This does not apply to a platform or walkway leading from the same floor to the escape proper. Protection need not extend around a right angle corner (outside angle 270 degrees) of the building.
(b) An opening below if within 3 stories or 36 feet of a balcony, platform, walkway or stairway constituting a part of the escape proper, or within 2 stories or 24 feet of a platform or walkway leading from any story to the escape proper.
(c) An opening above if within 10 feet of a balcony, platform or walkway, as measured vertically, or from any stair treads, as measured vertically from the face of the outside riser.
(d) An opening on a top story. Protection for wall openings is not required where stairs do not lead to the roof.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10674
Source: 1979 AC.

R 408.10675 Swinging stairs.
Rule 675. (1) A swinging stair section shall not be used for a fire escape stairs, except where termination is over a sidewalk, alley, or driveway.
(2) A swinging stair section shall not be located over doors, over the path of travel from another exit, nor be in any location where there are obstructions.
(3) The width of a swinging stair section shall be at least equal to that of the stairs above and the pitch shall not be steeper than that of the stairs above.
(4) A counterweight shall be provided for a swinging stair section and this shall be of the type balancing about a pivot, no cables being used. Counter-balancing shall be such that a weight of 150 pounds 1 step from pivot will not start swinging section, and a weight of 150 pounds, 1/4 of the length of the swinging stairs from the pivot, will positively cause the stairs to swing down.
(5) A latch or other device shall not be installed or used to lock a swinging stair section in the up position.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10677 Ladders.

Rule 677. No form of ladder shall be used as a fire escape except that a ladder conforming to General Industry Safety Standard Part 3 "Fixed Ladders," as referenced in R 408.10606, may be used to provide a means of escape from a boiler room, storage elevator, or tower, as permitted for special miscellaneous occupancies, elevated platforms around machinery, or similar spaces subject to routine simultaneous occupancy by not more than 3 persons.

History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10679
Source: 1998-2000 AACS.

R 408.10680 Lighting.
Rule 680. (1) Lighting and marking shall be adequate and appropriate.
(2) Each exit route shall be adequately lighted so that an employee with normal vision can see along the exit route.

History: 2015 MR 8, Eff. April 29, 2015.

R 408.10681
Source: 1979 AC.

R 408.10682
Source: 1979 AC.

R 408.10685 Signs.
Rule 685. (1) A means of egress to an exit not immediately apparent from any point in an occupancy shall be marked by directional signs. Additionally, the line-of-sight to an exit sign shall be clearly visible at all times.
(2) A door, passage, or stairway, which is neither an exit nor an exit access, and which is so located or arranged as to be likely mistaken for an exit, shall be identified by a sign reading "NOT AN EXIT" or similar designation, or be identified by a sign indicating its actual use or character.
(3) A sign shall designate an exit and shall be located and be of such size and color and design as to be readily visible and identifiable from the distance of travel for that particular occupancy.
(4) Each exit must be clearly visible and marked by a sign reading "EXIT."

History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

R 408.10686 Sign illumination and letter size.
Rule 686. (1) An exit sign shall be illuminated to a surface value of at least 5 foot-candles (54 lux) by a reliable light source and be distinctive in color. Self-luminous or electroluminescent signs that have a minimum luminance surface value of at least .06 foot lamberts (0.21 cd/m^2) are permitted.
(2) An exit sign shall have the word "EXIT" in plainly legible letters not less than 6 inches (15.2 cm) high, with the principal strokes of the letters in the word "EXIT" not less than 3/4 of an inch (1.9 cm) wide.
(3) An internally illuminated exit sign shall be provided where the reduction of normal illumination is permitted and less than 5 footcandles would appear on the exit sign.

History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

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 Storage elevators for combustible commodities.

Rule 695. (1) In a storage elevator for combustible commodities there shall be at least 1 stairway from the basement to the first floor and from the first floor to the top floor of the working house which is enclosed in a dust-tight, noncombustible shaft.
(2) A noncombustible door of the self-closing type shall be provided at each floor landing.
(3) An exterior stair or basket ladder-type fire escape, as prescribed in General Industry Safety Standard Part 3 "Fixed Ladders," as referenced in R 408.10606, shall be provided from the roof of the working house to ground level or to the roof of an adjoining annex with access from all floors above the first.
(4) An exterior stair or basket ladder-type fire escape, as prescribed in General Industry Safety Standard Part 3 "Fixed Ladders," as referenced in R 408.10606, shall be provided from the roof of each storage annex to ground level.
(5) A fire escape ladder shall be provided adjacent to a manlift for the up and down sides.
(6) A storage elevator shall have an opening that leads to a fire escape ladder from each floor or work level.
(7) Storage elevators for combustible commodities that exist before April 30, 1974, do not need to comply with the provisions of subrules (1) and (2) of this rule.
History: 1979 AC; 1990 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.10696 Towers.
Rule 696. (1) A tower occupied for purposes such as observation or signaling, either an independent structure or on top of a building, shall be permitted with a single stairway or ramp exit if all of the following conditions are met:
(a) The tower is of such size as not to be subject to occupancy by more than 25 persons on any 1 floor level.
(b) The tower is subject only to occupancy by persons capable of descending the stairway and is not used for living or sleeping purposes.
(c) The construction is fire-resistive, noncombustible, or heavy timber, with no quick-burning interior finish. There shall be no combustible materials in, under, or in the immediate vicinity of the tower, except as necessary to perform the requirements of occupancy.
(2) Stairs shall conform to the requirements of this part, except that for existing towers fire escape type stairs may be used. See General Industry Safety Standard Part 3 "Fixed Ladders," as referenced in R 408.10606.
(3) A tower, such as a forest fire observation tower and a railroad signal tower designed for occupancy by not more than 3 persons employed therein, need not be constructed of fire-resistive, noncombustible material and may be served by ladders instead of stairs. See General Industry Safety Standard Part 3 "Fixed Ladders," as referenced in R 408.10606.
History: 1979 AC; 2015 MR 8, Eff. April 29, 2015.

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
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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
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R 408.12127
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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
Source: 1979 AC.

R 408.12186
Source: 1979 AC.

R 408.12187
Source: 1979 AC.

R 408.12188
Source: 1979 AC.

R 408.12189
Source: 1979 AC.

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

Source: 1979 AC.

R 408.12212
Source: 1979 AC.

R 408.12213
Source: 1979 AC.

R 408.12214
Source: 1979 AC.

R 408.12215
Source: 1979 AC.

R 408.12216
Source: 2013 AACS.

R 408.12217
Source: 2013 AACS.

R 408.12218
Source: 2013 AACS.

R 408.12219
Source: 1979 AC.

R 408.12220
Source: 2013 AACS.

R 408.12231
Source: 2013 AACS.

R 408.12232
Source: 1979 AC.

R 408.12233
Source: 1979 AC.

R 408.12234
Source: 1979 AC.

R 408.12235
Source: 1979 AC.

R 408.12236
Source: 1979 AC.

R 408.12237
Source: 1979 AC.

R 408.12238
Source: 1979 AC.

R 408.12239
Source: 1979 AC.

R 408.12240
Source: 1979 AC.

R 408.12241
Source: 1979 AC.

R 408.12242
Source: 2013 AACS.

R 408.12243
Source: 1979 AC.

R 408.12251
Source: 1979 AC.

R 408.12252
Source: 1979 AC.

R 408.12253
Source: 1979 AC.

R 408.12254
Source: 1979 AC.

R 408.12255
Source: 1979 AC.

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
Source: 1979 AC.

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 408.12322
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R 408.12323
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R 408.12325
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R 408.12326
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R 408.12327
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R 408.12331
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R 408.12332
Source: 1979 AC.

R 408.12334
Source: 1979 AC.

R 408.12336
Source: 1997 AACS.

R 408.12338
Source: 1979 AC.

R 408.12341
Source: 1979 AC.

R 408.12343
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R 408.12344
Source: 1979 AC.

R 408.12345
Source: 1979 AC.

R 408.12351
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R 408.12353
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R 408.12355
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R 408.12356
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R 408.12361
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R 408.12363
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R 408.12365
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R 408.12370
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R 408.12371
Source: 1979 AC.

R 408.12372
Source: 1979 AC.

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
Source: 1979 AC.

R 408.12422
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R 408.12423
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R 408.12424
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R 408.12425
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R 408.12426
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R 408.12427
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R 408.12428
Source: 1990 AACS.

R 408.12429
Source: 1979 AC.

R 408.12431
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R 408.12432

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R 408.12433
Source: 1979 AC.

R 408.12434
Source: 1979 AC.

R 408.12441
Source: 1979 AC.

R 408.12442
Source: 1990 AACS.

R 408.12443
Source: 1990 AACS.

R 408.12444
Source: 1979 AC.

R 408.12445
Source: 1979 AC.

R 408.12446
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R 408.12447
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R 408.12448
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R 408.12449
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R 408.12450
Source: 1979 AC.

R 408.12451
Source: 1979 AC.

R 408.12452
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R 408.12453
Source: 1979 AC.

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 408.12607

Source: 1991 AACS.

R 408.12608
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R 408.12611
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R 408.12612
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R 408.12613
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R 408.12614
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R 408.12615
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R 408.12616
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R 408.12617
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R 408.12618
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R 408.12622
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R 408.12637
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R 408.12639
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R 408.12641
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R 408.12643
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R 408.12647
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R 408.12648
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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
Source: 1979 AC.

R 408.12708
Source: 1979 AC.

R 408.12709
Source: 1979 AC.

R 408.12711
Source: 1979 AC.

R 408.12712
Source: 2013 AACS.

R 408.12714
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R 408.12715
Source: 1997 AACS.

R 408.12716
Source: 2013 AACS.

R 408.12717
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R 408.12718
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R 408.12719
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R 408.12740
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R 408.12741
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R 408.12742
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R 408.12744
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R 408.12751
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R 408.12770
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R 408.12773
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R 408.12776
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R 408.12779
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R 408.12781
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R 408.12784
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R 408.12785
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R 408.12786
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R 408.12787
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R 408.12791
Source: 2013 AACS.

R 408.12792
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R 408.12793
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R 408.12794
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R 408.12795
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R 408.12796
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R 408.12797
Source: 1979 AC.

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
Source: 1997 AACS.

R 408.13107
Source: 1997 AACS.

R 408.13108
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R 408.13109
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R 408.13110
Source: 1997 AACS.

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 408.13116
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R 408.13117
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R 408.13118
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R 408.13119
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R 408.13120
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R 408.13130
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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
Source: 2014 AACS.

R 408.13301a Adopted and referenced standards.
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: www.global.ihs.com, at a cost 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,” 2009 edition. Cost: $58.00.

(f) ASTM D-178, "Standard Specification for Rubber Insulating Matting," 2001 edition with 2010 supplement. Cost $47.00.
(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," 2012 edition. Cost $47.00.
(i) ASTM D-1049, "Standard Specification for Rubber Insulating Covers," 1998 edition with 2010 supplement. Cost $47.00.
(j) ASTM D-1050 "Standard Specification for Rubber Insulating Line Hose," 2005 edition with 2011 supplement. Cost $47.00.
(k) ASTM D-1051 "Standard Specification for Rubber Insulating Sleeves," 2008 edition. Cost $58.00.
(l) ASTM F-478 "Standard Specification for In-Service Care of Insulating Line Hose and Covers," 2009 edition. Cost $52.00.
(m) ASTM F-479 "Standard Specification for In-Service Care of Insulating Blankets," 2006 edition with 2011 supplement. Cost: $47.00.
(n) ASTM F-496 "Standard Specification for In-Service Care of Insulating Gloves and Sleeves," 2008 edition. Cost $58.00.
(o) ASTM F-2412, "Standard Test Methods for Foot Protection," 2005 edition. Cost $64.00.
(p) ASTM F-2413, "Standard Specification For Performance Requirements For Protective Footwear," 2005 edition. Cost $56.00.
(q) ASTM F-819 "Standard Terminology Relating to Electrical Protective Equipment for Workers," 2010 edition. Cost $41.00.
(r) ASTM F-1236 "Standard Guide for Visual Inspection of Electrical Protective Rubber Products," 1996 edition with 2012 supplement. Cost: $47.00.
(s) Institute of Electrical and Electronics Engineers IEEE Standard 516 "Guide for Maintenance Methods on Energized Power Lines," 2009 edition. Cost: $135.00.
(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 these rules are 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 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, 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 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) 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.
(d) General Industry Safety Standard Part 86 "Electric Power Generation, Transmission, and Distribution," R 408.18601 to R 408.18605.
(6) 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 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.13302
Source: 2014 AACS.

R 408.13303
Source: 2014 AACS.

R 408.13304
Source: 2014 AACS.

R 408.13305
Source: 2014 AACS.

R 408.13306
Source: 2014 AACS.

HAZARD ASSESSMENT

R 408.13308
Source: 2014 AACS.

TRAINING

R 408.13309
Source: 2014 AACS.

R 408.13310
Source: 2014 AACS.

PAYMENT FOR PERSONAL PROTECTIVE EQUIPMENT

R 408.13310a
Source: 2014 AACS.

EYE AND FACE PROTECTION

R 408.13311
Source: 2014 AACS.

R 408.13312
Source: 2014 AACS.

R 408.13312a
Source: 2014 AACS.

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
Source: 2014 AACS.

HEAD PROTECTION EQUIPMENT

R 408.13370
Source: 2014 AACS.

R 408.13372
Source: 2014 AACS.

R 408.13375
Source: 2014 AACS.

R 408.13376
Source: 2014 AACS.

R 408.13378
Source: 2014 AACS.

FOOT PROTECTION

R 408.13383
Source: 2014 AACS.

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) When the use of protective footwear will protect the affected employee from an electrical hazard, such as a static-discharge or electric-shock hazard, that remains after the employer takes other necessary protective measures.
(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) An employer shall ensure that safety shoes and boots that are not worn over shoes and that are worn by more than 1 employee are maintained, cleaned, and sanitized inside and out before being issued to another employee.
History: 1983 AACS; 1995 AACS; 1997 AACS; 2014 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.13386
Source: 2014 AACS.

ELECTRICAL PROTECTIVE EQUIPMENT

R 408.13387 Design requirements for specific types of electrical protective equipment.
Rule 3387. (1) Rubber insulating blankets, rubber insulating matting, rubber insulating covers, rubber insulating line hose, rubber insulating gloves, and rubber insulating sleeves shall meet the requirements of this rule.
(a) Blankets, gloves, and sleeves shall be produced by a seamless process.
(b) Each item shall be clearly marked as follows:
(i) Class 00 equipment shall be marked class 00.
(ii) Class 0 equipment shall be marked class 0.
(iii) Class 1 equipment shall be marked class 1.
(iv) Class 2 equipment shall be marked class 2.
(v) Class 3 equipment shall be marked class 3.
(vi) Class 4 equipment shall be marked class 4.
(vii) Non-ozone-resistant equipment shall be marked type I.
(viii) Ozone-resistant equipment shall be marked type II.
(ix) 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 such a manner as not to impair the insulating qualities of the equipment.
(d) Markings on gloves shall be confined to the cuff portion of the glove.
(3) Electrical requirements shall be all of the following:
(a) Equipment shall be capable of withstanding the alternating current proof-test voltage specified in Table A or the direct current proof-test voltage specified in Table B. All of the following apply:
(i) The proof test shall reliably indicate that the equipment can withstand the voltage involved.
(ii) 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.
(iii) Gloves shall also be capable of separately withstanding the alternating current proof-test voltage specified in Table A after a 16-hour water soak.
(b) When the alternating current proof test is used on gloves, the 60-hertz proof-test current shall not exceed the values specified in Table A at any time during the test period. All of the following apply:
(i) If the alternating current proof 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.
(ii) 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 C. 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.
(iii) After the 16-hour water soak specified in this subrule, the 60-hertz proof-test current shall not exceed the values given in Table A by more than 2 milliamperes.
(c) Equipment that has been subjected to a minimum breakdown voltage test shall not be used for electrical protection. See subrule (3) of this rule.
(d) Material used for Type II insulating equipment shall be capable of withstanding an ozone test, with no 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.

(4) Workmanship and finish shall comply with both of the following:
(a) Equipment shall be free of physical irregularities that can adversely affect the insulating properties of the equipment and that can be detected by the tests or inspections required by these rules.
(b) 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 under the following conditions:
(i) The indentation or protuberance blends into a smooth slope when the material is stretched.
(ii) Foreign material remains in place when the insulating material is folded and stretches with the insulating material surrounding it.
(5) Rubber insulating equipment meeting the national consensus standards in Table 4 is considered to be in compliance with the performance requirements of these rules.

TABLE 2
AMERICAN SOCIETY OF TESTING MATERIALS STANDARDS

STANDARD TITLE	ASTM NUMBER	EDITION	SUPPLEMENT
Standard Specification for Rubber Insulating Gloves	D-120	2009	-
Standard Specification for Rubber Insulating Matting	D-178	2001	2010
Standard Specification for Rubber Insulating Blankets	D-1048	2012	-
Standard Specification for Rubber Insulating Covers	D-1049	1998	2010
Standard Specification for Rubber Insulating Line Hose	D-1050	2005	2011
Standard Specification for Rubber Insulating Sleeves	D-1051	2008	-
These standards contain specifications for conducting the various tests required in these rules. For example, the alternating current and direct current proof tests, the breakdown test, the water-soak procedure, and the ozone test described in this rule are described in detail in these ASTM standards.			
ASTM F-1236 “Standard Guide for Visual Inspection of Electrical Protective Rubber Products,” 1996 Edition with 2012 supplement, as adopted in R 408.13301a, presents methods and techniques for the visual inspection of electrical protective equipment made of rubber. This guide also contains descriptions and photographs of irregularities that can be found in this equipment			
ASTM F-819 “Standard Terminology Relating to Electrical Protective Equipment for Workers,” 2010 edition, as adopted in R 408.13301a, includes definitions of terms relating to the electrical protective equipment covered in these rules.			

History: 1983 AACS; 1995 AACS; 1997 AACS; 2014 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.13387a. Electrical protective equipment.
Rule 3387a. (1) 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.
(2) An insulated blanket, glove, or sleeve shall be capable of withstanding the voltage to which it may be subjected.
(3) 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.

(4) 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 shall 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.
(5) 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 shall 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.
History: 2014 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.13388 Design requirements for other types of electrical protective equipment.
Rule 3388. (1) The following requirements apply to the design and manufacture of electrical protective equipment that is not covered by R 408.40650:
(2) Insulating equipment used for the protection of employees shall be capable of withstanding, without failure, the voltages that may be imposed upon it.
Note 1 to subrule (2): These voltages include transient over-voltages, such as switching surges, as well as nominal line voltage. See General Industry Safety Standard Part 86 "Electric Power Generation, Transmission, and Distribution," Appendix B, as referenced in R 408.13301a, for a discussion of transient over-voltages on electric power transmission and distribution systems.
Note 2 to subrule (2): See IEEE 516 "Guide for Maintenance Methods on Energized Power Lines," 2009 edition, as adopted in R 408.13301a, for methods of determining the magnitude of transient over-voltages on an electrical system and for a discussion comparing the ability of insulation equipment to withstand a transient overvoltage based on its ability to withstand alternating current voltage testing.
(3) Equipment current shall comply with both of the following:
(a) Protective equipment used for the primary insulation of employees from energized circuit parts shall be capable of passing a current test when subjected to the highest nominal voltage on which the equipment is to be used.
(b) When insulating equipment is tested pursuant to these rules, the equipment current may not exceed 1 microampere per kilovolt of phase-to-phase applied voltage.
Note 1 to subrule (3): This rule shall apply to equipment that provides primary insulation of employees from energized parts. It does not apply to equipment used for secondary insulation or equipment used for brush contact only.
Note 2 to subrule (3): For alternating current excitation, this current consists of the following three components:
(a) Capacitive current because of the dielectric properties of the insulating material itself.
(b) Conduction current through the volume of the insulating equipment.
(c) Leakage current along the surface of the tool or equipment.
The conduction current shall be normally negligible. For clean, dry insulating equipment, the leakage current shall be small, and the capacitive current shall predominate.
Note 3 to subrule (3): Plastic guard equipment is considered to conform to the performance requirements of this rule, if it meets, and is used in accordance with ASTM F-712 "Standard Test Methods and Specifications for

Electrically Insulating Plastic Guard Equipment for Protection of Workers," 2006 edition with 2011 supplement, as adopted in R 408.13301a.

History: 2015 MR 10, Eff. May 28, 2015.

R 408.13389 In-service care and use of electrical protective equipment.

Rule 3389. (1) Electrical protective equipment shall be maintained in a safe, reliable condition.

(2) The following specific requirements apply to rubber insulating blankets, rubber insulating covers, rubber insulating line hose, rubber insulating gloves, and rubber insulating sleeves.

(3) Maximum use voltages shall conform to those listed in Table D.

(4) An employer shall ensure that insulating equipment is inspected for damage before each day's use and immediately following any incident that can reasonably be suspected of causing damage. Insulating gloves shall be given an air test, along with the inspection.

Note to subrule (4): ASTM F-1236 "Standard Guide for Visual Inspection of Electrical Protective Rubber Products," 1996 Edition with 2012 supplement, as adopted in R 408.13301a, presents methods and techniques for the visual inspection of electrical protective equipment made of rubber. This guide also contains descriptions and photographs of irregularities that can be found in this equipment.

(5) Insulating equipment with any of the following defects shall not be used.

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

(b) Ozone cutting or ozone checking, that is, a series of interlacing cracks produced by ozone on rubber under mechanical stress.

(c) An embedded foreign object.

(d) Any of the following texture changes:

(i) Swelling.

(ii) Softening.

(iii) Hardening.

(iv) Becoming sticky or inelastic.

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

(6) An employer shall ensure that insulating equipment found to have other defects that might affect its insulating properties is removed from service and returned for testing under subrules (10) and (11) of this rule.

(7) An employer shall ensure that insulating equipment is cleaned as needed to remove foreign substances.

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

(a) Light.

(b) Temperature extremes.

(c) Excessive humidity.

(d) Ozone.

(e) Other damaging substances and conditions.

(9) Protector gloves shall be worn over insulating gloves, except under the following conditions:

(a) Protector gloves need not be used with class 0 gloves, under limited-use conditions, when small equipment and parts manipulation necessitate unusually high finger dexterity.

Note to subrule (9)(a): Persons inspecting rubber insulating gloves used under these conditions shall take extra care in visually examining them. Employees using rubber insulating gloves under these conditions shall take extra care to avoid handling sharp objects.

(b) If the voltage does not exceed 250 volts, ac, or 375 volts, direct current, protector gloves shall not be used with class 00 gloves, under limited-use conditions, when small equipment and parts manipulation necessitate unusually high finger dexterity.

Note to subrule (9)(b): Persons inspecting rubber insulating gloves used under these conditions shall take extra care in visually examining them. Employees using rubber insulating gloves under these conditions shall take extra care to avoid handling sharp objects.

(c) Any other class of glove may be used without protector gloves, under limited-use conditions, when small equipment and parts manipulation necessitate unusually high finger dexterity but only 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.

(d) Insulating gloves that have been used without protector gloves may not be reused until they have been tested under the provisions of this rule.

(10) Electrical protective equipment shall be subjected to periodic electrical tests. Test voltages and the maximum intervals between tests shall be pursuant to Table D and Table E.
(11) The test method used in this rule shall reliably indicate whether the insulating equipment can withstand the voltages involved.
Note to subrule (11): The standard electrical test methods considered as meeting this requirement are listed in Table 3.
(12) Insulating equipment failing to pass inspections or electrical tests shall not be used by employees, except as follows:
(a) Rubber insulating line hose may be used in shorter lengths with the defective portion cut off.
(b) Rubber insulating blankets may be salvaged by severing the defective area from the undamaged portion of the blanket. The resulting undamaged area shall not be smaller than 560 millimeters by 560 millimeters (22 inches by 22 inches) for class 1, 2, 3, and 4 blankets.
(c) Rubber insulating blankets shall be repaired using a compatible patch that results in physical and electrical properties equal to those of the blanket.
(d) Rubber insulating gloves and sleeves with minor physical defects, such as small cuts, tears, or punctures, shall be repaired by the application of a compatible patch. Also, rubber insulating gloves and sleeves with minor surface blemishes shall be repaired with a compatible liquid compound. The repaired area shall have electrical and physical properties equal to those of the surrounding material. Repairs to gloves shall be permitted only in the area between the wrist and the reinforced edge of the opening.
(13) An employer shall ensure that repaired insulating equipment is retested before it is used by employees.
(14) The employer shall certify that equipment has been tested pursuant to the requirements of this rule. The certification shall identify the equipment that passed the test and the date it was tested and shall be made available upon request to the department of licensing and regulatory affairs director and to MIOSHA employees or their authorized representatives.
Note to subrule (14): Marking equipment with, and entering onto logs, the results of the tests and the dates of testing are acceptable means of meeting the certification requirement.

TABLE 3
AMERICAN SOCIETY OF TESTING MATERIALS STANDARDS

STANDARD TITLE	ASTM NUMBER	EDITION	SUPPLEMENT
Standard Specification for Rubber Insulating Gloves	D-120	2009	-
Standard Specification for Rubber Insulating Matting	D-178	2001	2010
Standard Specification for Rubber Insulating Blankets	D-1048	2012	
Standard Specification for Rubber Insulating Covers	D-1049	1998	2010
Standard Specification for Rubber Insulating Line Hose	D-1050	2005	2011
Standard Specification for Rubber Insulating Sleeves	D-1051	2008	-
Standard Specification for In-Service Care of Insulating Line Hose and Covers	F-478	2009	-
Standard Specification for In-Service Care of Insulating Blankets	F-479	2006	2011

Standard Specification for In-Service Care of Insulating Gloves And Sleeves	F-496	2008	-

TABLE A
ALTERNATING CURRENT PROOF-TEST REQUIREMENTS

CLASS OF EQUIPMENT	PROOF-TEST VOLTAGE RMS V	Maximum Proof-Test Current, mA (Globes Only)			
		280-mm (11 in.) Glove	360-mm (14 in.) Glove	410-mm (16 in.) Glove	460-mm (18 in.) Glove
00	2,500	8	12	-	-
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 B
DIRECT CURRENT PROOF-TEST REQUIREMENTS

CLASS OF EQUIPMENT	PROOF-TEST VOLTAGE
00	10,000
0	20,000
1	40,000
2	50,000
3	60,000
4	70,000

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

See ASTM D-1050 "Standard Specification for Rubber Insulating Line Hose," 2005 edition with 2011 supplement and ASTM D-1049 "Standard Specification for Rubber Insulating Covers," 1998 edition with 2010 supplement, as adopted in R 408.13301a, for further information on proof tests for rubber insulating line hose and covers, respectively.

TABLE C
GLOVE TESTS – WATER LEVEL[1, 2]

CLASS OF GLOVE	ALTERNATING CURRENT PROOF TEST		DIRECT CURRENT PROOF TEST	
	mm	in	mm	in
00	38	1.5	38	1.5
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 reinforced edge of the glove to the water line, with a tolerance of ±13 mm. (±0.5 in.).

[2] If atmospheric conditions make the specified clearances impractical, the clearances may be increased by a maximum of 25 mm. (1 in.).

TABLE D
RUBBER INSULATING EQUIPMENT, VOLTAGE REQUIREMENTS

CLASS OF EQUIPMENT	MAXIMUM USE VOLTAGE[1] ALTERNATING CURRENT RMS	RETEST VOLTAGE[2] ALTERNATING CURRENT RMS	RETEST VOLTAGE[2] DIRECT CURRENT AVG
00	500	2,500	10.000
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 ac voltage (rms) classification of the protective equipment that designates the maximum nominal design voltage of the energized system that may be safely worked. The nominal design 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 under the following conditions:
(1) There is no multiphase exposure in a system area and the voltage exposure is limited to the phase-to-ground potential, or
(2) The electric 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 at least 1 minute, but no more than 3 minutes.

TABLE E
RUBBER INSULATING EQUIPMENT TEST INTERVALS

TYPE OF EQUIPMENT	WHEN TO TEST
Rubber insulating line hose	Upon indication that insulating value is suspect and after repair.

Rubber insulating covers	Upon indication that insulating value is suspect and after repair.
Rubber insulating blankets	Before first issue and every 12 months thereafter;[1] upon indication that insulating value is suspect; and after repair
Rubber insulating gloves	Before first issue and every 6 months thereafter;[1] upon indication that insulating value is suspect; after repair; and after use without protectors
Rubber insulating sleeves	Before first issue and every 12 months thereafter;[1] upon indication that insulating value is suspect; and after repair

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

History: 2015 MR 10, Eff. May 28, 2015.

FALL PROTECTION

R 408.13390
Source: 2014 AACS.

HAND PROTECTION

R 408.13392
Source: 2014 AACS.

R 408.13393
Source: 2014 AACS.

BODY PROTECTION

R 408.13394
Source: 2014 AACS.

R 408.13398
Source: 2014 AACS.

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
Source: 1997 AACS.

R 408.13553
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R 408.13555
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R 408.13556
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R 408.13557
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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
Source: 2014 AACS.

R 408.13702
Source: 1979 AC.

R 408.13703
Source: 2014 AACS.

R 408.13704
Source: 2014 AACS.

R 408.13705
Source: 2014 AACS.

R 408.13706
Source: 1979 AC.

R 408.13707
Source: 2014 AACS.

R 408.13708
Source: 1983 AACS.

R 408.13709
Source: 1979 AC.

R 408.13711
Source: 2014 AACS.

R 408.13713
Source: 1983 AACS.

R 408.13714
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.13722
Source: 1997 AACS.

R 408.13723
Source: 2014 AACS.

R 408.13724
Source: 2014 AACS.

R 408.13731
Source: 2014 AACS.

R 408.13731a
Source: 2014 AACS.

R 408.13732
Source: 1983 AACS.

R 408.13733
Source: 2014 AACS.

R 408.13734
Source: 2014 AACS.

R 408.13734a
Source: 2014 AACS.

R 408.13735
Source: 1983 AACS.

R 408.13736
Source: 1997 AACS.

R 408.13737
Source: 2014 AACS.

R 408.13738
Source: 2014 AACS.

Rule 4501
Source: 2014 AACS.

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 Scope.
Rule 3901. These rules establish the minimum electrical safety requirements that are necessary for the practical safeguarding of employees in their workplaces. These rules cover design safety standards for electric utilization systems and include all electric equipment and installations used to provide electric power and light for employee workplaces.
History: 1994 AACS; 2015 MR 9, Eff. May 12, 2015.

R 408.13902. Adoption of federal standards.
Rule 3902. (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. §1910.302 "Electric utilization systems."
(b) 29 C.F.R. §1910.303 "General."
(c) 29 C.F.R. §1910.304 "Wiring design and protection."
(d) 29 C.F.R. §1910.305 "Wiring methods, components, and equipment for general use."
(e) 29 C.F.R. §1910.306 "Specific purpose equipment and installations."
(f) 29 C.F.R. §1910.307 "Hazardous (classified) locations."
(g) 29 C.F.R. §1910.308 "Special systems."
(h) 29 C.F.R. §1910.399 "Definitions applicable to this subpart."
(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. §1910.147 "General Environmental Controls-The control of hazardous energy (lockout/tagout)," means General Industry Safety Standard Part 85 "The Control of Hazardous Energy Sources," as referenced in R 408.13905.
(4) A reference to C.F.R. §1910.332 "Electrical-Training," means General Industry Safety Standard Part 40 "Electrical Safety-Related Work Practices," as referenced in R 408.13905.
History: 1994 AACS; 2007 AACS; 2015 MR 9, Eff. May 12, 2015.

R 408.13905 Availability of adopted and referenced rules.
Rule 3905. (1) The following regulations are adopted by reference in these rules and 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:
(a) 29 C.F.R. §1910.302 "Electric Utilization Systems," February 14, 2007.
(b) 29 C.F.R. §1910.303 "General," October 29, 2008.
(c) 29 C.F.R. §1910.304 "Wiring design and protection," October 29, 2008.
(d) 29 C.F.R. §1910.305 "Wiring methods, components, and equipment for general use," February 14, 2007.
(e) 29 C.F.R. §1910.306 "Specific purpose equipment and installations," February 14, 2007.
(f) 29 C.F.R. §1910.307 "Hazardous (classified) locations," February 14, 2007.
(g) 29 C.F.R. §1910.308 "Special systems," February 14, 2007.
(h) 29 C.F.R. §1910.399 "Definitions applicable to this subpart," April 11, 2014.
(2) 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.
(3) Copies of the standards 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, 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 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/miohastandards. 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 40 "Electrical Safety-Related Work Practices," R 408.14001 to R 408.14009.
(b) General Industry Safety Standard Part 85 "The Control of Hazardous Energy Sources," R 408.18501 to R 408.18599.

(5) The appendices to these rules are informational only and are not intended to create any additional obligations or requirements not otherwise imposed by these rules or to detract from any established obligations or requirements.

History: 2015 MR 9, Eff. May 12, 2015.

PART 40. SAFETY-RELATED WORK PRACTICES

R 408.14001 Scope.

Rule 4001. (1) The provisions of these rules regulate electrical safety-related work practices for both qualified persons, that is, those who have training in avoiding the electrical hazards of working on or near exposed energized parts, and unqualified persons, that is, those who have little or no such training, who work on, near, or with any of the following installations:

(a) Installations of electric conductors and equipment within or on buildings or other structures and on other premises such as yards, carnival, parking, and other lots, and industrial substations.

(b) Installations of conductors that connect to the supply of electricity.

(c) Installations of other outside conductors on the premises.

(d) Installations of optical fiber cable where such installations are made together with electric conductors. See R 408.14002 for training requirements that apply to qualified and unqualified persons.

(2) The provisions of these rules also regulate work that is performed by unqualified persons on, near, or with the installations listed in subrule (3)(a) to (d) of this rule.

(3) The provisions of these rules do not apply to work that is performed by qualified persons on, or directly associated with, any of the following installations:

(a) Installations for the generation, control, transformation, transmission, and distribution of electric energy, including communication and metering, that are located in buildings used for such purposes or located outdoors. Work on, or directly associated with, installations of utilization equipment that is used for a purpose other than generating, transmitting, or distributing electric energy, such as installations which are in office buildings, warehouses, garages, machine shops, or recreational buildings or which are other utilization installations that are not an integral part of a generating installation, substation, or control center, is regulated pursuant to the provisions of subrule (1)(a) of this rule. Work on, or directly associated with, generation, transmission, or distribution installations includes any of the following:

(i) Work performed directly on such installations, such as repairing overhead or underground distribution lines or repairing a feed-water pump for the boiler in a generating plant.

(ii) Work that is directly associated with such installations, such as line-clearance tree trimming and replacing utility poles. See the definition of "line-clearance tree trimming" in R 408.14001b.

(iii) Work on electric utilization circuits in a generating plant provided if both of the following provisions apply:

(A) Such circuits are commingled with installations of power generation equipment or circuits.

(B) The generation equipment or circuits present greater electrical hazards than those posed by the utilization equipment or circuits, such as exposure to higher voltages or lack of overcurrent protection.

(b) Installations of communication equipment to the extent that the work is regulated by the provisions of General Industry Safety Standard Part 50 "Telecommunications," as referenced in R 408.14001a.

(c) Installations in ships, watercraft, railway rolling stock, aircraft, or automotive vehicles other than mobile homes and recreational vehicles.

(d) Installations of railways for the generation, transformation, transmission, or distribution of power that is used exclusively for operating rolling stock or installations of railways used exclusively for signaling and communication purposes.

(5) For work on or directly associated with utilization installations, an employer who complies with the work practices of General Industry Safety Standard Part 86 "Electric Power Generation, Transmission, and Distribution," as referenced in R 408.14001a, will be deemed to be in compliance with R 408.14005 and R 408.14009. However, the requirements of R 408.14002, R 408.14003, R 408.14004, and R 408.14007 apply to all work on or directly associated with utilization installations, regardless of whether the work is performed by qualified or unqualified persons.

History: 1992 AACS; 2015 MR 7, Eff. April 13, 2015.

R 408.14001a Referenced standards.

Rule 4001a. 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 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/miohastandards. 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 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.
(b) General Industry Safety Standard Part 37 "Accident Prevention Signs and Tags," R 408.13701 to R 408.13736.
(c) General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," R 408.13901 to R 408.13905.
(d) General Industry Safety Standard Part 50 "Telecommunications," R 408.15001 to R 408.15004.
(e) General Industry Safety Standard Part 86 "Electric Power Generation, Transmission, and Distribution," R 408.18601 to R 408.18605.
History: 2015 MR 7, Eff. April 13, 2015.

R 408.14001b Definition.
Rule 4001b. "Line-clearance tree trimmer," means an employee who, through related training or on-the- job experience, or both, is familiar with the special techniques and hazards involved in line-clearance tree trimming.
Note 1: An employee who is regularly assigned to a line-clearance tree-trimming crew and who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a line-clearance tree trimmer is considered to be a line-clearance tree trimmer for the performance of those duties.
Note 2: A line-clearance tree trimmer is not considered to be a "qualified employee" unless he or she has the training required for a qualified employee according to General Industry Safety Standard Part 86 "Electric Power Generation, Transmission, and Distribution," as referenced in R 408.14001a. However, according to General Industry Safety Standard Part 86 "Electric Power Generation, Transmission, and Distribution," a line-clearance tree trimmer is considered to be a "qualified employee". Tree trimming performed by these "qualified employees" shall not be subject to the electrical safety-related work practice requirements contained in these rules. Also see R 408.14002 for information regarding the training an employee must have to be considered a qualified employee under these rules.
History: 2015 MR 7, Eff. April 13, 2015.

R 408.14002 Training requirements.
Rule 4002. (1) The training requirements contained in this rule apply to employees who face a risk of electric shock that is not reduced to a safe level by the electrical installation requirements of General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 408.14001a.
(2) Employees who are in occupations that are listed in table 1 face such a risk of electric shock and are required to be trained. Other employees who also may reasonably be expected to face a comparable risk of injury due to electric shock or other electrical hazards shall also be trained.
(3) Employees shall be trained in, and familiar with, the safety-related work practices required by these rules that pertain to their respective job assignments.
(4) Employees who are regulated by the provisions of subrules (1) to (3) of this rule, but who are not qualified persons, shall also be trained in, and familiar with, any electrically related safety practices which are not specifically addressed by these rules, but which are necessary for employee safety.
(5) Qualified persons, that is, those who are permitted to work on or near exposed energized parts, shall, at a minimum, be trained in, and familiar with, all of the following:
(a) The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.
(b) The skills and techniques necessary to determine the nominal voltage of exposed live parts.
(c) The clearance distances specified in R 408.14005 and the corresponding voltages to which the qualified person will be exposed.
For the purposes of these rules, a person shall have the training that is required by the provisions of this subrule to be considered a qualified person. Qualified persons whose work on energized equipment involves either direct contact or contact by means of tools or materials shall also have the training that is needed to meet the requirements of R 408.14005(2).
(6) The training that is required by this rule shall be classroom or on-the-job training. The degree of training

provided shall be determined by the risk to the employee.
(7) Table 1 reads as follows:

TABLE 1
TYPICAL OCCUPATIONAL CATEGORIES OF EMPLOYEES WHO FACE
A HIGHER THAN NORMAL RISK OF ELECTRICAL ACCIDENT

Occupation:
Blue collar supervisors*
Electrical and electronic engineers*
Electrical and electronic equipment assemblers*
Electrical and electronic technicians*
Electricians
Industrial machine operators*
Material handling equipment operators*
Mechanics and repairers*
Painters*
Riggers and roustabouts*
Stationary engineers*
Welders
*Workers in these groups do not need to be trained if their work or the work of those they supervise does not bring them or the employees they supervise close enough to exposed parts of electric circuits that operate at 50 volts or more to ground for a hazard to exist.

History: 1992 AACS; 2015 MR 7, Eff. April 13, 2015.

R 408.14003
Source: 1992 AACS.

R 408.14004 Working on or near exposed de-energized parts.
Rule 4004. (1) This rule applies to work on exposed de-energized parts and to work that is near enough to exposed de-energized parts to expose an employee to any electrical hazard the parts present. Conductors and parts of electric equipment that have been de-energized, but have not been locked out in accordance with the provisions of subrule (2) of this rule, shall be treated as energized parts and the provisions of R 408.14005 apply to work on or near such parts.
(2) While any employee is exposed to contact with parts of fixed electrical equipment or circuits which have been de-energized, the circuits energizing the parts shall be locked out in accordance with the requirements of this rule. The requirements shall be followed in the order in which they are presented. As used in this section, "fixed electrical equipment" means equipment that is fastened in place or connected by permanent wiring methods. Lockout procedures that comply with current lockout requirements will also be deemed to comply with the requirements of this rule. Where lockout is required by this part, if a lock cannot be employed or if the employer can demonstrate that tagging procedures will provide safety equivalent to a lock, a tag may be used without a lock. In such cases a tag shall be in compliance with all of the following requirements:
(a) A tag shall be of a distinctive employer design that clearly prohibits unauthorized energizing of the circuits and removal of the tag.
(b) A tag shall not be used without an additional safety measure, such as the removal of an isolating circuit element, the blocking of a controlling switch, or the opening of an extra disconnecting device.
(c) All persons who have access to controlling devices shall be trained in, and familiar with, the employer's tagging procedures.
(d) Meet the requirements of General Industry Safety Standard Part 37 “Accident Prevention Signs and Tags,” as referenced in R 408.14001a.

(3) An employer shall maintain a copy of the procedures outlined in subrule (2) of this rule and shall make it available for inspection by employees and by the director of the department of licensing and regulatory affairs, and his or her authorized representatives. The written procedures may be in the form of a copy of the provisions of subrule (2) of this rule.
(4) Safe procedures for de-energizing circuits and equipment shall be determined before circuits or equipment are de-energized.
(5) The circuits and equipment to be worked on shall be disconnected from all electric energy sources. Control circuit devices, such as push buttons, selector switches, and interlocks, shall not be used as the sole means for de-energizing circuits or equipment. Interlocks for electric equipment shall not be used as a substitute for lockout.
(6) Stored electric energy which might endanger personnel shall be released. Capacitors shall be discharged and high-capacitance elements shall be short-circuited and grounded if the stored electric energy might endanger personnel. If the capacitors or associated equipment is handled in meeting this requirement, the capacitors and associated equipment shall be treated as energized.
(7) Stored nonelectrical energy in devices that could reenergize electric circuit parts shall be blocked or relieved to the extent that the circuit parts cannot be accidentally energized by the devices.
(8) A lock shall be placed on each disconnecting means that is used to de-energize circuits and equipment on which work is to be performed. The lock shall be attached to prevent a person from operating the disconnecting means unless undue force or tools are used.
(9) The requirements of this rule shall be met before any circuits or equipment can be considered to be de-energized and before any circuits or equipment can be worked on. A qualified person shall operate the equipment operating controls or otherwise verify that the equipment cannot be restarted. A qualified person shall use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and shall verify that the circuit elements and equipment parts are de-energized. The test shall also determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage backfeed, even though specific parts of the circuit have been de-energized and presumed to be safe. If the circuit to be tested is more than 600 volts, nominal, the test equipment shall be checked for proper operation immediately before and immediately after this test.
(10) All of the following requirements shall be met, in the order presented, before circuits or equipment is reenergized, even temporarily:
(a) A qualified person shall conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed so that the circuits and equipment can be safely energized.
(b) Employees who are exposed to the hazards associated with reenergizing the circuit or equipment shall be warned to stay clear of circuits and equipment.
(c) Each lock shall be removed by the employee who applied it or by an employee who is under his or her direct supervision. However, if the employee who applied the lock is absent from the workplace, then the lock, if removed, shall be removed by a qualified person who is designated to perform this task if both of the following provisions are complied with:
(i) The employer ensures that the employee who applied the lock is not available at the workplace.
(ii) The employer ensures that the employee who applied the lock is aware that the lock has been removed before he or she resumes work at that workplace.
(d) There shall be a visual determination that all employees are clear of the circuits and equipment.
History: 1992 AACS; 2015 MR 7, Eff. April 13, 2015.

R 408.14005 Working on or near exposed energized parts.
Rule 4005. (1) This rule applies to work performed on exposed energized parts that involve either direct contact or contact by means of tools or materials and to work that is performed near enough to energized parts for employees to be exposed to any hazard the parts present.
(2) Only qualified persons may work on electric circuit parts or equipment that have not been de-energized under the procedures specified in R 408.14004. Such persons shall be trained to work safely on energized circuits and shall be familiar with the proper use of all of the following:
(a) Special precautionary techniques.
(b) Personal protective equipment.
(c) Insulating and shielding materials.

(d) Insulated tools.
(e) Testing equipment.
(3) If work is to be performed near overhead power lines the lines shall be de-energized and grounded or other protective measures shall be provided before work is started. If the lines are to be de-energized arrangements shall be made with the person or organization that operates or controls the electric circuits to de-energize and ground them. If protective measures are provided such as guarding, isolating or insulating these precautions shall prevent an employee from directly contacting such lines with any part of his or her body and from indirect contact through conductive materials tools or equipment. The work practices used by qualified persons who install insulating devices on overhead power transmission or distribution lines are not regulated by these rules. Unqualified persons are prohibited from performing this type of work.
(4) When an unqualified person is working in an elevated position near overhead lines, the person shall be located so that the person and the longest conductive object he or she may be using cannot come closer to any unguarded, energized overhead line than the following distances:
(a) For voltages to ground of 50 kilovolts (kV) or less - 10 feet (ft.) (305 centimeters (cm)).
(b) For voltages to ground of more than 50 kV - 10 ft. (305 cm), plus 4 inches (in.) (10 cm) for every 10kV over 50kV.
(5) When an unqualified person is working on the ground in the vicinity of overhead lines, the person shall not bring any conductive object closer to unguarded, energized overhead lines than the distances specified in subrule (4) of this rule. For voltages that are normally encountered with overhead power lines, objects which do not have an insulating rating for the voltage involved are considered to be conductive.
(6) When a qualified person is working in the vicinity of overhead power lines, whether in an elevated position or on the ground, the person shall not approach, or take any conductive object that does not have an approved insulating handle, closer to exposed energized parts than the distances shown in table 2, unless 1 of the following provisions is complied with:
(a) The person is insulated from the energized part by utilizing personal protective equipment that is in compliance with General Industry Safety Standard Part 33 “Personal Protective Equipment,” as referenced in R 408.14001a.
(b) The energized part is insulated from all other conductive objects at a different potential and from the person.
(c) The person is insulated from all conductive objects at a potential that is different from that of the energized part.
(7) Table 2 reads as follows:

TABLE 2

APPROACH DISTANCE FOR QUALIFIED EMPLOYEES
ALTERNATING CURRENT

Voltage Range (Phase to Phase) Distance	Minimum Approach
300 volts (V) and less	Avoid contact
More than 300 V, but not more than 750V	1 ft. 0 in. (30.5 cm)
More than 750V, but not more than 2kV	1 ft. 6 in. (46 cm)
More than 2kV, but not more than 15kV	2 ft. 0 in. (61 cm)
More than 15kV, but not more than 37kV	3 ft. 0 in. (91 cm)
More than 37kV, but not more than 87.5kV	3 ft. 6 in. (107 cm)
More than 87.5kV, but not more than 121kV	4 ft. 0 in. (122 cm)
More than 121kV, but not more than 140 kV	4 ft. 6 in. (137 cm)

(8) Any vehicle or mechanical equipment that is capable of having parts of its structure elevated near energized overhead power lines shall be operated so that a clearance of 10 ft. (305 cm) is maintained. If the voltage is more than 50kV, the clearance shall be increased 4 in. (10 cm) for every 10kV over that voltage. However, under any of the following conditions, the clearance may be reduced:
(a) If the vehicle is in transit with its structure lowered, the clearance may be reduced to 4 ft. (122 cm). If the voltage is more than 50kV, the clearance shall be increased 4 in. (10 cm) for every 10kV over that voltage.
(b) If insulating barriers are installed to prevent contact with the lines, and if the barriers are rated for the voltage of

the line being guarded and are not a part of, or an attachment to, the vehicle or its raised structure, the clearance may be reduced to a distance within the designed working dimensions of the insulating barrier.
(c) If the equipment is an aerial lift that is insulated for the voltage involved, and if the work is performed by a qualified person, the clearance between the uninsulated portion of the aerial lift and the power line may be reduced to the distance specified in table 2.
(9) An employee who is standing on the ground shall not contact the vehicle or mechanical equipment or any of its attachments, unless either of the following provisions is complied with:
(a) The employee uses protective equipment that is rated for the voltage.
(b) The equipment is located so that uninsulated parts of that portion of its structure that provides a conductive path to an employee on the ground cannot come closer to the line than the distances permitted in table 2.
(10) If any vehicle or mechanical equipment that is capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding shall not stand at the grounding location if there is a possibility of overhead line contact. Additional precautions, such as the use of barricades or insulation, shall be taken to protect employees from hazardous ground potentials, depending on earth resistivity and fault currents, which can develop within the first few feet or more outward from the grounding point.
(11) An employee shall not enter a space that contains exposed energized parts, unless illumination is provided to enable the employee to perform the work safely.
(12) Where lack of illumination or an obstruction precludes the observation of the work to be performed, an employee shall not perform tasks near exposed energized parts. An employee shall not reach blindly into areas which may contain energized parts.
History: 1992 AACS; 2015 MR 7, Eff. April 13, 2015.

R 408.14006
Source: 1992 AACS.

R 408.14007
Source: 1992 AACS.

R 408.14008 Electric power and lighting circuits.
Rule 4008. (1) Load-rated switches, circuit breakers, or other devices specifically designed as disconnecting means shall be used for the opening, reversing, or closing of circuits under load conditions. Cable connectors that are not of the load-break type, fuses, terminal lugs, and cable splice connections shall not be used for such purposes, except in an emergency.
(2) After a circuit is de-energized by a circuit protective device, the circuit shall not be manually reenergized until it has been determined that the equipment and circuit can be safely energized. The repetitive manual reclosing of circuit breakers or the reenergizing of circuits through replaced fuses is prohibited. When it can be determined from the design of the circuit and the overcurrent devices involved that the automatic operation of a device was caused by an overload rather than a fault condition, an examination of the circuit or connected equipment is not needed before the circuit is reenergized.
(3) Overcurrent protection of circuits and conductors shall not be modified, even on a temporary basis, beyond that permitted pursuant to the provisions of General Industry Safety Standard Part 39 “Design Safety Standards for Electrical Systems,” as referenced in R 408.14001a, which are the installation safety requirements for overcurrent protection.
(4) Only a qualified person shall perform testing work on electric circuits or equipment.
(5) Test instruments and equipment and all associated test leads, cables, power cords, probes, and connectors shall be visually inspected for external defects and damage before the instruments and equipment are used. If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item shall be removed from service, and an employee shall not use the item until necessary repairs and tests to render the equipment safe have been made.
(6) Test instruments and equipment and their accessories shall be rated for the circuits and equipment to which they will be connected and shall be designed for the environment in which they will be used.
(7) Where flammable materials are present only occasionally, electric equipment that is capable of igniting the materials shall not be used, unless measures are taken to prevent hazardous conditions from developing. Such

materials include flammable gases, vapors, or liquids, combustible dust, and ignitable fibers or flyings. Electrical installation requirements for locations where flammable materials are present on a regular basis are contained in the provisions of General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 408.14001a.

History: 1992 AACS; 2015 MR 7, Eff. April 13, 2015.

R 408.14009 Safeguards for personnel working in electrical hazard areas.

Rule 4009. (1) An employee who works in an area where there are recognized electrical hazards shall be provided with, and shall use, electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed. The appropriateness of the protective equipment shall be determined pursuant to the provisions of General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.14001a.

(2) Protective equipment shall be maintained in a safe, reliable condition and shall be periodically inspected or tested, as required by the provisions of General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.14001a.

(3) If the insulating capability of protective equipment may be subject to damage during use, the insulating material shall be protected. For example, an outer covering of leather is sometimes used for the protection of rubber insulating material.

(4) An employee shall wear nonconductive head protection pursuant to the provisions of General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.14001a, if there is a danger of head injury from electric shock or burns due to contact with exposed energized parts.

(5) An employee shall wear protective equipment for the eyes or face if there is a danger of injury to the eyes or face from electric arcs or flashes or from flying objects that result from electrical explosion.

(6) When working near exposed energized conductors or circuit parts, each employee shall use insulated tools or handling equipment if the tools or handling equipment might make contact with the conductors or parts. If the insulating capability of insulated tools or handling equipment is subject to damage, the insulating material shall be protected.

(7) Fuse-handling equipment that is insulated for the circuit voltage shall be used to remove or install fuses when the fuse terminals are energized.

(8) Ropes and handlines that are used near exposed energized parts shall be nonconductive.

(9) Protective shields, protective barriers, or insulating materials shall be used to protect each employee from shock, burns, or other electrically related injuries while that employee is working near exposed energized parts which might be accidentally contacted or where dangerous electric heating or arcing might occur. When normally enclosed energized parts are exposed for maintenance or repair, they shall be guarded to protect unqualified persons from contact with the energized parts.

(10) The following alerting techniques shall be used to warn and protect employees from hazards which could cause injury due to electric shock, burns, or the failure of electric equipment parts:

(a) Safety signs, safety symbols, or accident prevention tags shall be used where necessary to warn employees about electrical hazards which may endanger them, as required by the provisions of General Industry Safety Standard Part 37 "Accident Prevention Signs and Tags," as referenced in R 408.14001a.

(b) Barricades shall be used in conjunction with safety signs where it is necessary to prevent or limit employee access to work areas that expose employees to uninsulated energized conductors or circuit parts. Conductive barricades shall not be used where they might cause an electrical contact hazard.

(c) If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant shall be stationed to warn and protect employees.

History: 1992 AACS; 2015 MR 7, Eff. April 13, 2015.

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 408.14502 MIOSHA referenced standards.
Rule 4502. 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 Regulatory Services 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 23 "Hydraulic Power Presses," R 408.12301 to R 408.12373.
(b) General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.
History: 2015 MR 10, Eff. May 29, 2015.

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 Personal protective equipment.
Rule 4511. (1) Eye protection with side shields shall be provided and used by an employee operating a die casting machine or tending a melting or holding furnace, as prescribed in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.14502.
(2) Except for the operator of a cold chamber machine, a face shield shall be provided and used by an employee handling molten metals or tending a furnace, as prescribed in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.14502.
(3) An employee manually tending a die casting machine or a melting or holding furnace shall wear clothing which will cover the arms to hands, legs to feet and have the feet covered with hard soled shoes. Spats or leggings shall be provided to the employee, at no expense to the employee and used by an employee manually ladling a cold chamber die casting machine, tending a melting or holding furnace or transferring molten metal unless the employee wears moulders shoes with pant legs covering the tops.
(4) Other personal protective equipment required for the hazards as described in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.14502, shall be provided by the employer to an employee, at no expense to the employee.
(5) Open sandals, cloth shoes, exposed rings, or necklaces shall not be worn in the work areas. Rings covered by gloves or tape shall not be regarded as exposed.
History: 1979 AC; 1983 AACS; 2015 MR 10, Eff. May 29, 2015.

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 Machine controls.
Rule 4522. (1) An operating control on a machine, except a stop button, shall be so located or guarded to prevent accidental contact.
(2) A machine requiring more than 1 operator shall have controls for each operator which shall be activated concurrently before the machine will operate as prescribed in R 408.14541(1).
(3) A machine shall be provided at each work station with a non-concealed emergency stop device distinguished by its size or color.
(4) A machine shall be equipped so that upon power failure it will not automatically restart upon restoration of the power.
(5) An automatic die casting machine shall be equipped with a time delay device or circuit that will prevent the machine from recycling if more than 2 seconds delay occurs between the automatic demand for recycle and its commencement. It shall be necessary for the operator to reset the controls before the machine will restart. Other equivalent means may be used that will prevent recycling until the machine is cleared if the intent of this subrule is met.
(6) A safety interlock, exposed to contact, shall be guarded against accidental actuation.
History: 1979 AC; 2015 MR 10, Eff. May 29, 2015.

R 408.14523
Source: 1979 AC.

R 408.14525
Source: 1979 AC.

R 408.14527 Rescinded.
History: 1979 AC; 2015 MR 10, Eff. May 29, 2015.

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 Sprue cutting machines.
Rule 4555. A sprue cutting machine shall be equipped with a point of operation guard or point of operation device as prescribed in General Industry Safety Standard Part 23 "Hydraulic Power Presses," as referenced in R 408.14502.
History: 1979 AC; 2013 AACS; 2015 MR 10, Eff. May 29, 2015.

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

Source: 2014 AACS.

R 408.14904
Source: 2014 AACS.

R 408.14905
Source: 2014 AACS.

R 408.14906
Source: 2014 AACS.

R 408.14907
Source: 1979 AC.

R 408.14908
Source: 2014 AACS.

R 408.14911
Source: 2014 AACS.

R 408.14912
Source: 1979 AC.

R 408.14913
Source: 1998-2000 AACS.

R 408.14921
Source: 2014 AACS.

R 408.14922
Source: 2014 AACS.

R 408.14923
Source: 2014 AACS.

R 408.14924
Source: 2014 AACS.

R 408.14925
Source: 2014 AACS.

R 408.14926
Source: 2014 AACS.

WIRE ROPE SLINGS

R 408.14931
Source: 2014 AACS.

R 408.14932
Source: 2014 AACS.

R 408.14933
Source: 2014 AACS.

R 408.14934
Source: 2014 AACS.

R 408.14935
Source: 2014 AACS.

METAL MESH SLINGS

R 408.14941
Source: 2014 AACS.

R 408.14942
Source: 2014 AACS.

R 408.14943
Source: 2014 AACS.

R 408.14944
Source: 2014 AACS.

R 408.14945
Source: 2014 AACS.

NATURAL AND SYNTHETIC FIBER ROPE SLINGS

R 408.14951
Source: 2014 AACS.

R 408.14952
Source: 2014 AACS.

R 408.14953
Source: 2014 AACS.

R 408.14954
Source: 2014 AACS.

SYNTHETIC WEB SLINGS

R 408.14961
Source: 2014 AACS.

R 408.14962
Source: 2014 AACS.

R 408.14963
Source: 2014 AACS.

R 408.14964
Source: 2014 AACS.

R 408.14965

Source: 2014 AACS.

R 408.15001 Adoption of standard by reference.
Rule 5001. (1) The provisions of federal occupational safety and health administration regulation 29 C.F.R. 1910.268 "Telecommunications," effective January 5, 2005, are adopted by reference in these rules, except as noted in subrule (2) of this rule.
(2) The subrules 29 C.F.R. §1910.268(a)(2)(i) and (a)(3) are excepted.
(3) The words "for purposes of 29 CFR 1910.34," as used in 29 C.F.R. §1910.268(b)(1)(iii), are excepted.
(4) A reference to §1910.110 "Storage and handling of liquefied petroleum gases," means General Industry Safety Standard Part 56 "Storage and Handling of Liquefied Petroleum Gases," as referenced in R 408.15004.
(5) The words "Assistant Secretary for Occupational Safety and Health," means director of the department of licensing and regulatory affairs.
(6) A reference to §1910.137, "Electrical protective devices," means General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.15004.
(7) A reference to "Subpart D of this part," means General Industry Safety Standard Part 3 "Fixed Ladders," and General Industry Safety Standard Part 4 "Portable Ladders," as referenced in R 408.15004.
(8) A reference to §1910.25(c)(5), means Construction Safety Standard Part 30 "Telecommunications," as referenced in R 408.15004.
(9) A reference to §1910.133, means General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.15004.
(10) A reference to subpart Q, means General Industry Safety Standard Part 12 "Welding and Cutting," as referenced in R 408.15004.
(11) A reference to "Subpart W of Part 1926 of this title," means Construction Safety Standard Part 13 "Mobile Equipment," as referenced in R 408.15004.
(12) A reference to American National Standards Institute Standard ANSI J6.6 – 1971 edition, means American Society for Testing and Materials Standard ASTM D 120 "Standard Specification for Rubber Insulating Gloves," 1977 edition, as referenced in R 408.15004.
(13) A reference to §1910.97, means Occupational Health Standard Part 382 "Nonionizing Radiation," as referenced in R 408.15004.
(14) The adopted federal regulations have the same force and effect as a rule promulgated under the Michigan Occupational Safety and Health Act, 1974 PA Act No. 154, MCL 408.1001 to 408.1094.
History: 2005 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.15002 Applicability.
Rule 5002. Operations or conditions not specifically covered by these rules are subject to all the applicable standards promulgated by the Michigan Occupational Safety and Health Act (MIOSHA).
History: 2005 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.15003 Employer responsibility.
Rule 5003. Where personal protective equipment is required by 29 C.F.R. §1910.268 "Telecommunications," as adopted by reference in these rules, the personal protective equipment shall be provided for as prescribed in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.15004.
History: 2005 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.15004 Availability of documents.
Rule 5004. (1) The federal regulations adopted by reference 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 federal regulations 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.
(3) The federal regulations 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,

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 standards are referenced in these rules and are available from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado, 80112, telephone number 1-800-854-7179, website: www.global.ihs.com, at a cost as of the time of adoption of these rules, as stated in this rule:
(a) American Society for Testing and Materials Standard ASTM B117 "Standard Practice for Operating Salt Spray (Fog) Apparatus," 1964 edition. Cost: $40.00.
(b) ASTM D120 "Standard Specification for Rubber Insulating Gloves," 1977 edition. Cost: $54.00.
(c) American National Standards Institute Standard ANSI A92.2 "Vehicle-Mounted Elevating and Rotating Devices," 1969 edition. Cost: $20.00.
(d) ANSI B30.6 "Safety Code for Derricks," 1969 edition. Cost: $40.00.
(e) ANSI Z89.2 "Industrial Protective Helmets for Electrical Workers," 1971 edition. Cost: $25.00.
(5) 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 Regulatory Services 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 13 "Mobile Equipment," R 408.41301.
(b) General Industry Safety Standard Part 3 "Fixed Ladders," R 408.10301 to R 408.10372.
(c) General Industry Safety Standard Part 4 "Portable Ladders," R 408.10401 to R 408.10456.
(d) General Industry Safety Standard Part 12 "Welding and Cutting," R 408.11201 to R 408.11299.
(e) General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.
(f) General Industry Safety Standard Part 56 "Storage and Handling of Liquefied Petroleum Gases," R 408.15601.
(g) Occupational Health Standard Part 382 "Nonionizing Radiation," R 325.60701 to R 325.60704.
History: 2005 AACS; 2015 MR 8, Eff. April 29, 2015.

R 408.15005
Source: 1979 AC.

PART 51. LOGGING

GENERAL PROVISIONS

R 408.15101
Source: 1996 AACS.

R 408.15102
Source: 2014 AACS.

R 408.15106
Source: 1996 AACS.

R 408.15107
Source: 1996 AACS.

R 408.15108
Source: 1996 AACS.

EMPLOYER-EMPLOYEE RESPONSIBILITIES

R 408.15111
Source: 1979 AC.

R 408.15112
Source: 2014 AACS.

R 408.15113
Source: 1989 AACS.

R 408.15114
Source: 1996 AACS.

R 408.15116
Source: 1989 AACS.

R 408.15117
Source: 2014 AACS.

R 408.15118
Source: 2014 AACS.

R 408.15119
Source: 2014 AACS.

PROTECTIVE CLOTHING

R 408.15120
Source: 1996 AACS.

R 408.15121
Source: 1979 AC.

R 408.15122
Source: 2014 AACS.

R 408.15123
Source: 2014 AACS.

R 408.15124
Source: 1996 AACS.

R 408.15125
Source: 2014 AACS.

R 408.15126
Source: 1974 AC.

R 408.15127
Source: 2014 AACS.

PROTECTIVE EQUIPMENT

HAND-HELD CHAIN SAWS

R 408.15130
Source: 1996 AACS.

R 408.15131
Source: 2014 AACS.

R 408.15132
Source: 1997 AACS.

R 408.15133
Source: 1997 AACS.

R 408.15134
Source: 1997 AACS.

R 408.15135
Source: 1997 AACS.

R 408.15136
Source: 2014 AACS.

OTHER SAWS

R 408.15137
Source: 1989 AACS.
R 408.15138
Source: 1989 AACS.

LOGGING EQUIPMENT

R 408.15141
Source: 1979 AC.

R 408.15142
Source: 1996 AACS.

R 408.15143
Source: 1989 AACS.

R 408.15144
Source: 2014 AACS.

R 408.15145
Source: 1989 AACS.

R 408.15146
Source: 2014 AACS.

R 408.15147
Source: 1997 AACS.

R 408.15148
Source: 1996 AACS.

R 408.15149
Source: 2014 AACS.

R 408.15150
Source: 1996 AACS.

FELLING, LIMBING, BUCKING, AND SKIDDING

R 408.15151
Source: 1996 AACS.

R 408.15152
Source: 1979 AC.

R 408.15153
Source: 1989 AACS.

R 408.15154
Source: 1989 AACS.

R 408.15155
Source: 1996 AACS.

R 408.15156
Source: 1996 AACS.

R 408.15157
Source: 1996 AACS.

R 408.15158
Source: 1996 AACS.

R 408.15159
Source: 1997 AACS.

LOADING AND DECKING

R 408.15161
Source: 1997 AACS.

R 408.15162
Source: 1997 AACS.

R 408.15163
Source: 1997 AACS.

R 408.15164
Source: 1997 AACS.

R 408.15165
Source: 1979 AC.

R 408.15166
Source: 1979 AC.

R 408.15167
Source: 2014 AACS.

TRUCK EQUIPMENT AND OPERATION

R 408.15171
Source: 1997 AACS.

R 408.15172

Source: 1979 AC.

R 408.15173
Source: 1997 AACS.

R 408.15174
Source: 1997 AACS.

R 408.15175
Source: 1996 AACS.

R 408.15180
Source: 1989 AACS.

R 408.15181
Source: 1989 AACS.

PART 52. SAWMILLS

R 408.15201
Source: 1979 AC.

R 408.15202
Source: 2014 AACS.

R 408.15203
Source: 1989 AACS.

R 408.15204
Source: 1989 AACS.

R 408.15205
Source: 2014 AACS.

R 408.15206
Source: 1979 AC.

R 408.15207
Source: 1989 AACS.

R 408.15208
Source: 1979 AC.

R 408.15209
Source: 2014 AACS.

R 408.15211
Source: 2014 AACS.

R 408.15212
Source: 1989 AACS.

R 408.15212a
Source: 2014 AACS.

R 408.15213

Source: 1979 AC.

R 408.15221
Source: 2014 AACS.

R 408.15222
Source: 1989 AACS.

R 408.15223
Source: 2014 AACS.

R 408.15224
Source: 1979 AC.

R 408.15225
Source: 1989 AACS.

R 408.15226
Source: 1989 AACS.

R 408.15227
Source: 1979 AC.

R 408.15228
Source: 1979 AC.

R 408.15229
Source: 2014 AACS.

R 408.15230
Source: 1979 AC.

SPECIFIC EQUIPMENT

R 408.15231
Source: 2014 AACS.

R 408.15232
Source: 1989 AACS.

R 408.15233
Source: 1989 AACS.

R 408.15234
Source: 1989 AACS.

R 408.15241
Source: 1989 AACS.

R 408.15242
Source: 1989 AACS.

R 408.15243
Source: 2014 AACS.

R 408.15244

Source: 2014 AACS.

R 408.15245
Source: 1979 AC.

R 408.15246
Source: 1989 AACS.

R 408.15247
Source: 1989 AACS.

R 408.15251
Source: 2014 AACS.

R 408.15252
Source: 2014 AACS.

R 408.15253
Source: 1979 AC.
R 408.15254
Source: 2014 AACS.

PALLET EQUIPMENT

R 408.15261
Source: 1979 AC.

R 408.15262
Source: 1989 AACS.

LOG AND MATERIAL HANDLING AND STORAGE

R 408.15271
Source: 1979 AC.

R 408.15272
Source: 1979 AC.

R 408.15273
Source: 2014 AACS.

R 408.15274
Source: 1983 AACS.

R 408.15275
Source: 2014 AACS.

R 408.15276
Source: 1979 AC.

R 408.15277
Source: 1989 AACS.

R 408.15280
Source: 2014 AACS.

R 408.15282
Source: 2014 AACS.

R 408.15284
Source: 2014 AACS.

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
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R 408.15338
Source: 1979 AC.

R 408.15341
Source: 1979 AC.

R 408.15342
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R 408.15343
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R 408.15344
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R 408.15345
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R 408.15346
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R 408.15347
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R 408.15348
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R 408.15351
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R 408.15352
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R 408.15353
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R 408.15354
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R 408.15355
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R 408.15356
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R 408.15357
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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 Adoption of standard by reference.
Rule 5501. (1) The provisions of federal occupational safety and health administration regulation C.F.R. 1910.109 "Explosives and blasting agents" effective June 18, 1998, is adopted by reference in these rules.
(2) The standard adopted in this rule is 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.
(3) The standard adopted in this rule is available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.
(4) The standard adopted in this rule 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, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost of the standard plus $20.00 for shipping and handling.
History: 1982 AACS; 1998-2000 AACS; 2015 MR 8, Eff. April 29, 2015.

PART 56. STORAGE AND HANDLING OF LIQUEFIED PETROLEUM GASES

R 408.15601 Adoption of standard by reference.
Rule 5601. (1) The provisions of federal occupational safety and health administration regulation C.F.R. 1910.110 "Storage and handling of liquefied petroleum gases" effective December 14, 2007, is adopted by reference in these rules.

(2) The standard adopted in this rule is 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.
(3) The standard adopted in this rule is available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.
(4) The standard adopted in this rule 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, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost of the standard plus $20.00 for shipping and handling.
History: 1982 AACS; 1998-2000 AACS; 2015 MR 8, Eff. April 30, 2015.

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 408.15903 MIOSHA referenced standard.
Rule 5903. The Michigan occupational safety and health (MIOSHA) standard General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398, is referenced in these rules. Up to 5 copies of is standard may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, 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.
History: 2015 MR 7, Eff. April 14, 2015.

R 408.15911 Rescinded.
History: 1979 AC; 2015 MR 7, Eff. April 14, 2015.

R 408.15914
Source: 1979 AC.

R 408.15915 Personal protective equipment; loose clothing.
Rule 5915. (1) Except during an emergency operation, eye protection, as prescribed in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.15903, shall be provided and used by a ground crew employee while working on an operation covered by these rules when there is exposure to rotor wash.
(2) Except during an emergency operation, head protection shall be provided and used as prescribed in General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.15903, and shall be secured by a chin strap by a ground crew employee working on an operation covered by this part when lifting or landing a load.
(3) Loose fitting clothing likely to flap in rotor downwash, and thus be snagged on the hoist line, shall not be worn.
History: 1979 AC; 1983 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.15916
Source: 1979 AC.

R 408.15921
Source: 1979 AC.

R 408.15922 Providing and training ground employees; checking size, weight, and connection of load; tag line, pressed sleeve, hoist wire, or other gear; static charge; rated capacity of load line.
Rule 5922. (1) Ground employees shall be provided, and they shall be properly trained to ensure that helicopter loading and unloading operations can be performed safely.
(2) The size and weight of loads, and the manner in which loads are connected to the helicopter, shall be checked by the pilot in command. A lift shall not be made if the helicopter pilot in command determines that the lift cannot be made safely.
(3) A load shall be properly slung. A tag line shall be of a length that does not permit it being drawn up into the rotors. A pressed sleeve, swedged eye, or equivalent means shall be used for a freely suspended load to prevent a hand splice from spinning open or a cable clamp from loosening.
(4) A hoist wire or other gear, except for a pulling line or conductor that is allowed to "pay out" from a container or roll off a reel, shall not be attached to any fixed ground structure or allowed to foul on any fixed structure.
(5) The static charge on the suspended load shall be dissipated with a grounding device before ground personnel touch the suspended load, unless protective rubber gloves are being worn when touching the load
(6) A load line shall have a working load rating of not less than the rated capacity of the helicopter.
History: 1979 AC; 2015 MR 7, Eff. April 14, 2015.

R 408.15923 Cargo hooks.
Rule 5923. (1) An electrically operated cargo hook shall have the electrical activating device so designed and installed as to prevent inadvertent operation.
(2) A cargo hook shall be equipped with an emergency mechanical control for releasing the load.
(3) The employer shall ensure that a hook is tested prior to operation each day by a competent person to determine that the electrical and mechanical releases function properly.
History: 1979 AC; 2015 MR 7, Eff. April 14, 2015.

R 408.15931
Source: 1979 AC.

PART 62. PLASTIC MOLDING

R 408.16201
Source: 1992 AACS.

R 408.16202 Referenced standards.
Rule 6202. 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 Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 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 3 “Fixed Ladders,” R 408.10301 to R 408.10372.
(c) General Industry Safety Standard Part 4 “Portable Ladders,” R 408.10401 to R 408.10456.
(d) General Industry Safety Standard Part 27 “Woodworking Machinery,” R 408.12701 to R 408.12799.
(e) General Industry Safety Standard Part 85 “The Control of Hazardous Energy Sources,” R 408.18501 to R 408.18599.
History: 2015 MR 7, Eff. April 13, 2015.

R 408.16204 Definitions; B to E.
Rule 6204. (1) "Blow molding machine" means a plasticizer and a clamping unit that work in conjunction with each other so that the plasticizer produces molten plastic which is blown by air, gas, or liquid and the clamping unit performs the manufacture of hollow products.
(2) "Compression molding machine" means a machine that uses temperature-controlled molds for pressing plastic material into the shape of a mold cavity.

(3) "Device" means a machine control that is designed and installed to perform either of the following functions:
(a) Prevent normal machine operation if the operator's hands are within the point of operation.
(b) Require the concurrent use of both hands of the operator to actuate the machine.
(4) "Dielectric sealing" means a process for bonding plastic films using high-frequency energy.
(5) "Expansion molding" means to make plastic shapes by expanding polystyrene beads with a heating medium within a mold.
(6) "Extrusion machine" means a plasticizer which is mounted on a base and which takes raw plastic material, changes it into a molten state, and extrudes it through a die into a predetermined shape.
History: 1979 AC; 1992 AACS; 2015 MR 7, Eff. April 13, 2015.

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 Platforms and ladders.
Rule 6223. (1) If it is necessary for an employee to mount a machine to perform assigned duties, a platform or ladder, or both, shall be provided and used. The floor of the platform shall have an open design or slip-resistant surface.
(2) A platform shall be as prescribed in General Industry Safety Standard Part 2 “Floor and Wall Openings, Stairways, and Skylights,” as referenced in R 408.16202.
(3) A fixed ladder shall be as prescribed in General Industry Safety Standard Part 3 “Fixed Ladders,” as referenced in R 408.16202.
(4) A portable ladder shall be as prescribed in General Industry Safety Standard Part 4 “Portable Ladders,” as referenced in R 408.16202.
History: 1979 AC; 1992 AACS; 2015 MR 7, Eff. April 13, 2015.

R 408.16224
Source: 1979 AC.

R 408.16225
Source: 1992 AACS.

R 408.16226
Source: 1992 AACS.

R 408.16227 Lubrication and maintenance
Rule 6227. (1) Lubrication of a machine shall be accomplished by 1 of the following:
(a) Manually when the machine can be shut off and locked out.
(b) An automatic pressure or gravity feed system.
(c) An extension pipe leading to an area outside of the guards or away from any hazard.
(2) Each employee doing the work shall lock out the power source of the machine or equipment to be repaired or serviced if unexpected motion would cause injury. Any residual pressure which would be hazardous shall be relieved before and remain relieved during work by an employee doing the work.
History: 1979 AC; 1998-2000 AACS; 2013 AACS; 2015 MR 7, Eff. April 13, 2015.

SPECIFIC EQUIPMENT

R 408.16231
Source: 1992 AACS.

R 408.16232
Source: 1992 AACS.

R 408.16233
Source: 1979 AC.

R 408.16234 Injection molding machinery.
Rule 6234. (1) An injection molding machine, except for one with a movable table that is subject to the provisions of subrule (4) of this rule, shall be equipped with a safety gate that is designed and constructed to prevent an employee from reaching into the point of operation, except when the gate is open.
(2) A safety gate on an injection molding machine that was manufactured after August 28, 1973, shall be interlocked with electrical, mechanical, and hydraulic or pneumatic devices, except as noted in subrule (9) of this rule.
(3) An injection molding machine that was manufactured on or before August 28, 1973, shall have the safety gate interlocked by any 2 of the following:
(a) An electrical mold-closing control.
(b) Hydraulic or pneumatic valves that control mold closing.
(c) A mechanical device that prevents mold closing.
(4) An injection molding machine that uses a movable table to hold the lower mold shall be provided with a guard or device that is designed and constructed to deny an operator access to the point of operation during machine cycle.
(5) An injection molding machine shall be equipped with a fixed or an interlocked removable barrier that is designed and constructed to prevent an employee from reaching into the clamping mechanism.
(6) When purging an injection molding machine, an employee shall be protected from the purging splatter by a shield that is fixed, portable, or worn on the employee. The same guarding shall be used when servicing a heated runner manifold nozzle.
(7) An injection molding machine that uses an extruding machine that has an exposed feed screw shall have the screw guarded as prescribed by the provisions of R 408.16233(4).
(8) An electrically interlocked barrier shall be provided to cover the mold area opposite the operator on an injection molding machine that was manufactured after August 28, 1973. An injection molding machine that was

manufactured on or before August 28, 1973, shall be provided with an interlocked or fixed barrier to cover the mold area opposite the operator.
(9) On injection molding machines that are powered by sources other than hydraulics or pneumatics, at least 1 additional electrical interlock shall also be provided. The interlock shall be independent of, and perform the same function as, the control specified in subrule (3)(a) of this rule.
(10) Mold changes on horizontal plastic injection molding machines may continue to be conducted using the procedures specified in subrule (11) of this rule through December 31, 2016. Effective January 1, 2017, employers engaged in mold changes on horizontal injection molding machines shall comply with General Industry Safety Standard Part 85 "The Control of Hazardous Energy Sources," (Lockout/Tagout) (29 C.F.R. § 1910.147), as referenced in R 408.16202.
(11) An employer shall ensure that routine mold changes on a horizontal injection molding machine are conducted in accordance with either of the following if the machine has an interlocked safety gate that complies with subrule (2) of this rule and an electrically interlocked barrier covering the mold area opposite the operator:
(a) On a horizontal injection molding machine that has a functional mechanical safety device plus 2 independent interlocks on the operator's gate and an emergency or other stop which shuts off the motor or motors which activate the clamping mechanism, the person changing the mold shall activate the emergency or other stop and lock the operator's gate in the open position. An employer shall ensure that the interlocks are checked and found to be functional and properly adjusted before beginning the mold change.
(b) On a horizontal injection molding machine which has 2 independent interlocks on the rear barrier that shut off the motor or motors that activate the clamping mechanism, the person changing the mold shall lock the rear barrier in the open position. An employer shall ensure that the interlocks are checked and found to be functional and properly adjusted before beginning the mold change.
History: 1979 AC; 1992 AACS; 1998-2000 AACS; 2015 MR 7, Eff. April 13, 2015.

R 408.16235
Source: 1992 AACS.

R 408.16236
Source: 2013 AACS.

R 408.16237 Rotational molding.
Rule 6237. (1) A pinch point created where the revolving drive wheel of a rotational molding machine meets the driving surface shall be guarded.
(2) The perimeter of the patch of travel of the rotating molds shall be guarded by a standard barrier as prescribed in General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.16202. Access into the area shall be by a gate or door. If the gate or door is interlocked to the power source, the guarding required in subrule (1) of this rule need not be installed. The interlocked gate or door on the standard barrier shall not be used as an operating control.
(3) Such a machine, having each movement of the mold manually controlled by an operator, may substitute a yellow line 4 inches wide for a standard barrier around the perimeter of the patch of travel of the rotating molds, except the perimeter between the heating and cooling chambers. However, movement of the molds shall be preceded by automatic activation of a warning device, such as a flashing light, bell, horn, or siren for 5 seconds before the movement.
(4) The operating controls for a manually operated machine shall be so located that the operator cannot reach into the path of or be struck by the moving mold.
History: 1979 AC; 2015 MR 7, Eff. April 13, 2015.

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 Other machinery.
Rule 6251. Where woodworking machinery is used in the processing of plastics, the machinery shall be as prescribed in General Industry Safety Standard Part 27 "Woodworking Machinery," as referenced in R 408.16202.
History: 1979 AC; 1992 AACS; 2015 MR 7, Eff. April 13, 2015.

PART 63. PULP, PAPER, AND PAPERBOARD MILLS

R 408.16301
Source: 2014 AACS.

R 408.16302
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.16312
Source: 1979 AC.

R 408.16313
Source: 2014 AACS.

R 408.16321
Source: 2014 AACS.

R 408.16322
Source: 2014 AACS.

R 408.16323
Source: 1979 AC.

R 408.16324
Source: 1979 AC.

R 408.16325
Source: 2014 AACS.

R 408.16326
Source: 1979 AC.

R 408.16327
Source: 1979 AC.

R 408.16328
Source: 1993 AACS.

R 408.16331
Source: 2014 AACS.

R 408.16332
Source: 1979 AC.

R 408.16333
Source: 2014 AACS.

R 408.16334
Source: 1979 AC.

R 408.16335
Source: 1979 AC.

R 408.16336
Source: 2014 AACS.

R 408.16337
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.16344
Source: 2014 AACS.

R 408.16346
Source: 2014 AACS.

R 408.16347
Source: 2014 AACS.

R 408.16348
Source: 1979 AC.

R 408.16349
Source: 1979 AC.

R 408.16350
Source: 2014 AACS.

R 408.16351
Source: 2014 AACS.

R 408.16352
Source: 2014 AACS.

R 408.16353
Source: 2014 AACS.

R 408.16354
Source: 2014 AACS.

R 408.16355
Source: 1979 AC.

R 408.16356
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.16362
Source: 2014 AACS.

R 408.16363
Source: 1979 AC.

R 408.16364
Source: 2014 AACS.

R 408.16371
Source: 1979 AC.

R 408.16372
Source: 2014 AACS.

R 408.16374
Source: 1979 AC.

R 408.16375
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.16386
Source: 1979 AC.

R 408.16387
Source: 2014 AACS.

R 408.16388
Source: 1979 AC.

R 408.16391
Source: 1979 AC.

R 408.16392
Source: 2014 AACS.

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
Source: 1979 AC.

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 408.17302. Adopted and referenced standards,
Rule 7302. (1) The National Fire Protection Association Standard NFPA 1971 "Standard on protective ensemble for structural fire fighting and proximity fire fighting," 1997 edition is adopted by reference in these rules 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: www.global.ihs.com; at a cost as of the time of adoption of these rules, of $27.00.
(2) 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.
(3) Copies of the standards 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, 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 Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/miohastandards. 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 8 "Portable Fire Extinguishers," R 408.10801 to R 408.10839.
(b) General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 40898.
(c) Occupational Health Standard Part 451 "Respiratory Protection," R 325.60051 to R 325.60052.
History: 2015 MR 10, Eff. May 28, 2015.

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 Employer responsibilities.
Rule 7310. (1) The employer having a fire brigade shall prepare and maintain a statement or written policy that establishes the existence of a fire brigade; and the basic organizational structure; the type, amount, and frequency of training to be provided to fire brigade members; the expected number of members in the fire brigade; and the functions that the fire brigade is to perform at the workplace. The organizational statement shall be available for

inspection by the director of the department of licensing and regulatory affairs and by employees or their designated representatives.
(2) The employer shall assure that employees who are expected to do structural fire fighting are physically capable of performing duties that may be assigned to them during emergencies. The employer shall not permit employees with known heart disease, epilepsy, or emphysema to participate in fire brigade emergency activities unless a physician's certificate of the employees' fitness to participate in such activities is provided. For employees assigned to fire brigades before September 15, 1980, this rule is effective on September 15, 1985. For employees assigned to fire brigades after September 15, 1980, this rule applies.
(3) The employer shall provide training and education for all fire brigade members commensurate with those duties and functions that fire brigade members are expected to perform. Such training and education shall be provided to fire brigade members before they perform fire brigade emergency activities. Fire brigade leaders and training instructors shall be provided with training and education which is more comprehensive than that provided to the general membership of the fire brigade.
(4) The quality of training and education programs for fire brigade members shall be similar to the training and programs conducted by such fire training schools as any of the following:
(a) Maryland fire and rescue institute.
(b) Iowa fire service extension.
(c) West Virginia fire service extension.
(d) Georgia fire academy.
(e) New York state department, fire prevention and control.
(f) Louisiana state university firemen training program.
(g) Michigan's Macomb community college, fire and emergency services training center.
(h) Washington state's fire service training commission for vocational education.
(5) The training and education program for oil refinery industry fire brigade members shall be similar in quality to the training and education program conducted by any of the following:
(a) Macomb community college of Michigan, fire and emergency services training center.
(b) Texas A & M university.
(c) Lamar university.
(d) Reno fire school.
(e) Delaware state fire school.
(6) Training for incipient fires shall be similar to the training provided by the fire training schools listed in subrule (4) of this rule or to the fire training for incipient fires offered by the school of labor and industrial relations at Michigan state university.
(7) An employer shall assure that training and education is conducted frequently enough to ensure that each member of the fire brigade is able to perform the member's assigned duties and functions satisfactorily and in a safe manner so as not to endanger fire brigade members or other employees. All fire brigade members shall be provided with training at least annually. In addition, fire brigade members who are expected to perform interior structural fire fighting shall be provided with an education session or training at least quarterly.
(8) An employer shall inform fire brigade members about special hazards, such as the storage and use of flammable liquids and gases, toxic chemicals, radioactive sources, and water reactive substances, to which they may be exposed during a fire and other emergencies. The fire brigade members shall also be advised of any changes that occur in relation to the special hazards.
(9) An employer shall develop written procedures that describe the actions to be taken in situations involving special hazards and shall include these written procedures in the training and education program. An employer shall make the procedures available for inspection by fire brigade members.
History: 1984 AACS; 1998-2000 AACS; 2013 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.17312 Fire fighting equipment.
Rule 7312. (1) The employer shall maintain and inspect, at least annually, fire fighting equipment to assure the safe operational condition of the equipment.
(2) The employer shall ensure that portable fire extinguishers are inspected, at least monthly, in accordance with General Industry Safety Standard Part 8 "Portable Fire Extinguishers," as referenced in R 408.17302.
(3) The employer shall ensure that fire fighting equipment that is in damaged or unserviceable condition is removed from service and replaced.

History: 1984 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.17314 Personal protective equipment generally.
Rule 7314. (1) The requirements in these rules apply to those employees who perform interior structural fire fighting. The requirements do not apply to employees who use fire extinguishers or standpipe systems to control or extinguish fires only in the incipient stage.
(2) An employer shall provide, and ensure the use of protective clothing that is in compliance with the requirements of this part. An employer shall provide the clothing without cost to an employee. An employer shall assure that protective clothing ordered or purchased after March 1, 1984, meets the requirements contained in this part. As new equipment is provided, an employer shall assure that all fire brigade members wear the equipment when performing interior structural fire fighting. An employer shall provide foot and leg protection. An employer shall ensure that protective shoes or boots that are worn in combination with protective trousers meet the requirements of R 408.17316.
(3) The employer shall assure that protective clothing protects the head, body, and extremities, and consists of at least the following components:
(a) Foot and leg protection.
(b) Hand protection.
(c) Body protection.
(d) Face, eye, and head protection.
History: 1984 AACS; 1998-2000 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.17315 Foot and leg protection.
Rule 7315. (1) Foot and leg protection shall be provided and may be achieved by either of the following methods:
(a) Fully extended boots which provide protection for the legs.
(b) Protective shoes or boots worn in combination with protective trousers that meet the requirements of R 408.17316.
(2) An employer shall ensure that protective footwear meets the requirements of NFPA 1971 "Standard on protective ensemble for structural fire fighting and proximity fire fighting," 1997 edition, as adopted in R 408.17302.
History: 1984 AACS; 1998-2000 AACS; 2013 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.17316. Body protection.
Rule 7316. (1) Body protection shall be coordinated with foot and leg protection to ensure full body protection for the wearer, which shall be achieved by 1 of the following methods:
(a) Wearing of a fire-resistive coat meeting the requirements of subrule (2) of this rule in combination with fully extended boots meeting the requirements of R 408.17315.
(b) Wearing of fire-resistive coat in combination with protective trousers both of which meet the requirements of subrule (2) of this rule.
(2) The performance, construction, and testing of fire-resistive coats and protective trousers shall be at least equivalent to the requirements of NFPA 1971 "Standard on protective ensemble for structural fire fighting and proximity fire fighting," 1997 edition, as adopted in R 408.17302.
History: 1984 AACS; 1998-2000 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.17317 Hand protection.
Rule 7317. Hand protection shall consist of protective gloves or a glove system that will provide protection against cuts, punctures, and heat penetration. Gloves or a glove system shall meet the requirements of NFPA 1971 "Standard on protective ensemble for structural fire fighting and proximity fire fighting," 1997 edition, as adopted in R 408.17302.
History: 1984 AACS; 1998-2000 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.17318 Head, eye, and face protection.
Rule 7318. (1) Head protection shall consist of a protective head device that has ear flaps and a chin strap that meet the performance, construction, and testing requirements of NFPA 1971 "Standard on protective ensemble for structural fire fighting and proximity fire fighting," 1997 edition, as adopted in R 408.17302.

(2) Protective eye and face devices that comply with General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.17302, shall be used by fire brigade members when performing operations where the hazards of flying or falling materials are present and might cause eye and face injuries.
(3) Full facepieces, helmets, or hoods of breathing apparatus that meet the requirements of General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.17302, are acceptable as meeting the eye and face protection requirements of this part.
(4) Protective eye and face devices provided as accessories to protective head devices, face shields are permitted if the devices meet the requirements of General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.17302.
History: 1984 AACS; 1998-2000 AACS; 2013 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.17320 Respiratory protection devices.
Rule 7320. (1) An employer shall ensure that respirators are provided to, and used by, each fire brigade member, and that the respirators meet the requirements of Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.17302, for each employee required to use a respirator.
(2) Self-contained breathing apparatus shall be provided with an indicator that automatically sounds an audible alarm when the remaining service life of the apparatus is reduced to within a range of 20% to 25% of its rated service time.
(3) An employer shall ensure that self-contained breathing apparatus ordered or purchased after July 1, 1981, for use by fire brigade members performing interior structural fire fighting operations, are of the pressure-demand or other positive-pressure type. Effective July 1, 1983, only pressure-demand or other positive-pressure self-contained breathing apparatus shall be worn by fire brigade members performing interior structural fire fighting.
(4) Subrule (3) of this rule does not prohibit the use of a self-contained breathing apparatus if the apparatus can be switched from a demand mode to a positive-pressure mode. However, such apparatus shall be in the positive-pressure mode when fire brigade members are performing interior structural fire fighting operations.
History: 1984 AACS; 1998-2000 AACS; 2013 AACS; 2015 MR 10, Eff. May 28, 2015.

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
Source: 2014 AACS.

R 408.17602
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.17701a
Source: 2014 AACS.

R 408.17701b
Source: 2014 AACS.

R 408.17701c
Source: 2014 AACS.

R 408.17701d
Source: 2014 AACS.

R 408.17702
Source: 2014 AACS.

R 408.17703
Source: 2014 AACS.

R 408.17704
Source: 2014 AACS.

R 408.17705
Source: 1997 AACS.

R 408.17706
Source: 2014 AACS.

R 408.17707

Source: 2014 AACS.

R 408.17708
Source: 1988 AACS.

R 408.17709
Source: 2014 AACS.

R 408.17710
Source: 1988 AACS.

R 408.17711
Source: 2014 AACS.

R 408.17712
Source: 1988 AACS.

R 408.17713
Source: 1988 AACS.

R 408.17714
Source: 2014 AACS.

R 408.17715
Source: 2014 AACS.

R 408.17716
Source: 2014 AACS.

EMPLOYEE ALARM SYSTEMS

R 408.17717
Source: 2014 AACS.

R 408.17717a
Source: 2014 AACS.

R 408.17717b
Source: 2014 AACS.

R 408.17717c
Source: 2014 AACS.

R 408.17717d
Source: 2014 AACS.

R 408.17719
Source: 2014 AACS.

PART 78. ANHYDROUS AMMONIA

R 408.17801 Adoption of standard by reference.

Rule 7801. (1) The provisions of federal occupational safety and health administration regulation C.F.R. 1910.111 "Storage and handling of anhydrous ammonia" effective December 14, 2007, is adopted by reference in these rules.
(2) The standard adopted in this rule is 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.
(3) The standard adopted in this rule is available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.
(4) The standard adopted in this rule 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, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost of the standard plus $20.00 for shipping and handling.
History: 1982 AACS; 1998-2000 AACS; 2015 MR 8, Eff. April 30, 2015.

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
Source: 2013 AACS.

R 408.17925
Source: 2013 AACS.

R 408.17926
Source: 2013 AACS.

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
Source: 2014 AACS.

R 408.18101a
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.18115
Source: 2014 AACS.

R 408.18116
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.18123
Source: 1982 AACS.

R 408.18124
Source: 1982 AACS.

R 408.18125
Source: 2014 AACS.

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
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.18148
Source: 1979 AC.

R 408.18149
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.18157
Source: 1979 AC.

R 408.18158
Source: 1982 AACS.

R 408.18159
Source: 1979 AC.

R 408.18159a
Source: 2014 AACS.

R 408.18160
Source: 1979 AC.

R 408.18161
Source: 1979 AC.

R 408.18171
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.18182
Source: 2014 AACS.

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 Adoption of federal standard.
Rule 8602. (1) The provisions of 29 C.F.R. §1910.269, "Electric Power Generation, Transmission, and Distribution" and appendices, except as amended in this rule, are adopted by reference in these rules.
(2) A reference to C.F.R. §1910.5 "Applicability of standards," means Michigan Occupational Safety and Health Act (MIOSHA) 1974 PA 154, MCL 408.1001 to 408.1094
(3) A reference to C.F.R. §1910.12 "Construction work," means Michigan Occupational Safety and Health Act (MIOSHA) 1974 PA 154, MCL 408.1001 to 408.1094.
(4) A reference to C.F.R. §1910.25 "Portable wood ladders," means General Industry Safety Standard Part 4 "Portable Ladders," as referenced in R 408.18605.
(5) A reference to C.F.R. §1910.26 "Portable metal ladders," means General Industry Safety Standard Part 4 "Portable Ladders," as referenced in R 408.18605.
(6) A reference to C.F.R. §1910.67 "Vehicle-mounted elevating and rotating work platforms," means General Industry Safety Standard Part 58 "Aerial Work Platforms," as referenced in R 408.18605.
(7) A reference to C.F.R. §1910.97 "Nonionizing radiation," means Occupational Health Standard Part 382 "Nonionizing Radiation," as referenced in R 408.18605.
(8) A reference to C.F.R. §1910.135 "Head protection," means General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.18605.
(9) A reference to C.F.R. §1910.141 "Sanitation," means Occupational Health Standard Part 474 "Sanitation," as referenced in R 408.18605.
(10) 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 408.18605.
(11) A reference to C.F.R. §1910.146 "Permit-required confined space," means General Industry Safety Standard Part 90 "Permit-Required Confined Spaces," as referenced in R 408.18605.
(12) A reference to C.F.R. §1910.147 "Control of hazardous energy - lockout," means General Industry Safety Standard Part 85 "The Control of Hazardous Energy Sources," as referenced in R 408.18605.
(13) A reference to C.F.R. §1910.151 "Medical services and first aid," means Occupational Health Standard Part 472 "Medical Services and First Aid," as referenced in R 408.18605.
(14) A reference to C.F.R. §1910.243 "Guarding of portable powered tools," means General Industry Safety Standard Part 38 "Hand and Portable Powered Tools," as referenced in R 408.18605.
(15) A reference to C.F.R. §1910.266 "Logging operations," means General Industry Safety Standard Part 51 "Logging," as referenced in R 408.18605.
(16) A reference to C.F.R. §1910.302 "Electric utilization systems," means General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 408.18605.
(17) A reference to C.F.R. §1910.303 "General," means General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 408.18605.
(18) A reference to C.F.R. §1910.304 "Wiring design and protection," means General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 408.18605.
(19) A reference to C.F.R. §1910.305 "Wiring methods, components, and equipment for general use," means General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 408.18605.
(20) A reference to C.F.R. §1910.306 "Specific purpose equipment and installations," means General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 408.18605.
(21) A reference to C.F.R. §1910.307 "Hazardous (classified) locations," means General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 408.18605.
(22) A reference to C.F.R. §1910.308 "Special systems," means General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 408.18605.

(23) A reference to C.F.R. §1910.331 "Scope," means General Industry Safety Standard Part 40 "Electrical Safety-Related Work Practices," as referenced in R 408.18605.
(24) A reference to C.F.R. §1910.332 "Training," means General Industry Safety Standard Part 40 "Electrical Safety-Related Work Practices," as referenced in R 408.18605.
(25) A reference to C.F.R. §1910.333 "Selection and use of work practices," means General Industry Safety Standard Part 40 "Electrical Safety-Related Work Practices," as referenced in R 408.18605.
(26) A reference to C.F.R. §1910.334 "Use of equipment," means General Industry Safety Standard Part 40 "Electrical Safety-Related Work Practices," as referenced in R 408.18605.
(27) A reference to C.F.R. §1910.335 "Safeguards for personnel protection," means General Industry Safety Standard Part 40 "Electrical Safety-Related Work Practices," as referenced in R 408.18605.
(28) A reference to C.F.R. §1910.1200 "Hazard Communication," means General Industry Safety Standard Part 92 "Hazard Communication," and Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 408.18605.
(29) A reference to C.F.R. Part 1910 Subpart D, "Walking – Working Surfaces," means all of the following MIOSHA standards:
(a) General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.18605.
(b) General Industry Safety Standard Part 3 "Fixed Ladders," as referenced in R 408.18605.
(c) General Industry Safety Standard Part 4 "Portable Ladders," as referenced in R 408.18605.
(d) General Industry Safety Standard Part 5 "Scaffolding," as referenced in R 408.18605.
(30) A reference to C.F.R. Part 1910 Subpart I, "Personal Protective Equipment," means General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.18605.
(31) A reference to C.F.R. Part 1910 Subpart G, "Occupational Health and Environmental Control," means all of the following MIOSHA standards:
(a) Occupational Health Standard Part 380 "Occupational Noise Exposure in General Industry," as referenced in R 408.18605.
(b) Occupational Health Standard Part 382 "Nonionizing Radiation," as referenced in R 408.18605.
(c) Occupational Health Standard Part 520 "Ventilation Control," as referenced in R 408.18605.
(32) A reference to C.F.R. Part 1910 Subpart N, "Materials Handling and Storage," means all of the following MIOSHA standards:
(a) General Industry Safety Standard Part 1 "General Provisions," as referenced in R 408.18605.
(b) General Industry Safety Standard Part 13 "Derricks," as referenced in R 408.18605.
(c) General Industry Safety Standard Part 18 "Overhead and Gantry Cranes," as referenced in R 408.18605.
(d) General Industry Safety Standard Part 19 "Crawler, Locomotive and Truck Cranes," as referenced in R 408.18605.
(e) General Industry Safety Standard Part 20 "Underhung Cranes and Monorail Systems," as referenced in R 408.18605.
(f) General Industry Safety Standard Part 21 "Powered Industrial Trucks," as referenced in R 408.18605.
(g) General Industry Safety Standard Part 49 "Slings," as referenced in R 408.18605.
(h) General Industry Safety Standard Part 59 "Helicopters," as referenced in R 408.18605.
(i) General Industry Safety Standard Part 72 "Automotive Service Operations," as referenced in R 408.18605.
(33) A reference to C.F.R. Part 1910 Subpart S, "Electrical," means both of the following MIOSHA standards:
(a) General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 408.18605.
(b) General Industry Safety Standard Part 40 "Electrical Safety-Related Work Practices," as referenced in R 408.18605.
(34) A reference to C.F.R. Part 1910 Subpart Z "Toxic and Hazardous Substances," means Occupational Health Standard Part 301 "Air Contaminants for General Industry," as referenced in R 408.18605.
(35) A reference to C.F.R. §1926.54 "Nonionizing radiation," means Occupational Health Standard Part 681 "Radiation of Construction: Ionizing and Nonionizing," as referenced in R 408.18605.
(36) A reference to C.F.R. §1926.100 "Head protection," means Construction Safety Standard Part 6 "Personal Protective Equipment," as referenced in R 408.18605.
(37) A reference to C.F.R. §1926.200 "Accident prevention signs and tags," means Construction Safety Standard Part 22 "Signals, Signs, Tags, and Barricades," as referenced in R 408.18605.

(38) A reference to C.F.R. §1926.502 "Fall protection systems criteria and practices," means Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.18605.
(39) A reference to C.F.R. §1926.960 "Definitions applicable to Subpart V Power Transmission and Distribution," means Construction Safety Standard Part 16 "Power Transmission and Distribution," as referenced in R 408.18605.
(40) A reference to C.F.R. Part 1926 Subpart M "**Fall Protection**," means Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.18605.
(41) A reference to C.F.R. Part 1926 Subpart P "**Excavations**," means Construction Safety Standard Part 9 "Excavation, Trenching, and Shoring," as referenced in R 408.18605.
(42) A reference to C.F.R. Part 1926 Subpart W "**Rollover Protective Structures; Overhead Protection**," means Construction Safety Standard Part 13 "Mobile Equipment," as referenced in R 408.18605.
History: 1995 AACS; 1997 AACS; 2015 MR 9, Eff. May 12, 2015.

R 408.18605 Adopted and referenced standards.
Rule 8605. (1) The provisions of 29 C.F.R. §1910.269 "Electric Power Generation, Transmission, and Distribution" as revised April 11, 2014, are adopted by reference in these rules, except as noted in R 408.18602. This standard is 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 standard adopted in these rules is 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 standard 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, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
(4) The Michigan occupational safety and health standards (MIOSHA) referenced in these rules are available at up to 5 copies of these standards at no charge from the 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/miohastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
(5) The following MIOSHA construction safety standards (CS) are referenced in these rules:
(a) CS Part 6 "Personal Protective Equipment," R 408.40601 to R 408.40641.
(b) CS Part 9 "Excavation, Trenching, and Shoring," R 408.40901 to R 408.40953.
(c) CS Part 13 "Mobile Equipment," R 408.41301.
(d) CS Part 16 "Power Transmission and Distribution," R 408.41601 to R 408.41658.
(e) CS Part 22 "Signals, Signs, Tags, and Barricades," R 408.42201 to R 408.42243.
(f) CS Part 45 "Fall Protection," R 408.44501 to R 408.44502.
(6) The following MIOSHA general industry safety standards (GI) are referenced in these rules:
(a) GI Part 1 "General Provisions," R 408.10001 to R 408.10098.
(b) GI Part 2 "Floor and Wall Openings Stairways and Skylights," R 408.10201 to R 408.10241.
(c) GI Part 3 "Fixed Ladders," R 408.10301 to R 408.10372.
(d) GI Part 4 "Portable Ladders," R 408.10401 to R 408.10456.
(e) GI Part 5 "Scaffolding," R 408.10501 to R 408.10592.
(f) GI Part 13 "Derricks," R 408.11301.
(g) GI Part 18 "Overhead and Gantry Cranes," R 408.11801 to R 408.11875.
(h) GI Part 19 "Crawler, Locomotive and Truck Cranes," R 408.11901 to R 408.11972.
(i) GI Part 20 "Underhung Cranes and Monorail Systems," R 408.12001 to R 408.12045.
(j) GI Part 21 "Powered Industrial Trucks," R 408.12101 to R 408.12193.
(k) GI Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.
(l) GI Part 37 "Accident Prevention Signs and Tags," R 408.13701 to R 408.13736.
(m) GI Part 38 "Hand and Portable Powered Tools," R 408.13801 to R 408.13882.
(n) GI Part 39 "Design Safety Standards for Electrical Systems," R 408.13901 to R 408.13902.
(o) GI Part 40 "Electrical Safety-Related Work Practices," R 408.14001 to R 408.14009.
(p) GI Part 49 "Slings," R 408.14901 to R 408.14965.
(q) GI Part 51 "Logging," R 408.15101 to R 408.15181.
(r) GI Part 58 "Aerial Work Platforms," R 408.15801 to R 408.15842.
(s) GI Part 59 "Helicopters," R 408.15901 to R 408.15931.

(t) GI Part 72 “Automotive Service Operations,” R 408.17201 to R 408.17253.
(u) GI Part 85 “The Control of Hazardous Energy Sources,” R 408.18501 to R 408.18599.
(v) GI Part 90 “Permit-Required Confined Spaces,” R 408.19001 to R 408.19002.
(w) GI Part 92 “Hazard Communication,” R 408.19201 to R 408.19204.
(7) The following MIOSHA occupational health standards (OH) are referenced in these rules:
(a) OH Part 301 “Air Contaminants for General Industry,” R 325.51101 to R 325.51108.
(b) OH Part 380 “Occupational Noise Exposure in General Industry,” R 325.60101 to R 325.60128.
(c) OH Part 382 “Nonionizing Radiation,” R 325.60701 to R 325.60704.
(d) OH Part 430 “Hazard Communication,” R 325.77001 to R 325.77004.
(e) OH Part 472 “Medical Services and First Aid,” R 325.47201.
(f) OH Part 474 “Sanitation,” R 325.47401 to R 325.47427.
(g) OH Part 520 “Ventilation Control,” R 325.52001 to R 325.52012.
(h) OH Part 681 “Radiation of Construction: Ionizing and Nonionizing,” R 325.68101 to R 325.68102.
(8) The appendices to these rules are informational only and are not intended to create any additional obligations or requirements not otherwise imposed by these rules or to detract from any established obligations or requirements.
History: 2015 MR 9, Eff. May 12, 2015.

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
Source: 2014 AACS.

R 408.19202
Source: 2014 AACS.

R 408.19203
Source: 2014 AACS.

R 408.19204
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.19403
Source: 2014 AACS.
R 408.19405
Source: 2014 AACS.

Rule 3403
Source: 2014 AACS.

Rule 3504
Source: 2014 AACS.

Rule 5002
Source: 2014 AACS.

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
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R 408.20076
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R 408.20077
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R 408.20078
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R 408.20079
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R 408.20080
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R 408.20081
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R 408.20082
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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
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R 408.21415
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R 408.21445
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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 Scope.
Rule 1101. These rules provide for recordkeeping and reporting by public and private employers covered under the act as necessary or appropriate for enforcement of the act, for developing information regarding the causes and prevention of occupational injuries and illnesses, and for maintaining a program of collection, compilation, and analysis of occupational safety and health statistics. R 408.22103 lists employers who are partially exempted from keeping work-related injury and illness records.
History: 1979 AC; 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22102 Intent.
Rule 1102. (1) These rules are substantially identical to the federal occupational safety and health act (OSHA) recordkeeping and reporting requirements, as contained in 29 C.F.R., §1904 "Recording and Reporting of Occupational Injuries and Illnesses" amended 2014, as adopted in R 408.22102a, to assure that employers maintaining records pursuant to these rules are in compliance with the federal requirements and need not maintain additional records or submit additional reports pursuant to the federal regulations. R 408.21119 of this part pertains to the use of OSHA forms.
(2) This part shall not supersede the recordkeeping and reporting requirements prescribed by sections 18 and 24 of Public Law 91-596, 29 U.S.C. §§667 and 673.
(3) If an employer creates records to comply with another government agency's injury and illness recordkeeping requirements, MIOSHA will consider the records as complying with these rules if OSHA or MIOSHA accepts the other agency's records under a memorandum of understanding with that agency, or if the other agency's records contain the same information as these rules requires an employer to record. For help in determining whether an employer's records meet MIOSHA's requirements, an employer may contact the MIOSHA Management Information Systems Section at www.michigan.gov/recordkeeping, or telephone 517-322-1848.
History: 1979 AC; 1998-2000 AACS; 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22102a. Adopted and referenced standards.

Rule 1102a. (1) The following federal standards are adopted by reference in these rules:

(a) 29 C.F.R. §1903.2 "Posting of notice; availability of the Act, regulations and applicable standards." amended 1974.

(b) 29 C.F.R. §1904 "Recording and Reporting of Occupational Injuries and Illnesses," amended 2014.

(c) 45 C.F.R. § 164.512 "Uses and disclosures for which an authorization or opportunity to agree or object is not required," amended 2013.

(2) The standards adopted in these rules are available from the United States Government Printing Office website: www.ecfr.gov, at no charge as of the time of adoption of these rules.

(3) The standards 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.

(4) The standards adopted in these rules may be obtained as shown in subrule (3) of this rule or may be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143, plus $20.00 for shipping and handling.

(5) The following 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 Regulatory Services Section, 7150 Harris Drive, 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) Occupational Health Standard Part 380 "Occupational Noise Exposure in General Industry," R 325.60101 to R 325.60128.

(b) Occupational Health Standard Part 554 "Bloodborne Infectious Diseases," R 325.70001 to R 325.70018.

History: 2015 MR 10, Eff. May 27, 2015.

R 408.22103 Exceptions; applicability; petitions.

Rule 1103. (1) Both of the following provisions apply to exemptions based on employee numbers and industry classifications:

(a) If your company had 10 or fewer employees at all times during the last calendar year, you do not need to keep MIOSHA injury and illness records unless MIOSHA, the United States bureau of labor statistics (BLS), or the United States department of labor occupational safety and health administration (OSHA), informs you, in writing, that you must keep records according to R 408.22141 or R 408.22142. However, as required by R 408.22139, all employers covered by the act shall report to MIOSHA any workplace incident that results in a fatality or the hospitalization of 3 or more employees.

(b) If your company had more than 10 employees at any time during the last calendar year, you must keep MIOSHA injury and illness records unless your establishment is classified as a partially exempt industry under ~~in~~ this rule.

(2) Both of the following provisions apply to implementation of employee number based exemptions:

(a) Is the partial exemption for size based on the size of my entire company or on the size of an individual business establishment? The partial exemption for size is based on the number of employees in the entire company.

(b) How do I determine the size of my company to find out if I qualify for the partial exemption for size? To determine if you are exempt because of size, you need to determine your company's peak employment during the last calendar year. If you did not have more than 10 employees at any time in the last calendar year, then your company qualifies for the partial exemption for size.

(3) Both of the following provisions apply to basic requirements for partial exemption for establishments in certain industries:

(a) If your business establishment is classified in a specific industry group listed in Appendix A, you do not need to keep MIOSHA injury and illness records unless MIOSHA, the United States bureau of labor statistics (BLS), or the United States department of labor occupational safety and health administration (OSHA), informs you, in writing, that you must keep the records according to R 408.22141 or R 408.22142. However, all employers must report to MIOSHA any workplace incident that results in an employee's fatality, inpatient hospitalization, amputation, or loss of an eye as required by R 408.22139.

(b) If 1 or more of your company's establishments are classified in a nonexempt industry, then you must keep MIOSHA injury and illness records for all of such establishments unless your company is partially exempted because of size under these rules.
(4) Is the partial industry classification exemption based on the industry classification of my entire company or on the classification of individual business establishments operated by my company? The partial industry classification exemption applies to individual business establishments. If a company has several business establishments engaged in different classes of business activities, some of the company's establishments may be required to keep records, while others may be partially exempt.
(5) How do I determine the correct North American industry classification system (NAICS) code for my company or for individual establishments? You can determine your NAICS code by using 1 of the following methods, or you may contact your nearest OSHA office or state agency for help in determining your NAICS code:
(a) You can use the search feature at the U.S. Census Bureau NAICS main Web page: http://www.census.gov/eos/www/naics/. In the search box for the most recent NAICS, enter a keyword that describes your kind of business. A list of primary business activities containing that keyword and the corresponding NAICS codes will appear. Choose the 1 code that most closely corresponds to your primary business activity, or refine your search to obtain other choices.
(b) Rather than searching through a list of primary business activities, you may also view the most recent complete NAICS structure with codes and titles by clicking on the link for the most recent NAICS on the U.S. Census Bureau NAICS main Web page: http:// www.census.gov/eos/www/naics/. Then click on the 2-digit sector code to see all the NAICS codes under that sector. Then choose the 6-digit code of your interest to see the corresponding definition, as well as cross-references and index items, when available.
(c) If you know your old standard industrial classification (SIC) code, you can also find the appropriate 2002 NAICS code by using the detailed conversion (concordance) between the 1987 SIC and 2002 NAICS available in Excel format for download at the ''Concordances'' link at the U.S. Census Bureau NAICS main Web page: http://www.census.gov/eos/www/naics/.
(6) The department of licensing and regulatory affairs shall supply copies of the forms provided for in these rules and shall compile, correct, and analyze data obtained pursuant to these rules. The department shall process petitions for exceptions to these rules from public employers. The occupational safety and health administration (OSHA) of the United States department of labor shall process petitions for exceptions from private employers to ensure uniformity between federal and state rules.
History: 1979 AC; 1983 AACS; 1998-2000 AACS; 2001 AACS; 2002 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22104 Definitions; A to D.
Rule 1104. (1) "Act" means the Michigan occupational safety and health act (MIOSHA), 1974 PA 154, MCL 408.1001 to 408.1094.
(2) "Affected employee" means an employee who would be affected by the granting or denial of an exception, or an authorized representative as defined by the act.
(3) "Amputation" means the traumatic loss of a limb or other external body part. Amputation includes all of the following:
(a) A part, such as a limb or appendage, that has been severed, cut off, amputated, either completely or partially.
(b) Fingertip amputations with or without bone loss.
(c) Medical amputations resulting from irreparable damage.
(d) Amputations of body parts that have since been reattached.
Amputations do not include avulsions, enucleations, deglovings, scalpings, severed ears, or broken or chipped teeth.
(4) "Department" means the department of licensing and regulatory affairs.
(5) "Director" means the director of the department of licensing and regulatory affairs.
History: 1979 AC; 1998-2000 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22105 Definitions; E, F.
Rule 1105. (1) "Employer" means an individual or organization, including the state or a political subdivision, which employs 1 or more person.
(2) "Establishment" means a single physical location where business is conducted or where services or industrial operations are performed. For activities where employees do not work at a single physical location, such as

construction; transportation; communications; electric, gas, and sanitary services; and similar operations, the establishment is represented by main or branch offices, terminals, stations, and the like that either supervise the activities or are the base from which personnel carry out the activities. The following are examples of an establishment:
(a) Factory.
(b) Mill.
(c) Store.
(d) Hotel.
(e) Restaurant.
(f) Movie theater.
(g) Farm.
(h) Ranch.
(i) Bank.
(j) Sales office.
(k) Warehouse.
(l) Central administrative office.
(m) Single school within a school district.
(n) City garage within the department of public works.
(o) Branch office of the department of state.
(p) Police station within the police department of a city.
(3) "First-aid" means any of the following:
(a) Using a nonprescription medication at nonprescription strength. ~~(~~For medications available in both prescription and nonprescription form, a recommendation by a physician or other licensed health care professional to use a nonprescription medication at prescription strength is considered medical treatment for recordkeeping purposes~~)~~.
(b) Administering tetanus immunizations. ~~(~~Other immunizations, such as hepatitis B vaccine or rabies vaccine, are considered medical treatment~~)~~.
(c) Cleaning, flushing, or soaking wounds on the surface of the skin.
(d) Using wound coverings such as bandages, Band-aids[tm], gauze pads, or the like; or using butterfly bandages or Steri-strips[tm]. Other wound closing devices, such as sutures, staples, and the like, are considered medical treatment.
(e) Using hot or cold therapy.
(f) Using any nonrigid means of support, such as elastic bandages, wraps, nonrigid back belts, or the like. Devices that have rigid stays or other systems designed to immobilize parts of the body are considered medical treatment for recordkeeping purposes.
(g) Using temporary immobilization devices while transporting an accident victim, such as splints, slings, neck collars, backboards, and the like.
(h) Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister.
(i) Using eye patches.
(j) Removing foreign bodies from the eye using only irrigation or a cotton swab.
(k) Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs, or other simple means.
(l) Using finger guards.
(m) Using massages. Physical therapy or chiropractic treatment is considered medical treatment for recordkeeping purposes.
(n) Drinking fluids for relief of heat stress.
History: 1979 AC; 1983 AACS; 1986 AACS; 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22106 Definitions; H to M.
Rule 1106. (1) "Hospitalization" means the inpatient admission to a hospital for treatment, observation, or any other reason.
(2) "Inpatient hospitalization" means the formal admission to the inpatient service of a hospital or clinic for care or treatment.
(3) "Medical treatment" means the management and care of a patient to combat disease or disorder. For the purposes of these rules, "medical treatment" does not include any of the following:
(a) Visits to a physician or other licensed health care professional solely for observation or counseling.

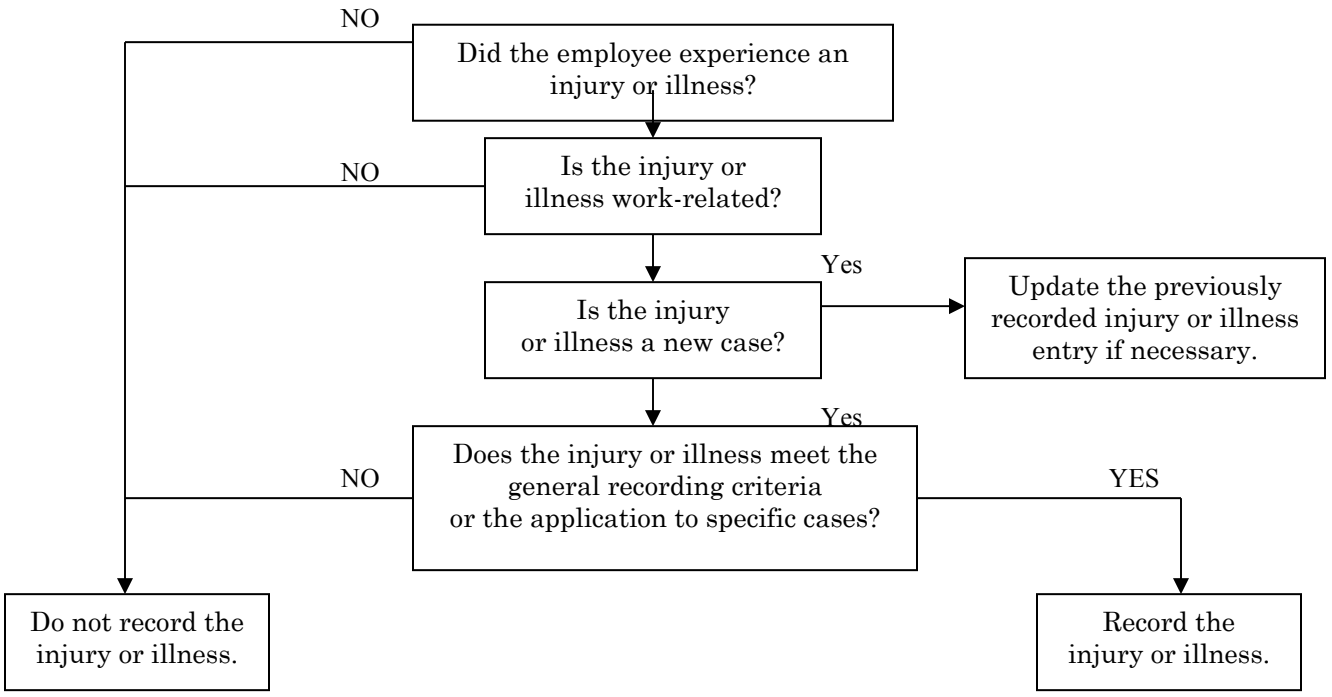
(b) The conduct of diagnostic procedures, such as x-rays and blood tests, including the administration of prescription medications used solely for diagnostic purposes, for example, eye drops to dilate pupils.
(c) "First-aid" as defined in R 408.22105(3).
History: 1979 AC; 1983 AACS; 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22107 Definitions; O to Y.
Rule 1107. (1) "Occupational injury or illness" means an abnormal condition or disorder. Occupational injury is a result of a work accident or from an exposure involving a single incident in the work environment and includes, but is not limited to, a cut, fracture, sprain, or amputation. Occupational illnesses include both acute and chronic illnesses, including, but not limited to, a skin disease, respiratory disorder, or poisoning. Injuries and illnesses are recordable only if they are new, work-related cases that meet 1 or more of the recording criteria of these rules.
(2) "Other potentially infectious material" means other potentially infectious material as defined in Occupational Health Standard Part 554 “Bloodborne Infectious Diseases,” as referenced in R 408.22102a. These materials include the following:
(a) Human bodily fluids, tissues, and organs.
(b) Other materials infected with the HIV or hepatitis B (HBV) virus, such as laboratory cultures or tissues from experimental animals.
(3) "Physician or other licensed health care professional" means a physician or other licensed health care professional who is an individual and whose legally permitted scope of practice, that is, license, registration, or certification, allows him or her to independently perform, or be delegated the responsibility to perform, the activities described by these rules.
(4) "Recordable injuries and illness" means an injury or illness that meets the general recording criteria, and therefore is recordable, if it results in any of the following:
(a) Death.
(b) Days away from work.
(c) Restricted work or transfer to another job.
(d) Medical treatment beyond first-aid.
(e) Loss of consciousness.
An employer must also consider a case as meeting the general recording criteria if it involves a significant injury or illness diagnosed by a physician or other licensed health care professional, even if it does not result in death, days away from work, restricted work or job transfer, medical treatment beyond first-aid, or loss of consciousness.
(5) "Standard threshold shift" means a change in the hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear.
(6) "You" means an employer as defined in section 5 of 1974 PA 154, MCL 408.1005.
History: 1979 AC; 2001 AACS; 2002 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22108
Source: 2001 AACS.

R 408.22109 Recording criteria.
Rule 1109. (1) Each employer required to keep records of fatalities, injuries, and illnesses must record each fatality, injury, and illness that involves all of the following:
(a) Is work-related.
(b) Is a new case.
(c) Meets 1 or more of the general recording criteria of R 408.22112 to R 408.22112f or the application to specific cases of R 408.22113 to R 408.22119.
(2) What sections of this rule describe recording criteria for recording work-related injuries and illnesses? The following list indicates which rules address each topic:
(a) Determination of work-relatedness. See R 408.22110 to R 408.22110b.
(b) Determination of a new case. See R 408.22111.
(c) General recording criteria. See R 408.22112 to R 408.22112f.
(d) Additional criteria such as needlestick and sharps injury cases, tuberculosis cases, and medical removal cases. See R 408.22113 to R 408.22119.

(3) How do I decide whether a particular injury or illness is recordable? The following decision tree for recording work-related injuries and illnesses shows the steps involved in making this determination:



DETERMINATION OF WORK-RELATEDNESS
History: 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22110 Basic requirement.
Rule 1110. You must consider an injury or illness to be work-related if an event or exposure in the work environment either caused or contributed to the resulting condition or significantly aggravated a preexisting injury or illness. Work-relatedness is presumed for injuries and illnesses resulting from events or exposures occurring in the work environment, unless an exception in R 408.22110a(4) specifically applies.
History: 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22110a Implementation.
Rule 1110a. (1) What is the "work environment"? MIOSHA defines the work environment as “the establishment and other locations where 1 or more employees are working or are present as a condition of their employment. The work environment includes not only physical locations, but also the equipment or materials used by the employee during the course of his or her work.”
(2) May 1 business location include 2 or more establishments? Normally, 1 business location has only 1 establishment. Under limited conditions, an employer may consider 2 or more separate businesses that share a single location to be separate establishments. An employer may divide 1 location into 2 or more establishments only when all of the following provisions apply:
(a) Each of the establishments represents a distinctly separate business.
(b) Each business is engaged in a different economic activity.
(c) A single industry description in the standard industrial classification manual (1987) does not apply to the joint activities of the establishments.
(d) Separate reports are routinely prepared for each establishment on the number of employees, their wages and salaries, sales or receipts, and other business information. For example, if an employer operates a construction company at the same location as a lumber yard, the employer may consider each business to be a separate establishment.

(3) May an establishment include more than 1 physical location? Yes, but only under certain conditions. An employer may combine 2 or more physical locations into a single establishment only when all of the following provisions apply:
(a) The employer operates the locations as a single business operation under common management.
(b) The locations are all located in close proximity to each other.
(c) The employer keeps 1 set of business records for the locations, such as records on the number of employees, their wages and salaries, sales or receipts, and other kinds of business information. For example, 1 manufacturing establishment might include the main plant, a warehouse a few blocks away, and an administrative services building across the street.
(4) If an employee telecommutes from home, is his or her home considered a separate establishment? No. For an employee who telecommutes from home, the employee's home is not a business establishment and a separate 300 log is not required. An employee who telecommutes must be linked to 1 of your establishments under R 408.22130(4).
(5) Are there situations where an injury or illness occurs in the work environment and is not considered work-related? Yes. An injury or illness occurring in the work environment that falls under any of the following exceptions is not work-related, and therefore is not recordable:

R 408.22110a(5)	YOU ARE NOT REQUIRED TO RECORD INJURIES AND ILLNESSES IF...
(a)	At the time of the injury or illness, the employee was present in the work environment as a member of the general public rather than as an employee.
(b)	The injury or illness involves signs or symptoms that surface at work but result solely from a non-work-related event or exposure that occurs outside the work environment.
(c)	The injury or illness results solely from voluntary participation in a wellness program or in a medical, fitness, or recreational activity such as blood donation, physical examination, flu shot, exercise class, racquetball, or baseball.
(d)	The injury or illness is solely the result of an employee eating, drinking, or preparing food or drink for personal consumption whether bought on the employer's premises or brought in. For example, if the employee is injured by choking on a sandwich while in the employer's establishment, the case would not be considered work-related. Note: If the employee is made ill by ingesting food contaminated by workplace contaminants, such as lead, or gets food poisoning from food supplied by the employer, then the case would be considered work-related.
(e)	The injury or illness is solely the result of an employee doing personal tasks, unrelated to his or her employment, at the establishment outside of the employee's assigned working hours.
(f)	The injury or illness is solely the result of personal grooming, self-medication for a non-work-related condition, or is intentionally self-inflicted.
(g)	The injury or illness is caused by a motor vehicle accident and occurs on a company parking lot or company access road while the employee is commuting to or from work.
(h)	The illness is the common cold or flu. Note: Contagious diseases such as tuberculosis, brucellosis, hepatitis A, or plague are considered work-related if the employee is infected at work.
(i)	The illness is a mental illness. Mental illness will not be considered work-related unless the employee voluntarily provides the employer with an opinion from a physician or other licensed health care professional who has appropriate training and experience, such as a psychiatrist, psychologist, psychiatric nurse practitioner, or the like, stating that the employee has a mental illness that is work-related.

History: 2015 MR 10, Eff. May 27, 2015.

R 408.22110b How to handle unusual cases.

Rule 1110b. (1) How do I handle a case if it is not obvious whether the precipitating event or exposure occurred in the work environment or occurred away from work? In these situations, you must evaluate the employee's work duties and environment to decide whether or not 1 or more events or exposures in the work environment either caused or contributed to the resulting condition or significantly aggravated a preexisting condition.

(2) How do I know if an event or exposure in the work environment "significantly aggravated" a preexisting injury or illness? A preexisting injury or illness has been significantly aggravated, for purposes of MIOSHA injury and illness recordkeeping, when an event or exposure in the work environment results in any of the following:

(a) Death, if the preexisting injury or illness would likely not have resulted in death but for the occupational event or exposure.

(b) Loss of consciousness, provided that the preexisting injury or illness would likely not have resulted in loss of consciousness but for the occupational event or exposure.

(c) One or more days away from work, or days of restricted work, or days of job transfer that otherwise would not have occurred but for the occupational event or exposure.

(d) Medical treatment in a case where medical treatment was not needed for the injury or illness before the workplace event or exposure, or a change in medical treatment was necessitated by the workplace event or exposure.

(2) Which injuries and illnesses are considered preexisting conditions? An injury or illness is a preexisting condition if it resulted solely from a non-work-related event or exposure that occurred outside the work environment.

(3) How do I decide whether an injury or illness is work-related if the employee is on travel status at the time the injury or illness occurs? Injuries and illnesses that occur while an employee is on travel status are work-related if, at the time of the injury or illness, the employee was engaged in work activities "in the interest of the employer." Examples of such activities include travel to and from customer contacts, conducting job tasks, and entertaining or being entertained to transact, discuss, or promote business. Work-related entertainment includes only entertainment activities being engaged in at the direction of the employer.

(4) Injuries or illnesses that occur when the employee is on travel status do not have to be recorded if the injuries or illnesses meet any of the following exceptions:

R 408.22110b(4)	If the employee has ...:	You may use the following to determine if an injury or illness is work-related.
(a)	Checked into a hotel or motel for 1 or more days.	When a traveling employee checks into a hotel, motel, or other temporary residence, he or she establishes a "home away from home." You must evaluate the employee's activities after he or she checks into the hotel, motel, or other temporary residence for his or her work-relatedness in the same manner as you evaluate the activities of a non-traveling employee. When the employee checks into the temporary residence, he or she is considered to have left the work environment. When the employee begins work each day, he or she re-enters the work environment. If the employee has established a "home away from home" and is reporting to a fixed worksite each day, you also do not consider injuries or illnesses work-related if they occur while the employee is commuting between the temporary residence and the job location.
(b)	Taken a detour for personal reasons.	Injuries or illnesses are not considered work-related if they occur while the employee is on a personal detour from a reasonably direct route of travel, that is, has taken a side trip for personal reasons.

(5) How do I decide if a case is work-related when the employee is working at home? Injuries and illnesses that occur while an employee is working at home, including work in a home office, will be considered work-related if the injury or illness occurs while the employee is performing work for pay or compensation in the home, and the injury or illness is directly related to the performance of work rather than to the general home environment or setting. For example, if an employee drops a box of work documents and injures his or her foot, the case is considered work-related. If an employee's fingernail is punctured by a needle from a sewing machine used to perform garment work at home, becomes infected and requires medical treatment, the injury is considered work-related. If an employee is injured because he or she trips on the family dog while rushing to answer a work phone call, the case is not considered work-related. If an employee working at home is electrocuted because of faulty home wiring, the injury is not considered work-related.
GENERAL RECORDING CRITERIA
History: 2015 MR 10, Eff. May 27, 2015.

R 408.22111
Source: 2001 AACS.

R 408.22112 Basic requirement.
Rule 1112. (1) You must consider an injury or illness to meet the general recording criteria, and therefore to be recordable, if the injury or illness ~~it~~ results in any of the following:
(a) Death.
(b) Days away from work.
(c) Restricted work or transfer to another job.
(d) Medical treatment beyond first-aid.
(e) Loss of consciousness.
(2) You must consider a case to meet the general recording criteria if it involves a significant injury or illness diagnosed by a physician or other licensed health care professional, even if it does not result in death, days away from work, restricted work or job transfer, medical treatment beyond first-aid, or loss of consciousness.
History: 1979 AC; 2001 AACS; 2002 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22112a Implementation.

Rule 1112a. (1) How do I decide if a case meets 1 or more of the general recording criteria? A work-related injury or illness must be recorded if it results in 1 or more of the following:
(a) Death. See subrule (2) of this rule.
(b) Days away from work. See R 408.22112b.
(c) Restricted work or transfer to another job. See R 408.22112c.
(d) Medical treatment beyond first-aid. See R 408.22112d.
(e) Loss of consciousness. See R 408.22112e.
(f) A significant injury or illness diagnosed by a physician or other licensed health care professional. See R 408.22112f.
(2) How do I record a work-related injury or illness that results in the employee's death? You must record an injury or illness that results in death by entering a check mark on the MIOSHA 300 log in the space for cases resulting in death. You must also report any work-related fatality to MIOSHA within 8 hours, as required by R 408.22139.
History: 2015 MR 10, Eff. May 27, 2015.

R 408.22112b Record work-related injury or illness that results in days away from work.
Rule 1112b. (1) How do I record a work-related injury or illness that results in days away from work? When an injury or illness involves 1 or more days away from work, you must record the injury or illness on the MIOSHA 300 log with a check mark in the space for cases involving days away and an entry of the number of calendar days away from work in the number of days column. If the employee is out for an extended period of time, you must enter an estimate of the days that the employee will be away, and update the day count when the actual number of days is known.
(2) Do I count the day on which the injury occurred or the illness began? No. You begin counting days away on the day after the injury occurred or the illness began.
(3) How do I record an injury or illness when a physician or other licensed health care professional recommends that the worker stay at home but the employee comes to work anyway? You must record these injuries and illnesses on the MIOSHA 300 log using the check box for cases with days away from work and enter the number of calendar days away recommended by the physician or other licensed health care professional. If a physician or other licensed health care professional recommends days away, you should encourage your employee to follow that recommendation. However, the days away must be recorded whether the injured or ill employee follows the physician or licensed health care professional's recommendation or not. If you receive recommendations from 2 or more physicians or other licensed health care professionals, you may make a decision as to which recommendation is the most authoritative, and record the case based upon that recommendation.
(4) How do I handle a case when a physician or other licensed health care professional recommends that the worker return to work but the employee stays at home anyway? In this situation, you must end the count of days away from work on the date the physician or other licensed health care professional recommends that the employee return to work.
(5) How do I count weekends, holidays, or other days the employee would not have worked anyway? You must count the number of calendar days the employee was unable to work as a result of the injury or illness, regardless of whether or not the employee was scheduled to work on those days. Weekend days, holidays, vacation days, or other days off are included in the total number of days recorded if the employee would not have been able to work on those days because of a work-related injury or illness.
(6) How do I record a case in which a worker is injured or becomes ill on a Friday and reports to work on a Monday, and was not scheduled to work on the weekend? You need to record this case only if you receive information from a physician or other licensed health care professional indicating that the employee should not have worked, or should have performed only restricted work, during the weekend. If so, you must record the injury or illness as a case with days away from work or restricted work, and enter the day counts, as appropriate.
(7) How do I record a case in which a worker is injured or becomes ill on the day before scheduled time off such as a holiday, a planned vacation, or a temporary plant closing? You need to record a case of this type only if you receive information from a physician or other licensed health care professional indicating that the employee should not have worked, or should have performed only restricted work, during the scheduled time off. If so, you must record the injury or illness as a case with days away from work or restricted work, and enter the day counts, as appropriate.
(8) Is there a limit to the number of days away from work I must count? Yes. You may "cap" the total days away at 180 calendar days. You are not required to keep track of the number of calendar days away from work if the injury

or illness resulted in more than 180 calendar days away from work or days of job transfer or restriction, or both. In such a case, entering 180 in the total days away column will be considered adequate.
(9) May I stop counting days if an employee who is away from work because of an injury or illness retires or leaves my company? Yes. If the employee leaves your company for some reason unrelated to the injury or illness, such as retirement, a plant closing, or to take another job, you may stop counting days away from work or days of restriction or job transfer. If the employee leaves your company because of the injury or illness, you must estimate the total number of days away or days of restriction or job transfer and enter the day count on the MIOSHA 300 log.
(10) If a case occurs in one year but results in days away during the next calendar year, do I record the case in both years? No. You only record the injury or illness once. You must enter the number of calendar days away for the injury or illness on the MIOSHA 300 log for the year in which the injury or illness occurred. If the employee is still away from work because of the injury or illness when you prepare the annual summary, estimate the total number of calendar days you expect the employee to be away from work, use this number to calculate the total for the annual summary, and then update the initial log entry later when the day count is known or reaches the 180-day cap.
History: 2015 MR 10, Eff. May 27, 2015.

R 408.22112c Record work-related injury or illness that results in restricted work or job transfer.
Rule 1112c. (1) How do I record a work-related injury or illness that results in restricted work or job transfer? When an injury or illness involves restricted work or job transfer but does not involve death or days away from work, you must record the injury or illness on the MIOSHA 300 log by placing a check mark in the space for job transfer or restriction and an entry of the number of restricted or transferred days in the restricted workdays column.
(2) How do I decide if the injury or illness resulted in restricted work? Restricted work occurs when, as the result of a work-related injury or illness, either of the following occurs:
(a) You keep the employee from performing 1 or more of the routine functions of his or her job, or from working the full workday that he or she would otherwise have been scheduled to work.
(b) A physician or other licensed health care professional recommends that the employee not perform 1 or more of the routine functions of his or her job, or not work the full workday that he or she would otherwise have been scheduled to work.
(3) What is meant by "routine functions"? For recordkeeping purposes, an employee's routine functions are those work activities the employee regularly performs at least once per week.
(4) Do I have to record restricted work or job transfer if it applies only to the day on which the injury occurred or the illness began? No. You do not have to record restricted work or job transfers if you, or the physician or other licensed health care professional, impose the restriction or transfer only for the day on which the injury occurred or the illness began.
(5) If you or a physician or other licensed health care professional recommends a work restriction, is the injury or illness automatically recordable as a "restricted work" case? No. A recommended work restriction is recordable only if it affects 1 or more of the employee's routine job functions. To determine whether this is the case, you must evaluate the restriction in light of the routine functions of the injured or ill employee's job. If the restriction from you or the physician or other licensed health care professional keeps the employee from performing 1 or more of his or her routine job functions, or from working the full workday the injured or ill employee would otherwise have worked, the employee's work has been restricted and you must record the case.
(6) How do I record a case where the worker works only for a partial work shift because of a work-related injury or illness? A partial day of work is recorded as a day of job transfer or restriction for recordkeeping purposes, except for the day on which the injury occurred or the illness began.
(7) If the injured or ill worker produces fewer goods or services than he or she would have produced before the injury or illness, but otherwise performs all of the routine functions of his or her work, is the case considered a restricted work case? No. The case is considered restricted work only if the worker does not perform all of the routine functions of his or her job or does not work the full shift that he or she would otherwise have worked.
(8) How do I handle vague restrictions from a physician or other licensed health care professional, such as that the employee engage only in "light duty" or "take it easy for a week"? If you are not clear about the physician or other licensed health care professional's recommendation, you may ask that person whether the employee can do all of his or her routine job functions and work all of his or her normally assigned work shift. If the answer to both of

these questions is "yes," then the case does not involve a work restriction and does not have to be recorded as such. If the answer to 1 or both of these questions is "no," the case involves restricted work and must be recorded as a restricted work case. If you are unable to obtain this additional information from the physician or other licensed health care professional who recommended the restriction, then record the injury or illness as a case involving restricted work.

(9) What do I do if a physician or other licensed health care professional recommends a job restriction meeting MIOSHA's definition, but the employee does all of his or her routine job functions anyway? You must record the injury or illness on the MIOSHA 300 log as a restricted work case. If a physician or other licensed health care professional recommends a job restriction, you should ensure that the employee complies with that restriction. If you receive recommendations from 2 or more physicians or other licensed health care professionals, you may make a decision as to which recommendation is the most authoritative, and record the case based upon that recommendation.

(10) How do I decide if an injury or illness involved a transfer to another job? If you assign an injured or ill employee to a job other than his or her regular job for part of the day, the case involves transfer to another job. Note: This does not include the day on which the injury or illness occurred.

(11) Are transfers to another job recorded in the same way as restricted work cases? Yes. Both job transfer and restricted work cases are recorded in the same box on the MIOSHA 300 log. For example, if you assign, or a physician or other licensed health care professional recommends that you assign, an injured or ill worker to his or her routine job duties for part of the day and to another job for the rest of the day, the injury or illness involves a job transfer. You must record an injury or illness that involves a job transfer by placing a check in the box for job transfer.

(12) How do I count days of job transfer or restriction? You count days of job transfer or restriction in the same way you count days away from work, using R 408.22112b (2) to (9). The only difference is that, if you permanently assign the injured or ill employee to a job that has been modified or permanently changed in a manner that eliminates the routine functions the employee was restricted from performing, you may stop the day count when the modification or change is made permanent. You must count at least 1 day of restricted work or job transfer for such cases.

History: 2015 MR 10, Eff. May 27, 2015.

R 408.22112d Recording injury or illness that involves medical treatment beyond first-aid.

Rule 1112d. (1) How do I record an injury or illness that involves medical treatment beyond first-aid? If a work-related injury or illness results in medical treatment beyond first-aid, you must record it on the MIOSHA 300 log. If the injury or illness did not involve death, 1 or more days away from work, 1 or more days of restricted work, or 1 or more days of job transfer, you enter a check mark in the box for cases where the employee received medical treatment but remained at work and was not transferred or restricted.

(2) What is the definition of medical treatment? "Medical treatment" means the management and care of a patient to combat disease or disorder. For the purposes of these rules, medical treatment does not include any of the following:

(a) Visits to a physician or other licensed health care professional solely for observation or counseling.

(b) The conduct of diagnostic procedures, such as x-rays and blood tests, including the administration of prescription medications used solely for diagnostic purposes, such as eye drops to dilate pupils.

(c) "First-aid" as defined in subrule (3) of this rule.

(3) What is "first-aid"? For the purposes of these rules, "first-aid" means any of the following:

(a) Using a nonprescription medication at nonprescription strength. For medications available in both prescription and nonprescription form, a recommendation by a physician or other licensed health care professional to use a nonprescription medication at prescription strength is considered medical treatment for recordkeeping purposes.

(b) Administering tetanus immunizations. Administering other immunizations, such as hepatitis B vaccine or rabies vaccine, is considered medical treatment.

(c) Cleaning, flushing, or soaking wounds on the surface of the skin.

(d) Using wound coverings such as bandages, Band-aids™, gauze pads, or the like; or using butterfly bandages or Steri-strips™. Using other wound closing devices, such as sutures, staples, or the like, is considered medical treatment.

(e) Using hot or cold therapy.

(f) Using any nonrigid means of support, such as elastic bandages, wraps, nonrigid back belts, or the like. Using devices that have rigid stays or other systems designed to immobilize parts of the body is considered medical treatment for recordkeeping purposes.
(g) Using temporary immobilization devices while transporting an accident victim, such as splints, slings, neck collars, back boards, and the like.
(h) Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister.
(i) Using eye patches.
(j) Removing foreign bodies from the eye using only irrigation or a cotton swab.
(k) Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs, or other simple means.
(l) Using finger guards.
(m) Using massages. Physical therapy or chiropractic treatment is considered medical treatment for recordkeeping purposes.
(n) Drinking fluids for relief of heat stress.
(4) Are any other procedures included in first-aid? No. This is a complete list of all treatments considered first-aid for the purposes of these rules.
(5) Does the professional status of the person providing the treatment have any effect on what is considered first-aid or medical treatment? No. MIOSHA considers the treatments listed in subrule (3) of this rule to be first-aid regardless of the professional status of the person providing the treatment. Even when these treatments are provided by a physician or other licensed health care professional, they are considered first-aid. Similarly, MIOSHA considers treatment beyond first-aid to be medical treatment even when it is provided by someone other than a physician or other licensed health care professional
(6) What if a physician or other licensed health care professional recommends medical treatment but the employee does not follow the recommendation? If a physician or other licensed health care professional recommends medical treatment, you should encourage the injured or ill employee to follow that recommendation. However, you must record the case even if the injured or ill employee does not follow the physician or other licensed health care professional's recommendation.
History: 2015 MR 10, Eff. May 27, 2015.

R 408.22112e Record of work-related injury or illness case involving loss of consciousness recordable.
Rule 1112e. Is every work-related injury or illness case involving a loss of consciousness recordable? Yes. You must record a work-related injury or illness if the worker becomes unconscious, regardless of the length of time the employee remains unconscious.
History: 2015 MR 10, Eff. May 27, 2015.

R 408.22112f "Significant" diagnosed injury or illness that is recordable,
Rule 1112f. What is a "significant" diagnosed injury or illness that is recordable under the general criteria, even if it does not result in death, days away from work, restricted work or job transfer, medical treatment beyond first-aid, or loss of consciousness? Work-related cases involving cancer, a chronic irreversible disease, a fractured or cracked bone, or a punctured eardrum must always be recorded under the general criteria at the time of diagnosis by a physician or other licensed health care professional.
Note: Most significant injuries and illnesses will result in 1 of the criteria listed in R 408.22112, such as death, days away from work, restricted work or job transfer, medical treatment beyond first-aid, or loss of consciousness. However, there are some significant injuries, such as a punctured eardrum or a fractured toe or rib, for which neither medical treatment nor work restrictions may be recommended. In addition, there are certain significant progressive diseases, such as byssinosis, silicosis, and certain types of cancer, for which medical treatment or work restrictions may not be recommended at the time of diagnosis but are likely to be recommended as the disease progresses. Cancer, chronic irreversible diseases, fractured or cracked bones, and punctured eardrums are generally considered significant injuries and illnesses, and must be recorded at the initial diagnosis even if medical treatment or work restrictions are not recommended, or are postponed, in a particular case.
History: 2015 MR 10, Eff. May 27, 2015.

R 408.22113 Recording criteria for needlestick and sharps injuries.

Rule 1113. (1) You must record all work-related needlestick injuries and cuts from sharp objects that are contaminated with another person's blood or other potentially infectious material, as defined in Occupational Health Standard Part 554 "Bloodborne Infectious Diseases," as referenced in R 408.22102a. You must enter the case on the MIOSHA 300 log as an injury. To protect the employee's privacy, you may not enter the employee's name on the MIOSHA 300 log (see the requirements for privacy cases in R 408.22129(7) to (10).
(2) What does "other potentially infectious material" mean? The term "other potentially infectious material" is defined in R 408.22107(2). These materials include the following:
(a) Human bodily fluids, tissues, and organs.
(b) Other materials infected with the HIV or hepatitis B (HBV) virus, such as laboratory cultures or tissues from experimental animals.
(3) Does this mean that I must record all cuts, lacerations, punctures, and scratches? No, you need to record cuts, lacerations, punctures, and scratches only if they are work-related and involve contamination with another person's blood or other potentially infectious material. If the cut, laceration, or scratch involves a clean object, or a contaminant other than blood or other potentially infectious material, you need to record the case only if it meets 1 or more of the recording criteria in R 408.22112 to R 408.22112f.
(4) If I record an injury and the employee is later diagnosed with an infectious bloodborne disease, do I need to update the MIOSHA 300 log? Yes, you must update the classification of the case on the MIOSHA 300 log if the case results in death, days away from work, restricted work, or job transfer. You must also update the description to identify the infectious disease and change the classification of the case from an injury to an illness.
(5) What if one of my employees is splashed or exposed to blood or other potentially infectious material without being cut or scratched? Do I need to record this incident? You need to record such an incident on the MIOSHA 300 log as an illness if any of the following provisions apply:
(a) It results in the diagnosis of a bloodborne illness, such as HIV, hepatitis B, or hepatitis C.
(b) It meets 1 or more of the recording criteria in R 408.22112 to R 408.22112f.
History: 1979 AC; 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22114
Source: 2001 AACS.

R 408.22115 Recording criteria for cases involving occupational hearing loss, after January 1, 2003.
Rule 1115. (1) If an employee's hearing test (audiogram) reveals that the employee has experienced a work-related standard threshold shift (STS) in hearing in 1 or both ears, and the employee's total hearing level is 25 decibels (dB) or more above audiometric zero (averaged at 2000, 3000, and 4000 Hz) in the same ear or ears as the STS, you must record the case on the MIOSHA 300 Log, column 5.
(2) What is a standard threshold shift? A standard threshold shift, or STS, is defined in Occupational Health Standard Part 380 "Occupational Noise Exposure in General Industry" as referenced in R 408.22102a, as a change in hearing threshold, relative to the baseline audiogram for that employee, of an average of 10 decibels (dB) or more at 2000, 3000, and 4000 hertz (Hz) in 1 or both ears.
(3) How do I evaluate the current audiogram to determine whether an employee has an STS and a 25 dB hearing level?
(a) If the employee has never previously experienced a recordable hearing loss, then you must compare the employee's current audiogram with that employee's baseline audiogram. If the employee has previously experienced a recordable hearing loss, then you must compare the employee's current audiogram with the employee's revised baseline audiogram, which is the audiogram reflecting the employee's previous recordable hearing loss case.
(b) 25 dB loss. Audiometric test results reflect the employee's overall hearing ability in comparison to audiometric zero. Therefore, using the employee's current audiogram, you must use the average hearing level at 2000, 3000, and 4000 Hz to determine if the employee's total hearing level is 25 dB or more.
(4) May I adjust the current audiogram to reflect the effects of aging on hearing? Yes. When you are determining whether an STS has occurred, you may age adjust the employee's current audiogram results by using Table 4, as appropriate, from Occupational Health Standard Part 380 "Occupational Noise Exposure in General Industry" as referenced in R 408.22102a. You may not use an age adjustment when determining whether the employee's total hearing level is 25 dB or more above audiometric zero.

(5) Do I have to record the hearing loss if I am going to retest the employee's hearing? No. If you retest the employee's hearing within 30 days of the first test, and the retest does not confirm the recordable STS, you are not required to record the hearing loss case on the MIOSHA 300 log. If the retest confirms the recordable STS, you must record the hearing loss illness within 7 calendar days of the retest. If subsequent audiometric testing performed under the testing requirements of Occupational Health Standard Part 380 "Occupational Noise Exposure in General Industry" as referenced in R 408.22102a, indicates that an STS is not persistent, then you may erase or line-out the recorded entry.
(6) Are there any special rules for determining whether a hearing loss case is work-related? No. You must use the requirements in R 408.22110 to R 408.22110b to determine if the hearing loss is work-related. If an event or exposure in the work environment either caused or contributed to the hearing loss, or significantly aggravated a pre-existing hearing loss, you must consider the case to be work-related.
(7) If a physician or other licensed health care professional determines that the hearing loss is not work-related or has not been significantly aggravated by occupational noise exposure, you are not required to consider the case work-related or to record the case on the MIOSHA 300 log.
(8) How do I complete the MIOSHA 300 log for a hearing loss case? When you enter a recordable hearing loss case on the MIOSHA 300 log, you must check the 300 log column for hearing loss.
History: 1979 AC; 2001 AACS; 2002 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22116
Source: 2001 AACS.

R 408.22117 Recording criteria for work-related tuberculosis cases.
Rule 1117. (1) If any of your employees has been occupationally exposed to anyone with a known case of active tuberculosis (TB), and that employee subsequently develops a tuberculosis infection, as evidenced by a positive skin test or diagnosis by a physician or other licensed health care professional, you must record the case on the MIOSHA 300 log by checking the "respiratory condition" column.
(2) Do I have to record, on the log, a positive TB skin test result obtained at a pre-employment physical? No. You do not have to record it because the employee was not occupationally exposed to a known case of active tuberculosis in your workplace.
(3) May I line-out or erase a recorded TB case if I obtain evidence that the case was not caused by occupational exposure? Yes. You may line-out or erase the case from the log under the any of the following circumstances:
(a) The worker is living in a household with a person who has been diagnosed with active TB.
(b) The department of community health has identified the worker as a contact of an individual with a case of active TB unrelated to the workplace.
(c) A medical investigation shows that the employee's infection was caused by exposure to TB away from work, or proves that the case was not related to the workplace TB exposure.
History: 1979 AC; 1983 AACS; 1998-2000 AACS; 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22118
Source: 1979 AC.

R 408.22119 Record keeping on federal OSHA forms.
Rule 1119. Records maintained by an employer pursuant to this part on the federal record keeping forms OSHA 301, OSHA 300, and OSHA 300A shall be regarded as in compliance with the state requirements as provided in this part.
History: 1979 AC; 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22120
Source: 2001 AACS.

R 408.22121
Source: 2001 AACS.

R 408.22122
Source: 2001 AACS.

R 408.22129 Forms.

Rule 1129 (1) You must use MIOSHA 300, 300A, and 301 forms, or equivalent forms, and shall complete the forms in the detail required by the forms and the instructions contained in the forms for the purpose of recording recordable injuries and illnesses. The MIOSHA 300 form is called the log of work-related injuries and illnesses, the 300A is the summary of work-related injuries and illnesses, and the MIOSHA 301 form is called the injury and illness incident report.

(2) What do I need to do to complete the MIOSHA 300 log? You must enter information about your business at the top of the MIOSHA 300 log, enter a 1 or 2-line description for each recordable injury or illness, and summarize this information on the MIOSHA 300A at the end of the year.

(3) What do I need to do to complete the MIOSHA 301 incident report? You must complete a MIOSHA 301 incident report form, or an equivalent form, for each recordable injury or illness entered on the MIOSHA 300 log.

(4) How quickly must each injury or illness be recorded? You must enter each recordable injury or illness on the MIOSHA 300 log and 301 incident report within 7 calendar days of receiving information that a recordable injury or illness has occurred.

(5) What is an equivalent form? An equivalent form is a form that has the same information, is as readable and understandable, and is completed using the same instructions as the MIOSHA form it replaces. Many employers use an insurance form instead of the MIOSHA 301 incident report, or supplement an insurance form by adding any additional information required by MIOSHA.

(6) May I keep my records on a computer? Yes. If the computer can produce equivalent forms when they are needed, as described under R 408.22135 and R 408.22140, you may keep your records using the computer system.

(7) Are there situations where I do not put the employee's name on the forms for privacy reasons? Yes. If you have a "privacy concern case," you may not enter the employee's name on the MIOSHA 300 log. Instead, enter "privacy case" in the space normally used for the employee's name. This will protect the privacy of the injured or ill employee when another employee, a former employee, or an authorized employee representative is provided access to the MIOSHA 300 log under R 408.22135(3). You must keep a separate, confidential list of the case numbers and employee names for your privacy concern cases so you can update the cases and provide the information to the government if asked to do so.

(8) How do I determine if an injury or illness is a privacy concern case? You must consider all of the following injuries or illnesses to be privacy concern cases:

(a) An injury or illness to an intimate body part or the reproductive system.

(b) An injury or illness resulting from a sexual assault.

(c) Mental illnesses.

(d) HIV infection, hepatitis, or tuberculosis.

(e) Needlestick injuries and cuts from sharp objects that are contaminated with another person's blood or other potentially infectious material. See R 408.22113(2) and R 408.22107(2) for definitions.

(f) Other illnesses, if the employee independently and voluntarily requests that his or her name not be entered on the log. After January 1, 2003, musculoskeletal disorders (MSDs) are not considered privacy concern cases.

(9) May I classify any other types of injuries and illnesses as privacy concern cases? No. The list in subrule (8) of this rule is a complete list of all injuries and illnesses considered privacy concern cases for the purposes of these rules.

(10) If I have removed the employee's name, but still believe that the employee may be identified from the information on the forms, is there anything else that I can do to further protect the employee's privacy? Yes. If you have a reasonable basis to believe that information describing the privacy concern case may be personally identifiable even though the employee's name has been omitted, you may use discretion in describing the injury or illness on both the MIOSHA 300 and 301 forms. You must enter enough information to identify the cause of the incident and the general severity of the injury or illness, but you do not need to include details of an intimate or private nature. For example, a sexual assault case could be described as "injury from assault," or an injury to a reproductive organ could be described as "lower abdominal injury."

(11) What must I do to protect employee privacy if I wish to provide access to the MIOSHA forms 300 and 301 to persons other than government representatives, employees, former employees, or authorized representatives? If you decide to voluntarily disclose the forms to persons other than government representatives, employees, former employees, or authorized representatives, as required by R 408.22135 and R 408.22140, you must remove or hide the employees' names and other personally identifying information, except for the following cases. You may disclose the forms with personally identifying information only as follows:

(a) To an auditor or consultant hired by the employer to evaluate the safety and health program.
(b) To the extent necessary for processing a claim for workers' compensation or other insurance benefits.
(c) To a public health authority or law enforcement agency for uses and disclosures for which consent, an authorization, or opportunity to agree or object is not required under the United States department of health and human services standards for privacy of individually identifiable health information, 45 C.F.R. §164.512 "Uses and disclosures for which an authorization or opportunity to agree or object is not required," amended 2013, as adopted in R 408.22102a.
History: 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22130 Multiple business establishments.
Rule 1130. (1) You must keep a separate MIOSHA 300 log for each establishment that is expected to be in operation for 1 year or longer.
(2) Do I need to keep MIOSHA injury and illness records for short-term establishments, that is, establishments that will exist for less than a year? Yes. However, you do not have to keep a separate MIOSHA 300 log for each such establishment. You may keep 1 MIOSHA 300 log that covers all of your short-term establishments. You may also include the short-term establishments' recordable injuries and illnesses on a MIOSHA 300 log that covers short-term establishments for individual company divisions or geographic regions.
(3) May I keep the records for all of my establishments at my headquarters location or at some other central location? Yes. You may keep the records for an establishment at your headquarters or other central location if you comply with both of the following provisions:
(a) Transmit information about the injuries and illnesses from the establishment to the central location within 7 calendar days of receiving information that a recordable injury or illness has occurred.
(b) Produce and send the records from the central location to the establishment within the time frames required by R 408.22135 and R 408.22140 when you are required to provide records to a government representative, employees, former employees, or employee representatives.
(4) Some of my employees work at several different locations or do not work at any of my establishments at all. How do I record cases for these employees? You must link each of your employees with 1 of your establishments, for recordkeeping purposes. You must record the injury and illness on the MIOSHA 300 log of the injured or ill employee's establishment, or on a MIOSHA 300 log that covers that employee's short-term establishment.
(5) How do I record an injury or illness when an employee of 1 of my establishments is injured or becomes ill while visiting or working at another of my establishments, or while working away from any of my establishments? If the injury or illness occurs at 1 of your establishments, you must record the injury or illness on the MIOSHA 300 log of the establishment at which the injury or illness occurred. If the employee is injured or becomes ill and is not at 1 of your establishments, you must record the case on the MIOSHA 300 log at the establishment at which the employee normally works.
History: 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

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 Private sector variances from recordkeeping rule.
Rule 1138. (1) If you are a private employer and wish to keep records in a different manner from the manner prescribed by these rules, you may submit a variance petition to the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, Washington, DC 20210. You can obtain a variance only if you can show that your alternative recordkeeping system provides all of the following:
(a) Collects the same information as this part requires.
(b) Meets the purposes of the act.
(c) Does not interfere with the administration of the occupational safety and health act of 1970, 29 U.S.C. §651 et seq.
(2) What do I need to include in my variance petition? You must include all of the following items in your petition:
(a) Your name and address.
(b) A list of the state or states where the variance would be used.
(c) The address or addresses of the business establishment or establishments involved.
(d) A description of why you are seeking a variance.
(e) A description of the different recordkeeping procedures you propose to use.
(f) A description of how your proposed procedures will collect the same information as would be collected by these rules and achieve the purpose of the occupational safety and health act of 1970, 29 U.S.C. §651 et seq.
(g) A statement that you have informed your employees of the petition by giving them or their authorized representative a copy of the petition and by posting a statement summarizing the petition in the same way as notices are posted under 29 C.F.R. 1903.2 "Posting of notice; availability of the Act, regulations and applicable standards" rule (a), as adopted in R 408.22102a.
(3) How will the assistant secretary handle my variance petition? The assistant secretary will take the following steps to process your variance petition:
(a) The assistant secretary will offer your employees and their authorized representatives an opportunity to submit written data, views, and arguments about your variance petition.
(b) The assistant secretary may allow the public to comment on your variance petition by publishing the petition in the Federal Register. If the petition is published, the notice will establish a public comment period and may include a schedule for a public meeting on the petition.
(c) After reviewing your variance petition and any comments from your employees and the public, the assistant secretary will decide if your proposed recordkeeping procedures will meet the purposes of the occupational safety and health act of 1970, 29 U.S.C. §651 et seq., will not otherwise interfere with the act, and will provide the same information as the 29 C.F.R. §1904 "Recording and Reporting of Occupational Injuries and Illnesses" as amended 2014, as adopted in R 408.22102a, regulations provide. If your procedures meet these criteria, the assistant secretary may grant the variance subject to such conditions as he or she finds appropriate.
(d) If the assistant secretary grants your variance petition, OSHA will publish a notice in the Federal Register to announce the variance. The notice will include the practices the variance allows you to use, any conditions that apply, and the reasons for allowing the variance.
(4) If I apply for a variance, may I use my proposed recordkeeping procedures while the assistant secretary is processing the variance petition? No. Alternative recordkeeping practices are only allowed after the variance is approved. You must comply with the 29 C.F.R §1904 "Recording and Reporting of Occupational Injuries and Illnesses," as amended 2014, as adopted in R 408.22102a, regulations while the assistant secretary is reviewing your variance petition.
(5) If I have already been cited by MIOSHA for not following these rules, will my variance petition have any effect on the citation and penalty? No. In addition, the assistant secretary may elect not to review your variance petition if it includes an element for which you have been cited and the citation is still under review by a court, an administrative law judge (ALJ), or the MIOSHA review commission.
(6) If I receive a variance, may the assistant secretary revoke the variance at a later date? Yes, the assistant secretary may revoke your variance if he or she has good cause. The procedures revoking a variance will follow the same process as OSHA uses for reviewing variance petitions, as provided in subrule (3) of this rule. Except in cases of willfulness or where necessary for public safety, the assistant secretary will do both of the following:
(a) Notify you in writing of the facts or conduct that may warrant revocation of your variance.

(b) Provide you, your employees, and authorized employee representatives with an opportunity to participate in the revocation procedures.

History: 1979 AC; 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22139 Reporting fatalities, hospitalizations, amputations, and losses of an eye as a result of work-related incidents to MIOSHA.

Rule 1139. (1) Fatalities. Within 8 hours after the death of any employee from a work-related incident, you must report the fatality by telephone to the MIOSHA toll-free central telephone number: 1-800-858-0397.

(2) Hospitalizations, amputations, and losses of an eye. Within 24 hours after the inpatient hospitalization of 1 or more employees or an employee's amputation or an employee's loss of an eye, as a result of a work-related incident, you must report the inpatient hospitalization, amputation, or loss of an eye to MIOSHA.

(3) You must report the inpatient hospitalization, amputation, or loss of an eye using 1 of the following methods:

(a) By telephone or in person to the MIOSHA office that is nearest to the site of the incident.

(b) By telephone to the MIOSHA toll-free central telephone number: 1-800-858-0397.

(c) By electronic submission using the reporting application located on MIOSHA's web site at www.michigan.gov/miosha.

(4) If the MIOSHA office is closed, may I report the inpatient hospitalization, amputation, or loss of an eye by leaving a message on MIOSHA's answering machine, faxing the bureau office, or sending an e-mail? No. If the MIOSHA office is closed, you must report the inpatient hospitalization, amputation, or loss of an eye using either the toll-free central telephone number: 1-800-858-0397 or the reporting application located on MIOSHA's web site at www.michigan.gov/miosha.

(5) What information do I need to give to MIOSHA about the fatality, inpatient hospitalization, amputation, or loss of an eye? You must give MIOSHA all of the following information for each fatality, inpatient hospitalization, amputation, or loss of an eye:

(a) The establishment's name.

(b) The location of the work-related incident.

(c) The time of the work-related incident.

(d) The type of reportable event, fatality, inpatient hospitalization, amputation, or loss of an eye.

(e) The number of employees who suffered a fatality, inpatient hospitalization, amputation, or loss of an eye

(f) The names of the employees who suffered a fatality, inpatient hospitalization, amputation, or loss of an eye.

(g) Your contact person and his or her phone number.

(h) A brief description of the work-related incident.

(6) Do I have to report the fatality, inpatient hospitalization, amputation, or loss of an eye if it resulted from a motor vehicle accident on a public street or highway? If the motor vehicle accident occurred in a construction work zone, you must report the fatality, inpatient hospitalization, amputation, or loss of an eye. If the motor vehicle accident occurred on a public street or highway, but not in a construction work zone, you do not have to report the fatality, inpatient hospitalization, amputation, or loss of an eye to MIOSHA. However, the fatality, inpatient hospitalization, amputation, or loss of an eye must be recorded on your MIOSHA injury and illness records, if you are required to keep such records.

(7) Do I have to report the fatality, inpatient hospitalization, amputation, or loss of an eye if it occurred on a commercial or public transportation system? No. You do not have to report the fatality, inpatient hospitalization, amputation, or loss of an eye to MIOSHA if it occurred on a commercial or public transportation system, such as an airplane, a train, subway, or bus. However, the fatality, inpatient hospitalization, amputation, or loss of an eye must be recorded on your MIOSHA injury and illness records, if you are required to keep these records.

(8) Do I have to report a work-related fatality or inpatient hospitalization caused by a heart attack? Yes. The MIOSHA director will decide whether to investigate the incident, depending on the circumstances of the heart attack.

(9) What if the fatality, inpatient hospitalization, amputation, or loss of an eye does not occur during or right after the work-related incident? You must report a fatality to MIOSHA only if the fatality occurs within 30 days of the work-related incident. For an inpatient hospitalization, amputation, or loss of an eye, you must report the event to MIOSHA only if it occurs within 24 hours of the work-related incident. However, the fatality, inpatient hospitalization, amputation, or loss of an eye must be recorded on your MIOSHA injury and illness records, if you are required to keep these records.

(10) What if I don't learn about a reportable fatality, inpatient hospitalization, amputation, or loss of an eye right away? If you do not learn about a reportable fatality, inpatient hospitalization, amputation, or loss of an eye at the time it occurred, you must make the report to MIOSHA within the following time period after the fatality, inpatient hospitalization, amputation, or loss of an eye is reported to you or to any of your agents: 8 hours for a fatality, and 24 hours for an inpatient hospitalization, an amputation, or a loss of an eye.
(11) What if I don't learn right away that the reportable fatality, inpatient hospitalization, amputation, or loss of an eye was the result of a work-related incident? If you do not learn right away that the reportable fatality, inpatient hospitalization, amputation, or loss of an eye was the result of a work-related incident, you must make the report to MIOSHA within the following time period after you or any of your agents learn that the reportable fatality, inpatient hospitalization, amputation, or loss of an eye was the result of a work-related incident: 8 hours for a fatality, and 24 hours for an inpatient hospitalization, an amputation, or a loss of an eye.
(12) How does MIOSHA define ''inpatient hospitalization''? MIOSHA defines inpatient hospitalization as a formal admission to the inpatient service of a hospital or clinic for care or treatment.
(13) Do I have to report an inpatient hospitalization that involves only observation or diagnostic testing? No. You do not have to report an inpatient hospitalization that involves only observation or diagnostic testing. You must report to MIOSHA each inpatient hospitalization that involves care or treatment.
(14) How does MIOSHA define ''amputation''? An amputation is the traumatic loss of a limb or other external body part. Amputation includes all of the following:
(a) A part, such as a limb or appendage, that has been severed, cut off, amputated, either completely or partially.
(b) Fingertip amputations with or without bone loss.
(c) Medical amputations resulting from irreparable damage.
(d) Amputations of body parts that have since been reattached.
Amputations do not include avulsions, enucleations, deglovings, scalpings, severed ears, or broken or chipped teeth.
History: 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

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 Public employer petition for alternate record maintenance.
Rule 1151. A public employer who wishes to maintain records in a manner different from that required by this part shall submit a petition containing the information prescribed in R 408.22153 to the Department of Licensing and Regulatory Affairs, MIOSHA, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.
History: 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

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 Notice of exception; publication.
Rule 1156. Notice that an exception has been granted as prescribed by this part shall be published in the MIOSHA News, a quarterly publication of the department of licensing and regulatory affairs. This notice may summarize the alternative to the rules involved which the particular exception permits.
History: 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22157
Source: 2001 AACS.

R 408.22158
Source: 2001 AACS.

R 408.22161 Rescinded.
History: 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

R 408.22162 Rescinded.
History: 2001 AACS; 2015 MR 10, Eff. May 27, 2015.

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 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22952 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22953 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22954 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22955 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22956 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22957 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22958 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22959 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22960 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22961 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22962 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22963 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22964 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22965 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22966 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22967 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22968 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22969 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22970 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 408.22971 Rescinded.
History: 1982 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

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
Source: 2014 AACS.

R 408.30401a
Source: 2008 AACS.

R 408.30402
Source: 2001 AACS.

R 408.30403
Source: 2014 AACS.

R 408.30403a
Source: 1997 AACS.

R 408.30404
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.30410
Source: 2010 AACS.

R 408.30411
Source: 2014 AACS.

R 408.30412
Source: 2014 AACS.

R 408.30413
Source: 2010 AACS.

R 408.30414
Source: 2014 AACS.

R 408.30415
Source: 1997 AACS.

R 408.30415a
Source: 2014 AACS.

R 408.30416
Source: 2004 AACS.

R 408.30417
Source: 2008 AACS.

R 408.30418
Source: 2014 AACS.

R 408.30419
Source: 2014 AACS.

R 408.30420

Source: 2014 AACS.

R 408.30421
Source: 2014 AACS.

R 408.30422
Source: 1997 AACS.

R 408.30423
Source: 1997 AACS.

R 408.30427
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.30429
Source: 2014 AACS.

R 408.30429a
Source: 2014 AACS.

R 408.30429b
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.30441
Source: 2014 AACS.

R 408.30442
Source: 2014 AACS.

R 408.30443
Source: 2014 AACS.

R 408.30444
Source: 2008 AACS.

R 408.30445
Source: 2010 AACS.

R 408.30446
Source: 2014 AACS.

R 408.30447
Source: 2014 AACS.

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
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.30451d

Source: 1997 AACS.

R 408.30451e
Source: 1995 AACS.

R 408.30452
Source: 2014 AACS.

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
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.30499a
Source: 2001 AACS.

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

CONSTRUCTION CODE

PART 5. RESIDENTIAL CODE

R 408.30500 Applicable code.
Rule 500. The provisions of the international residential code, 2015 edition, including appendices A, B, C, D, E, F, G, J, K, N, O, P, R, and S except for Sections R103.2, R103.3, R104.8, R104.8.1, R108.2, R108.3, R108.4, R108.5, R108.6, R313.1.1 to R313.2.1, R602.11, R602.12, N1102.3.2, tables R507.2.3, N1101.12.3(3) and figure R507.2.1(2), R507.2.3(1), R507.2.3(2), and 507.2.4, sections M1411.8, G2411.1.1.1 to G2411.1.1.5, G2439.7.2, P2503.9, P2709.2.3, P2904.1.1 to P2904.8.2, P2905.1, P2905.2, figure P2904.2.4.2, table P2904.2.2, tables P2904.6.2(1) to P2904.6.2(9), P3009.1 to P3009.11.1, E3902.15, E3902.16, E3902.17, and AJ102.4. The IBC-2015, IECC-2015, IMC-2015, IPC-2015, NFPA 70-2014 listed in chapter 44 govern the construction, alteration, relocation, demolition, use, and occupancy of buildings and structures, and, with exceptions noted, the international residential 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 Energy Code, Michigan Electrical Code, Michigan Rehabilitation Code for Existing Buildings, Michigan Mechanical Code, and Michigan Plumbing Code respectively. The codes are available for inspection at the Okemos office of the Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes. The codes 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 $118.00.

History: 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30501 Title.
Rule 501. Section R101.1 of the code is amended to read as follows:
R101.1. Title. These provisions shall be known and cited as the Michigan residential code for 1-and 2-family dwellings and will be referred to as “the code.”

History: 2001 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30501a Scope.
Rule 501a. Section R101.2 of the code is amended to read as follows:
R101.2. Scope. The provisions of the Michigan residential code for 1- and 2-family dwellings shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached 1- and 2-family dwellings and townhouses not more than 3 stories above grade plane in height with a separate means of egress and their accessory structures.
Exceptions:
1. Live/work units complying with the requirements of Section 419 of the Michigan building code may be built as 1- and 2-family dwellings or townhouses. Fire suppression required by Section 419.5 of the Michigan building code when constructed under the Michigan residential code for 1- and 2-family dwellings shall conform to Section P2904.
2. Owner-occupied bed and breakfast and board and room facilities may be constructed in accordance with sections 4b and 13c of the Stille-DeRossett-Hale single state construction code act, 1972 PA 230, MCL 125.1504b and MCL 125.1513c.
History: 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30502
Source: 2010 AACS.

R 408.30503
Source: 2008 AACS.

R 408.30504
Source: 2010 AACS.

R 408.30505 Work exempt from permit.
Rule 505. Section R105.2 of the code is amended to read as follows:
R105.2. Work exempt from permit. Exemption from the 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 are not required for any of the following:
(a) Building permits shall not be required for any of the following:
(i) One-story detached accessory structures, if the floor area does not exceed 200 square feet (18.58 m^2).
(ii) A fence that is not more than 7 feet (2 134 mm) high.
(iii) 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.
(iv) A water tank supported directly upon grade if the capacity is not more than 5,000 gallons (18 927 L) and the ratio of height to diameter or width is not greater than 2 to 1.
(v) 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.

(vi) Painting, papering, tiling, carpeting, cabinets, counter tops, and similar finish work.
(vii) A prefabricated swimming pool that is less than 24 inches (610 mm) deep, and not greater than 5,000 gallons (18 925 L), and is installed entirely above ground.
(viii) Swings and other playground equipment accessory to detached 1- or 2-family dwellings.
(ix) 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.
(x) Decks not exceeding 200 square feet (18.58 m^2) in area, that are not more than 30 inches (762 mm) above grade at any point as prescribed by Section R312.1.1, are not attached to a dwelling or its accessory structures, are not within 36 inches (914 mm) of a dwelling or its accessory structures, and do not serve any ingress or egress door of the dwelling or its accessory structures.
(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 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 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 (0.75kW) 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 than 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, 1978 PA 368, MCL 333.12701 to 333.12771.
(B) Has installed the geothermal vertical closed loops in accordance with the department of environmental quality's 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. If any concealed trap, drainpipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, then the work is considered as 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: 2001 AACS; 2004 AACS.; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30506 Submittal documents.
Rule 506. Sections R106.1, R106.1.1, and R802.10.1 of the code are amended and Section R106.1.4 and figure 802.10.1 are added to the code to read as follows:
R106.1. Submittal documents. Construction documents, special inspection and structural program and other data shall be submitted in 1 or more sets with each application for a permit. The construction documents shall be prepared by or under the direct supervision of a registered design professional when required by 1980 PA 299, MCL 339.101 to 339.2919, and known as the Michigan occupational code. Where special conditions exist, the building official may require additional construction documents to be prepared by a registered design professional.
R106.1.1. Information on construction documents. Construction documents shall be drawn upon suitable material. Electronic media documents may be submitted when approved by the building official. Construction documents shall be of sufficient clarity to indicate the location, nature, and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, and rules and regulations, as determined by the building official.
R106.1.4. Truss design data. As an alternative to the submission of truss design drawings, figure R802.10.1, the truss design data sheet, may be provided to the building official as part of the construction documents at the time of application. Truss design drawings shall be submitted to the building official prior to truss installation as required by Section R802.10.1.
R802.10.1 Truss design drawings. Truss design drawings, prepared in conformance with Section R802.10.1, shall be provided to the building official and approved prior to installation. The truss design data sheet, figure R802.10.1, may be provided to the building official at the time of permit application, as an alternative to design drawings as permitted in Section R106.1.4. Truss design drawings shall include, at a minimum, the information specified below. Truss design drawings shall be provided with the shipment of trusses delivered to the jobsite.
(1) Slope or depth, span, and spacing.
(2) Location of all joints.
(3) Required bearing widths.
(4) Design loads as applicable.
(a) Top chord live load (including snow loads).
(b) Top chord dead load.
(c) Bottom chord live load.
(d) Bottom chord dead load.
(e) Concentrated loads and their points of application.
(f) Controlling wind and earthquake loads.
(5) Adjustments to lumber and joint connector design values for conditions of use.
(6) Each reaction force and direction.

(7) Joint connector type and description (e.g., size, thickness, or gauge) and the dimensioned location of each joint connector except where symmetrically located relative to the joint interface.
(8) Lumber size, species, and grade for each member.
(9) Connection requirements for the following:
(a) Truss to truss girder.
(b) Truss ply to ply.
(c) Field splices.
(10) Calculated deflection ratio and/or maximum description for live and total load.
(11) Maximum axial compression forces in the truss members to enable the building designer to design the size, connections, and anchorage of the permanent continuous lateral bracing. Forces shall be shown on the truss design drawing or on supplemental documents.
(12)Required permanent truss member bracing location.

Annual Administrative Code Supplement
2015 Edition

Roof Loading Data Sheet

Authority: 1972 PA 230 Completion: This form is to be completed and given to the building official with the application for plan review and building permit. The applicant shall give a copy of the completed form to the truss manufacturer.

Jurisdictional information should be included in this space	
Township	County

Applicant's Name:		Date:
Applicant's Address:		Permit Number:
City:	State:	Zip:
Applicant's Signature:		
Job Location:		
Address:		
Township/Village/City:	County:	

Where prescriptive design is used, the ground snow load, P_g, from Table R301.2(1) shall be used as the design roof snow except, where section R802.10.2.1 applies the design roof snow load shall be .7P_g. Additional unbalanced loads for drifting across the ridge are not required. Where engineered design is used, this form is to be completed by the permit applicant or design professional. The flat roof snow load, Pf is defined as: Pf=.7Pg(Ce)(Ct)(I). For factors Ce, Ct, and I, place an "X" in the appropriate box below that best describes the structure and the particular jobsite and substitute the corresponding values in the formula above. The result is the flat roof snow load and is applied as the truss top chord live load, TCLL1. All live loads and snow loads, including unbalanced loads and minimum loads, are to be applied per ASCE 7, chapters 4 and 7 and this code.

Ground Snow Load, P_g = _____ From Figure R301.2(5) or MRC Table R301.2(5)

Exposure Factor C_e

Exposure		Fully Exposed[1]		Partially Exposed[2]		Sheltered[3]	
A	Urban and suburban areas, wooded areas or other terrain with closely spaced objects having the size of single-family dwellings or larger.						
B	Open terrain with scattered obstructions having heights less than 30 ft. (flat open country)						
C	Flat unobstructed areas exposed to wind flowing over open water for a distance of at least 1 mile. (i.e. Great Lakes.)						

Mark only one of the 9 boxes under the exposure factor with an "X".

[1]Fully Exposed: Roofs exposed on all sides with no shelter by terrain, higher structures, or trees.

[2]Partially Exposed: All roofs except those designated as "fully exposed" or "sheltered."

[3]Sheltered: Roofs located tight among conifers that qualify as obstructions.

Thermal Factor C_t

Thermal Condition[4]		
All structures except as listed below		
Structures kept just above freezing and those with cold, ventilated roofs with an R factor of 25 or greater between the ventilated and heated spaces, such as attics		
Unheated structures and those intentionally kept below freezing, such as seasonal building or storage buildings		
Continuously heated greenhouse with a roof R Value less than 2 and having an interior temperature maintained at about 50 degrees 3 ft above the floor during winter months and a temperature alarm system or an attendant to warn of a heating failure.		

Mark only 1 of the 4 boxes under the Thermal Factor with an "X".

Importance Factor (I)

Category		
I	Building and other structures representing low hazard to human life, i.e.: Agricultural, Temporary, and Minor Storage Facilities.	
II	All buildings except those listed in Categories III and IV.	
III	Building and other structures representing substantial hazard to human life in the event of failure.	
IV	Buildings and other structures designated as essential facilities.	

Mark only 1 of the 4 boxes under the Importance Factor with an "X"

Note: All roof trusses have additional live (storage) loads applied to the bottom chord where required per Table R301.5.

History: 2001 AACS; 2004 AACS.; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30507 Duct termination.
Rule 507. Section M1502.3 of the code is amended to read as follows:
M1502.3. Exhaust ducts shall terminate on the outside of the building. Exhaust duct terminations shall be in accordance with the dryer manufacturer's installation instructions. If the manufacturer's instructions do not specify a termination location, the exhaust duct shall terminate no less than 3 feet (914 mm) in any direction from openings into buildings or ventilated section in a soffit. Exhaust duct terminations shall be equipped with a backdraft damper. Screens shall not be installed at the duct termination.
History: 2001 AACS; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30508
Source: 2008 AACS.

R 408.30509
Source: 2008 AACS.

R 408.30509a Approval required.
Rule 509a. Section R109.4 of the code is amended to read as follows:
R109.4. Approval required. Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the building official. The building official upon notification shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or shall notify the permit holder or agent of the permit holder wherein portion of the construction fails to comply with this code. The notification shall include specific reference to the code chapter and section numbers in violation in writing. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the building official.
History: 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30510 Use and occupancy.
Rule 510. Sections R110.1, R110.2, and R110.3 of the code are amended to read as follows:
R110.1. 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.
R110.2. Change in use. A change in the character or use of an existing structure shall not be made, except as specified in the Michigan building code, R 408.30401 to R 408.30499.
R110.3 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 of building safety, the building official shall issue a certificate of occupancy which shall contain 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.

(e) The name of the building official.
(f) The edition of the code under which the permit was issued.
(g) Any special stipulations and conditions of the building permit.
History: 2001 AACS; 2004 AACS.; 2008 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R408.30510a Fire classification.
Rule 510a. Section R902.1 is amended and Sections R902.3 and R902.4 of the code are added to read as follows:
R902.1. Roof covering materials. Roofs shall be covered with materials as set forth in Sections R904 and R905. Class A, B, or C roofing shall be installed in jurisdictions designated by law as requiring their use or where the edge of the roof is less than 3 feet (914 mm) from a lot line. Classes A, B, and C roofing required by this section to be listed shall be tested in accordance with UL 790 or ASTM E 108.
Exceptions:
1. Class A roof assemblies include those with coverings of brick, masonry, and exposed concrete roof deck.
2. Class A roof assemblies also include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile, or slate installed on noncombustible decks.
3. Class A roof assemblies include minimum 16 ounces per square foot copper sheets installed over combustible decks.
4. Class A roof assemblies include slate installed over underlayment over combustible decks.
History: 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30511
Source: 2008 AACS.

R 408.30512 Notice to owner.
Rule 512. Section R114.1 of the code is amended to read as follows:
R114.1. Notice to owner. The notice shall be in accordance with the act. Any 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 in the act.

History: 2001 AACS; 2004 AACS; 2008 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30513 Definitions.
Rule 513. The definitions of agricultural or agricultural purposes and building inspector are added to the code and the definitions of building, building official, registered design professional, and sunroom addition in Section R202 of the code are amended, the definition of residential building type is deleted, and the definition of structure is added to Section R202 to read as follows:
R202. Definitions.
"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.

“Attic, uninhabitable with limited storage” means uninhabitable attics with limited storage where the minimum clear height between joists and rafters is 42 inches (1 063 mm) or greater or where there are not 2 or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches (1 063 mm) high by 24 inches (610 mm) in width, or greater, within the plane of the trusses.

“Attic, uninhabitable without storage” means uninhabitable attics without storage where the maximum clear height between joists and rafters is less than 42 inches (1 063 mm), or where there are not 2 or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches (1 063 mm) high by 24 inches (610 mm) 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 compliance with 1986 PA 54, MCL 338.2301 to 338.2313.

"Registered design professional" means an individual who is licensed under the occupational code, 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 word "or part or parts of the structure and all equipment in the structure," unless the context clearly indicates otherwise.

"Sunroom addition" means a new structure with glazing in excess of 40% of the gross area of the structure's exterior walls and roof added to an existing dwelling.

History: 2001 AACS; 2004 AACS.; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30514 Means of appeal.

Rule 514. Sections R112.1 and R112.3 of the code are amended to read as follows:

R112.1 Means of appeal. An interested person has the right to 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 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: 2001 AACS; 2004 AACS; 2008 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30515
Source: 2010 AACS.

R 408.30516 Design criteria.
Rule 516. Table R301.2(1) of the code is amended and figures R301.2(7) and R301.2(8) are added to the code to read as follows:

TABLE R 301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

For SI: per foot = kN/m2, per 1.609

(a)

Ground Snow Load	Wind Speed[d] (mph)	Seismic Design Category[f]	Subject to Damage From			Winter Design Temp[e]	Ice Barrier Underlayment Required[h]	Flood Hazards[g]	Air Freezing Index[i]	Mean Annual Temp[j]
			Weathering[a]	Frostline depth[b]	Termite[c]					
Table R301.2 (5)	90	See Sec.R301. 2.2.1 & Figure R301.2(2)	Severe	42” See Note b	Figure R301.2(6)	See Note e	Yes	See Note g	Figure R403.3(2)	See footnote J

1 pound square 0.0479
1 mile hour = km/h.

Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., “negligible”, “moderate,” or “severe”) for concrete as determined from the weathering probability map [figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652 as listed in chapter 44.
(b) The frost line depth may be modified as provided in section R403.1.4 of the code.
(c) The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local damage.
(d) The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [figure R301.2(4)]. Wind exposure category shall be determined on a site-specific basis in accordance with section R301.2.1.4 of the code.
(e) The winter design temperature criteria shall be taken from appendix D of the Michigan plumbing code, R 408.30701 to R 408.30796.
(f) Design category determined from section R301.2.2.1 of the code.
(g) The jurisdiction shall fill in this part of the table with both of the following:

(i) The date of the jurisdiction's entry into the national flood insurance program (date of adoption of the first code or ordinance for management of flood hazard areas).
(ii) The date(s) of the currently effective FIRM and FBFM or other flood hazard map adopted by the community, as may be amended. Absent (i) or (ii), 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 R408.7 of the code shall apply to buildings and structures within those areas.
(h) In accordance with sections R905.2.7, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1 of the code, for areas where the average daily temperature in January is 25 degrees Fahrenheit (-4 degrees Celsius) or less, or where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES". Otherwise, the jurisdiction shall fill in this part of the table with "NO".
(i) The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (bf-days) from figure R403.3(2) or from the 100-year (99%) value on the national climatic data center data table "air freezing index-USA method (base 32 degrees Fahrenheit)".
(j) The jurisdiction shall fill in this part of the table with the mean annual temperature from the national climatic data center data table "air freezing index-USA method (base 32 degrees Fahrenheit)" at www.ncdc.noaa.gov/fpsf.html
History: 2001 AACS; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30517
Source: 2004 AACS.

R 408.30517a
Source: 2010 AACS.

R 408.30518 Means of egress.
Rule 518. Sections R311.6.4 and R311.2.1 are added to the code and R311.2 of the code is amended to read as follows:
R311.6.4 Modular ramps. Modular ramp systems approved pursuant to the act are not required to comply with the requirements of section R403.1.4 of the code.
R311.2. Door type and size. The required exit door shall be a side-hinged door not less than 3 feet (914 mm) in width and 6 feet, 8 inches (2 032 mm) in height. Other exterior hinged or sliding doors shall not be less than 24 inches (6096 mm) in width and 6 feet, 6 inches (1 981 mm) in height.
R311.2.1. Interior doors. Interior doors shall be not less than 24 inches (6096 mm) in width and 6 feet, 6 inches (1524 mm) in height. Exception: Doors to areas less than 10 square feet of floor area.
History: 2001 AACS; 2004 AACS.; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30519
Source: 2010 AACS.

R 408.30520 Where required in existing dwellings.
Rule 520. Section R315.3 of the code is amended to read as follows:
R315.3. Where required in existing dwellings. Where work requiring a building permit occurs in existing dwellings that have attached garages or in existing dwellings within which fuel-fired appliances exist, carbon monoxide alarms shall be provided in accordance with Section R315.1.

History: 2001 AACS; 2004 AACS.; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30521
Source: 2010 AACS.

R 408.30521a Rooftop mounted photovoltaic panel systems.
Rule 521a. Sections R909.1, R909.2, and R909.3 of the code are added to read as follows:
R909.1. General. The installation of photovoltaic panel systems that are mounted on or above the roof covering shall comply with the provisions of this code, Section R324, and NFPA 70.
R909.2. Structural requirements. Rooftop mounted photovoltaic panel systems shall be designed to structurally support the system and withstand gravity loads in accordance with chapter 3. The roof upon which these systems are installed shall be designed and constructed to support the loads imposed by such systems in accordance with chapter 8.
R909.3. Installation. Rooftop mounted photovoltaic systems shall be installed in accordance with the manufacturer's instructions. Roof penetrations shall be flashed and sealed in accordance with this chapter.
History: 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30522 Minimum depth.
Rule 522. Section R403.1.4 of the code is amended to read as follows:
R403.1.4. Minimum depth. All exterior footings and foundation systems shall extend 42 inches below actual grade. Where applicable, the depth of the footings shall also conform to section R403.1.4.1 of the code.
Exception:
Upon evidence of the existence of any of the following conditions, the building official may modify the footing depth accordingly:
(a) Freezing temperatures (freezing degree days).
(b) Soil type.
(c) Ground water 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.
History: 2001 AACS; 2004 AACS; 2008 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30522a Vapor retarders.
Rule 522a. Section R601.3 of the code is amended to read as follows:
R601.3. Vapor retarders. Class I or II vapor retarders shall be provided on the interior side of frame walls in zones 5, 6, 7, 8, and marine 4.
Exceptions:
1. As permitted in table R702.7.1.
2. Class III or no vapor retarder shall be permitted on the interior side of below grade wall assemblies. Class I or II vapor retarders shall be permitted on the interior side of the wall assembly when no air permeable insulation is installed in the below grade wall assemblies.

3. Construction where moisture or freezing will not damage the materials.

History: 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30522b

Source: 2010 AACS.

R 408.30523 Placement of lag screws or bolts in deck ledgers and band joists.

Rule 523. Figure R507.2.1(1) of the code is amended to read as follows:

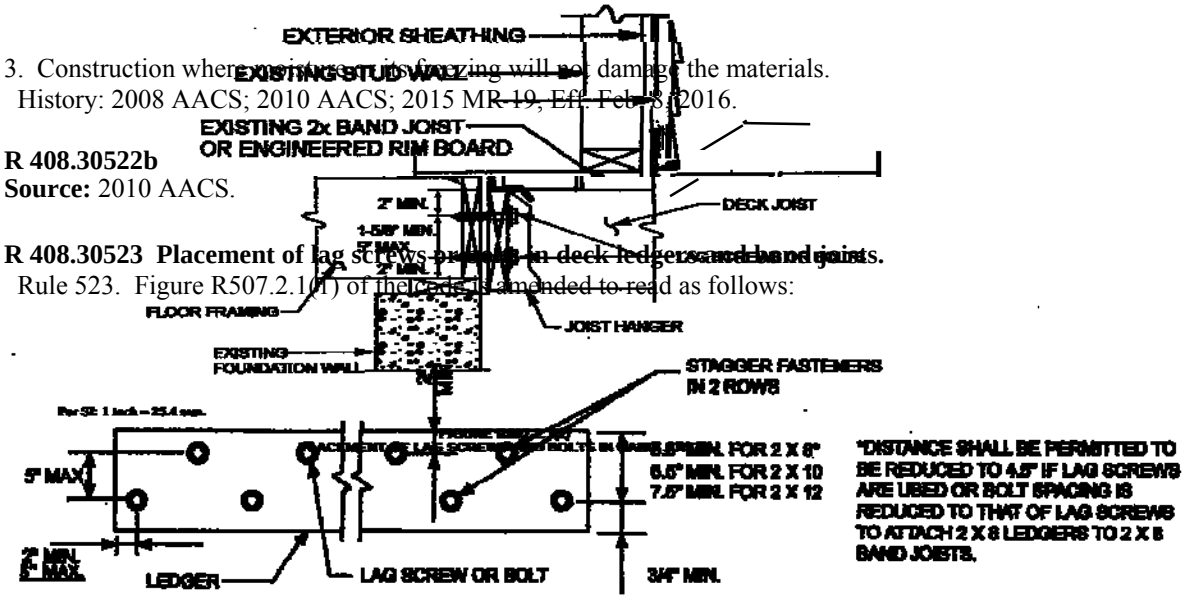


FIGURE R507.2.1(1)
PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS
History: 2015 MR 19, Eff. Feb. 8, 2016.

R408.30523a Flashing.

Rule 523a. Section R507.2.4 is added and figure R507.2.1(2) is amended to read as follows:

R507.2.4. Flashing. An approved corrosion resistant flashing as required by Section R703.8 shall be installed above the attached ledger as shown in figure R507.2.1(2) or as approved.

History: 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30524
Source: 2004 AACS.

R 408.30525
Source: 2008 AACS.

R 408.30525a Simplified wall bracing.
Rule 525a. Section R 602.10.9 is amended to read as follows:
R602.10.9. Braced wall panel support. Braced wall panel support shall be provided as follows:
1. Cantilevered floor joists complying with section R502.3.3 shall be permitted to support braced wall panels.
2. Raised floor system post or pier foundations supporting braced wall panels shall be designed in accordance with accepted engineering practice.
3. Masonry stem walls with a length of 48 inches (1 219 mm) or less supporting braced wall panels shall be reinforced in accordance with figure R602.10.9. Masonry stem walls with a length greater than 48 inches (1 219 mm) supporting braced wall panels shall be constructed in accordance with section R403.1. Methods ABW and PFH shall not be permitted to attach to masonry stem walls.
4. Concrete stem walls with a length of 48 inches (1 219 mm) or less, greater than 12 inches (305 mm) tall shall have reinforcement sized and located in accordance with figure R602.10.9.
History: 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30526 Rescinded.
History: 2001 AACS; 2004 AACS; 2008 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30527 Standards.
Rule 527. Section M2001.1.1 of the code is amended to read as follows:
M2001.1.1. Standards. Oil-fired boilers and their control systems shall be listed and labeled in accordance with UL 726. Electric boilers and their control systems shall be listed in accordance with UL 834. Solid-fuel-fired boilers shall be listed and labeled in accordance with UL 2523. Boilers shall be designed,

constructed, installed, and maintained in accordance with the requirements of ASME CSD-1 and ASME boiler and pressure vessel code, Sections I and IV, except part CE-110(a) of the CSD-1. Gas-fired boilers shall conform to the requirements listed in chapter 24. It shall be the homeowner's responsibility to maintain and operate the boiler in accordance with ASME CSD-1.

History: 2001 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30528
Source: 2010 AACS.

R 408.30528a CSST.

Rule 528a. Section G2411.1.1 (310.1.1) of the code is amended to read as follows:

G2411.1.1. CSST. Corrugated stainless steel tubing (CSST) gas piping systems shall be bonded to the electrical service grounding electrode system or where provided, lightening protection electrode system. The bonding jumper shall connect to a metallic pipe, pipe fitting, or CSST fitting between the point of delivery and the CSST utilizing a device listed for the application. The bonding jumper shall be not smaller than 6 AWG copper wire or equivalent, not longer than 75 feet and accessible. Gas piping systems that are bonded in accordance with this section shall be considered effectively bonded regardless of the amount of CSST in the system. Any additional grounding electrodes used shall be bonded to the electrical service grounding electrode system, or where provided, the lighting protection grounding electrode system.

Exception: CSST piping systems tested and listed by the manufacturer for installation without additional bonding when installed in accordance with the listing.

History: 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30529 Lining required.

Rule 529. Section P2709.2 of the code is amended to read as follows:

P2709.2. Lining required. The adjoining walls and floor framing enclosing on-site built-up shower receptors shall be lined with 1 of the following:

1. Sheet lead.
2. Sheet copper.
3. Plastic liner material that complies with ASTM D 4068 or ASTM D 4551.
4. Sheet-applied load-bearing, bonded waterproof membranes that comply with ANSI A118.10.

The lining material shall extend not less than 3 inches (76 mm) beyond or around the rough jambs and not less than 3 inches (76 mm) above finished thresholds. Sheet-applied load bearing, bonded waterproof membranes shall be applied in accordance with the manufacturer's instructions.

History: 2001 AACS; 2008 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30530
Source: 2010 AACS.

R 408.30531
Source: 2010 AACS.

R 408.30532

Source: 2001 AACS.

R 408.30533a Rough plumbing.
Rule 533a. Section P2503.5.1 of the code is amended to read as follows:
P2503.5.1. Rough plumbing. DWV systems shall be tested on completion of the rough piping installation by water or air with no evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough piping has been installed, as follows:
1. Water test. Each section shall be filled with water to a point not less than 10 feet (3 048 mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection.
2. Air test. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 kPa) or 10 inches (254 mm) of mercury column (34 kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes.
History: 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30533b Sewer depth.
Rule 533b. Section P2603.5.1 of the code is amended to read as follows:
P2603.5.1. Sewer depth. A building sewer that connects to a private disposal system shall be a minimum of 8 inches (203 mm) to the top of the pipe below finished grade at the point of septic tank connection. Building sewers shall be installed a minimum of 42 inches (1 067 mm) below grade.
Exception: When permitted by the code official.
History: 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30534
Source: 2010 AACS.

R 408.30535
Source: 2001 AACS.

R 408.30536 Electrical; general; electrical conductors; connections and electrical grounding.
Rule 536. Sections E3401.1, E3401.2, E3401.3, E3705.4.1, E3908.8.1, and E3908.8.2 of the code are amended and E3401.5, E3401.6, E3401.6.1, E3401.6.2, E3401.6.3, E3401.7, and E3401.8 are added to read as follows:
E3401.1. Applicability. The provisions of chapters 34 to 43 of the code shall establish the general scope of the electrical system and equipment requirements of the code. Chapters 34 to 43 of the code cover those wiring methods and materials most commonly encountered in the construction of 1- and 2-family dwellings and structures regulated by the code. Other wiring methods, materials, and subject matter covered in the Michigan electrical code, R 408.30801 to R 408.30880 are also allowed by the code.
E3401.2. Scope. Chapters 34 to 43 of the code shall cover the installation of electrical systems, equipment, and components indoors and outdoors that are within the scope of the code, including services, power distribution systems, fixtures, appliances, devices, and appurtenances. Services within the scope of the code shall be limited to 120/240 volt, 0- to 400- ampere, single-phase systems. These chapters specifically cover the equipment, fixtures, appliances, wiring methods, and materials that are most commonly used in the construction or alteration of 1- and 2-family dwellings and accessory structures regulated by the code. The omission from these chapters of any material or method of construction provided by the Michigan electrical code, R 408.30801 to R 408.30880, shall not be

construed as prohibiting the use of such material or method of construction. Electrical systems, equipment, or components not specifically covered in these chapters shall comply with the applicable provisions of the Michigan electrical code, R 408.30801 to R 408.30880.
E3401.3. Not covered. Chapters 34 to 43 do not cover the following:
(1) Installations under the exclusive control of communications utilities and electric utilities.
(2) Services over 400 amperes.
E3401.5. General. This section provides for the design, construction, installation, alteration, and repair of photovoltaic equipment and systems. [690.1]
E3401.6. Requirements. The installation, inspection, maintenance, repair, and replacement of photovoltaic systems and all system components shall comply with the manufacturer's instructions, Sections E3401.6.1 through E3401.6.3 and NFPA 70. [690.3]
E3401.6.1. Roof-mounted panels and modules. Where photovoltaic panels and modules are installed on roofs, the roof shall be constructed to support the loads imposed by such modules. Roof-mounted photovoltaic panels and modules that serve as roof covering shall conform to the requirements for roof coverings in chapter 9. Where mounted on or above the roof coverings, the photovoltaic panels and modules and supporting structure shall be constructed of noncombustible materials or fire-retardant treated wood equivalent to that required for the roof construction.
E3401.6.2. Roof and wall penetrations. Roof and wall penetrations shall be flashed and sealed in accordance with chapter 9 to prevent entry of water, rodents, and insects.
E3401.6.3. Ground-mounted panels and modules. Ground-mounted panels and modules shall be installed in accordance with the manufacturer's instructions. [110.3(B)]
E3401.7. Photovoltaic panels and modules. Photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703. [690.4(B)]
E3401.8. Inverters. Inverters shall be listed and labeled in accordance with UL 1741. Systems connected to the utility grid shall use inverters listed for utility interaction. [690.4(B)]
E3705.4.1. Conductors rated 60°C. Except where the equipment is marked otherwise, termination provisions of equipment for circuits rated 100 amperes or less, or marked for 14 AWG through 1 AWG conductors, shall be used only for 1 of the following:
1. Conductors rated 60°C (140°F).
2. Conductors with higher temperature ratings, provided that the ampacity of such conductors is determined based on the 60°C (140°F) ampacity of the conductor size used.
3. Conductors with higher temperature ratings where the equipment is listed and identified for use with such conductors. [110.14(C)(1)(a)]
E3908.8.1. Grounding of flexible metal conduit. Flexible metal conduit shall not be permitted as an equipment grounding conductor. [Michigan Electrical Code Rules Part 8 250.118 amended]
E3908.8.2. Grounding of liquid-tight flexible metal conduit. Liquid-tight flexible metal conduit shall not be permitted as an equipment grounding conductor. [Michigan Electrical Code Rules Part 8 250.118 amended]
History: 2001 AACS; 2004 AACS; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30536a General requirements.
Rule 536a. Sections E3402.2, E3405.2 and E3407.5 are amended to read as follows:
E3402.2. Penetrations of fire-resistance-rated assemblies. Electrical installations in hollow spaces, vertical shafts, and ventilation or air-handling ducts shall be made so that the possible spread of fire or products of combustion will not be substantially increased. Electrical penetrations through fire-resistance-rated walls, partitions, floors, or ceilings shall be protected by approved methods to maintain the fire-resistance-rating of the element penetrated. Penetrations of fire-resistance-rated walls shall be limited as specified in Section R302.4.

E3405.2. Working clearances for energized equipment and panelboards. Except as otherwise specified in chapters 34 through 43, the dimension of the working space in the direction of access to panelboards and live parts likely to require examination, adjustment, servicing, or maintenance while energized shall be not less than 36 inches (914 mm) in depth. Distances shall be measured from the energized parts where such parts are exposed or from the enclosure front or opening where such parts are enclosed. In addition to the 36-inch dimension (914 mm), the work space shall not be less than 30 inches (762 mm) wide in front of the electrical equipment and not less than the width of such equipment. The work space shall be clear and shall extend from the floor or platform to a height of 6.5 feet (1 981 mm) or the height of the equipment, whichever is greater. In all cases, the work space shall allow at least a 90-degree (1.57 rad) opening of equipment doors or hinged panels. Equipment associated with the electrical installation located above or below the electrical equipment shall be permitted to extend not more than 6 inches (152 mm) beyond the front of the electrical equipment. [110.26(A)]
Exception:
1. In existing dwelling units, service equipment, and panelboards that are not rated in excess of 200 amperes may be in spaces where the height of the working space is less than 6.5 feet (1 981 mm), but greater than 5 feet (1 524 mm). [110.26(A)(3) Exception 1 amended]
2. Meters that are installed in meter sockets may extend beyond the other equipment. Meter sockets shall not be exempt from the requirements of this section. [110.26(A)(3) Exception 2]
E3407.5. Polarity of connections. No grounded conductor shall be attached to any terminal or lead so as to reverse the designated polarity.
History: 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30537 Separate outdoor electric space conditioning equipment.
Rule 537. Section E3601.6.3, E3601.6.4, and E3608.1.2.1 are added to the code and Sections E3604.2.1, and E3609.7.1 are amended to read as follows:
E3601.6.3. Separate outdoor electric space conditioning equipment. A service disconnect for separately metered outdoor electric space conditioning equipment shall be grouped with the service disconnecting means for the structure or immediately adjacent to the outdoor meter cabinet. A permanent plaque or directory shall be installed at each service disconnect location denoting the other services, feeders, and branch circuits supplying a building or structure and area served by each service, feeder, and branch circuit. Grounding shall be in accordance with Sections E3607 and E3608.
E3601.6.4. Electric vehicle charging system service disconnect. A service disconnect for electric vehicle charging systems shall be grouped with the service disconnecting means for the structure or immediately adjacent to the outdoor meter cabinet. A permanent plaque or directory shall be installed at each service disconnect location identifying the other services, feeders, and branch circuits supplying a building or structure and area served by each service, feeder, and branch circuit. Grounding shall be in accordance with Section E3607 and E3608.
E3604.2.1. Above roofs. Conductors shall have a vertical clearance of not less than 8 feet (2438 mm) above the roof surface. The vertical clearance above the roof level shall be maintained for a distance of not less than 3 feet (914 mm) in all directions from the edge of the roof. See figure E3604.2.1. [230.24(A)]
Exceptions:
1. Conductors above a roof surface subject to pedestrian traffic shall have a vertical clearance from the roof surface in accordance with Section E3604.2.2. [230.24(A) Exception 1]
2. Where the roof has a slope of 4 inches (102 mm) in 12 inches (305 mm) or greater and is not accessible from an operable window, the minimum clearance shall be 3 feet (914 mm). [230.24(A) Exception 2 amended]
3. The minimum clearance above only the overhanging portion of the roof shall not be less than 18 inches (457 mm) where not more than 6 feet (1 829 mm) of conductor length passes over 4 feet (1 219 mm) or less of roof surface measured horizontally and such conductors are terminated at a through-the-roof raceway or approved support. [230.24(A) Exception 3]

4. The requirement for maintaining the vertical clearance for a distance of 3 feet (914 mm) from the edge of the roof shall not apply to the final conductor span where the service drop is attached to the side of a building. [230.24(A) Exception 4]
5. Where the voltage between conductors does not exceed 300 and the roof area is guarded or isolated, a reduction in clearance to 3 feet (914 mm) shall be permitted. [230.24(A) Exception 5]
E3608.1.2.1. Verification of the installation of the concrete encased electrode specified for in E3608.1.2. The inspection of a concrete incased electrode meeting the requirements of E3608.1.2 except for the connection of the grounding electrode conductor to the electrode shall be completed by 1 of the following:
1. The electrical inspector for the enforcing agency.
2. The building inspector for the enforcing agency if all of the following conditions are met:
a. Both the electrical and building inspectors for the enforcing agency(s) shall sign a written agreement which shall remain on file with the enforcing agency that designates authority to the building inspector for that agency to inspect a concrete encased electrode.
b. Upon inspection and verification by the building inspector of a concrete encased electrode, the building inspector shall provide written documentation to the electrical inspector that the installation of the concrete encased electrode meets the requirements set forth in E3608.1.2. Electrode shall be ½" diameter (13mm) reinforcing bar or larger, a minimum of 20 feet (6 096 mm) long including usual tie wire connections, and encased in 2 inches (51 mm) of concrete except for the end of the electrode which shall be in an accessible location and not subject to deteriorating conditions (i.e. backfill).
c. Verification of approval of the concrete encased electrode shall be made at the construction site by signature of the field copy of the building permit noting that the concrete encased electrode was approved along with the footing inspection or by a readily available inspection tag attached to the accessible grounding electrode reinforcing bar.
d. The grounding electrode conductor connection to the concrete encased electrode shall be inspected by the electrical inspector for the enforcing agency.
E3609.7.1. Corrugated stainless steel tubing (CSST). Corrugated stainless steel tubing gas piping systems shall be bonded to the electrical service grounding electrode system or where provided, lightening protection electrode system. The bonding jumper shall connect to a metallic pipe, pipe fitting, or CSST fitting between the point of delivery and the CSST utilizing a device listed for the application. The bonding jumper shall be not smaller than 6 AWG copper wire or equivalent, not longer than 75 feet and accessible. Gas piping systems that are bonded in accordance with this section shall be considered effectively bonded regardless of the amount of CSST in the system. Any additional grounding electrodes used shall be bonded to the electrical service grounding electrode system, or where provided, the lighting protection grounding electrode system.
Exception: CSST piping systems tested and listed by the manufacturer for installation without additional bonding when installed in accordance with the listing.
History: 2001 AACS; 2004 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30537a Wiring methods.
Rule 537a. Section E3803.6 and tables E3801.4, and E3802.1 are amended to read as follows:
E3803.6. Raceway seals. Conduits or raceways shall be sealed or plugged at either or both ends where moisture will enter and contact live parts. Sealants shall be identified for use with the cable insulation, shield, or other components.

Table E3801.4
ALLOWABLE APPLICATIONS FOR WIRING METHODS[a, b, c, d, e, f, g, h, i, j, k, l]

ALLOWABLE APPLICATIONS (application allowed where marked with an "A")	AC	EMT	ENT	FMC	IMC RMC PVC	LFC[a]	MC	NM	SR	SE	UF	USE[l]
Services	–	A	A[h]	A[i]	A	A[i]	A	–	–	A	–	A
Feeders	A	A	A	A	A	A	A	A	–	A[b]	A	A[b]
Branch circuits	A	A	A	A	A	A	A	A	A	A[c]	A	–
Inside a building	A	A	A	A	A	A	A	A	A	A	A	–
Wet locations exposed to sunlight	–	A	A[h]	–	A	A	A	–	–	A	A[e]	A[e]
Damp locations	–	A	A	A[d]	A	A	A	–	–	A	A	A
Embedded in noncinder concrete in dry location	–	A	A	–	A	A[j]	–	–	–	–	–	–
In noncinder concrete in contact with grade	–	A[f]	A	–	A[f]	A[j]	–	–	–	–	–	–
Embedded in plaster not exposed to dampness	A	A	A	A	A	A	A	–	–	A	A	–
Embedded in masonry	–	A	A	–	A[f]	A	A	–	–	–	–	–
In masonry voids and cells exposed to dampness or below grade line	–	A[f]	A	A[d]	A[f]	A	A	–	–	A	A	–
Fished in masonry voids	A	–	–	A	–	A	A	A	–	A	A	–
In masonry voids and cells not exposed to dampness	A	A	A	A	A	A	A	A	–	A	A	–
Run exposed	A	A	A	A	A	A	A	A	A	A	A	–
Run exposed and subject to physical damage	–	–	–	–	A[g]	–	–	–	–	–	–	–
For direct burial	–	A[f]	–	–	A[f]	A	A[f]	–	–	–	A	A

For SI: 1 foot = 304.8 mm.

a. Liquid-tight flexible nonmetallic conduit without integral reinforcement within the conduit wall shall not exceed 6 feet in length.
b. Type USE cable shall not be used inside buildings.
c. The grounded conductor shall be insulated.
d. Conductors shall be a type approved for wet locations and the installation shall prevent water from entering other raceways.

e. Shall be listed as "sunlight resistant."

f. Metal raceways shall be protected from corrosion and approved for the application. Aluminum RMC requires approved supplementary corrosion protection.

g. RNC shall be Schedule 80.

h. Shall be listed as "sunlight resistant" where exposed to the direct rays of the sun.

i. Conduit shall not exceed 6 feet in length.

j. Liquid-tight flexible nonmetallic conduit may be encased in concrete where listed for direct burial and only straight connectors listed for use with LFNC are used.

k. In wet locations under any of the following conditions.

(i) The metallic covering is impervious to moisture.

(ii) A lead sheath or moisture-impervious jacket is provided under the metal covering.

(iii) The insulated conductors under the metallic covering are listed for use in wet locations and a corrosion-resistant jackets is provided over the metallic sheath.

l. Type USE cable not permitted above ground except to terminate at the exterior of a building in an approved enclosure and protected in accordance with Section E3803.3.

TABLE E3802.1
GENERAL INSTALLATION AND SUPPORT REQUIREMENTS FOR WIRING METHODS[a, b, c, d, e, f, g, h, i, j, k]

INSTALLATION REQUIREMENTS (Requirement applicable only to wiring methods marked "A")	ACMC	EMT IMC RMC	ENT	FMC LFC	NMUF	PVC	SE	SSR[a]
Where run parallel with the framing member or furring strip, the wiring shall be not less than 1 ¼ inches from the edge of a furring strip or a framing member such as a joist, rafter, or stud or shall be physically protected.	A	–	A	A	A	–	A	–
Bored holes in framing members for wiring shall be located not less than 1 ¼ inches from the edge of the framing member or shall be protected with a minimum 0.0625-inch steel plate or sleeve, a listed steel plate, or other physical protection.	A[k]	–	A[k]	A[k]	A[k]	–	A[k]	–
Where installed in grooves, to be covered by wallboard, siding, paneling, carpeting, or similar finish, wiring methods shall be protected by 0.0625-inch-thick steel plate, sleeve, or equivalent, a listed steel plate or by not less than 1 ¼-inch free space for the full length of the groove in which the cable or raceway is installed.	A	–	A	A	A	–	A	A
Securely fastened bushings or grommets shall be provided to protect wiring run through openings in metal framing members.	–	–	A[j]	–	A[j]	–	A[j]	–
The maximum number of 90-degree bends shall not exceed 4 between junction boxes.	–	A	A	A	–	A	–	–

Bushings shall be provided where entering a box, fitting, or enclosure unless the box or fitting is designed to afford equivalent protection.	A	A	A	A	–	A	–	A
Ends of raceways shall be reamed to remove rough edges.	–	A	A	A	–	A	–	A
Maximum allowable on center support spacing for the wiring method in feet.	4.5[b,c]	10[l]	3[b]	4.5[b]	4.5[i]	3[d, l]	2.5[e]	–
Maximum support distance in inches from box or other terminations.	12[b, f]	36	36	12[b, g]	12[h, i]	36	12	–

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.0175 rad.

a. Installed in accordance with listing requirements.

b. Supports not required in accessible ceiling spaces between light fixtures where lengths do not exceed 6 feet.

c. Six feet for MC cable.

d. Five feet for trade sizes greater than 1 inch.

e. Two and one-half feet where used for service or outdoor feeder and 4.5 feet where used for branch circuit or indoor feeder.

f. Twenty-four inches for Type AC cable and 36 inches for interlocking Type MC cable where flexibility is necessary.

g. Where flexibility after installation is necessary, lengths of flexible metal conduit and liquidtight flexible metal conduit measured from the last point where the raceway is securely fastened shall not exceed: 36 inches for trade sizes ½ through 1 ¼, 48 inches for trade sizes 1 ½ through 2 and 5 feet for trade sizes 2 ½ and larger.

h. Within 8 inches (203 mm) of boxes without cable clamps.

i. Flat cables shall not be stapled on edge.

j. Bushings and grommets shall remain in place and shall be listed for the purpose of cable protection.

k. See Section R502.8 and R802.7 for additional limitations on the location of bored holes in horizontal framing members.

l. Raceways may be unsupported where the raceway is not more than 900 millimeters (36 inches) long and remains in unbroken lengths (without coupling). Such raceways shall terminate in an outlet box, junction box, device box, cabinet, or other termination at each end of the raceway.

History: 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30537b Power and lighting distribution.

Rule 537b. Sections E3901.11, E3905.3.2, E3908.9, and E3908.10, are amended and E3908.9.1, E3908.9.1.1 and E3908.9.1.2 are added to read as follows:

E3901.11. Foyers. Foyers that are not part of a hallway in accordance with Section E3901.10 and that have an area that is greater than 100 feet^2 (9.2903 m^2) shall have a receptacle(s) located in each wall space that is 3 feet (914 mm) or more in width. Doorways, door-side windows that extend to the floor and similar openings shall not be considered as wall space. [210.52(I) amended]

E3905.3.2. Securing to box. All permitted wiring methods shall be secured to the boxes.

Exception: Where nonmetallic-sheathed cable is used with boxes not larger than a nominal size of 2 ¼ inches by 4 inches (57 mm by 102 mm) mounted in walls or ceilings, and where the cable is fastened within 8 inches (2 032 mm) of the box measured along the sheath, and where the sheath extends through a cable knockout not less than ¼ inch (6.4 mm), securing the cable to the box shall not be required. Multiple cable entries shall be permitted in a single cable knockout opening. [314.17(c) Exception amended]

E3908.9. Equipment fastened in place or connected by permanent wiring methods. Noncurrent-carrying metal parts of equipment, raceways, and other enclosures, where required to be grounded, shall be grounded by 1 of the following methods: [250.134]

(a) By any of the equipment grounding conductors permitted by Sections E3908.8 and E3908.8.3. [250.134(A)]

(b) By an equipment grounding conductor contained within the same raceway, cable, or cord, or otherwise run with the circuit conductors. Equipment grounding conductors shall be identified in accordance with Section E3407.2. [250.134(B) Exception]

E3908.9.1. Cord-and-plug-connected equipment. Non-current-carrying metal parts of the cord-and-plug-connected equipment, if grounded, shall be connected to an equipment grounding conductor by 1 of the methods in E3908.9.1.1 and E3908.9.1.2. [250.138]

E3908.9.1.1. By means of an equipment grounding conductor. By means of an equipment grounding conductor run with the power supply conductors in a cable assembly or flexible cord properly terminated in a grounding-type attachment plug with 1 fixed grounding contact. [250.138(A)]

Exception: The grounding contacting pole of grounding-type plug-in ground-fault circuit interrupters may be of the movable, self-restoring type on circuits operating at not over 150 volts between any 2 conductors or over 150 volts between any conductor and ground. [250.138(A) Exception]

E3908.9.1.2. By means of a separate flexible wire or strap. By means of a separate flexible wire or strap, insulated or bare, connected to an equipment grounding conductor, and protected as well as practicable against physical damage, where part of the equipment. [250.138(B)]

E3908.10. Methods of equipment grounding. Fixtures and equipment shall be considered grounded where mechanically connected to an equipment grounding conductor as specified in Sections E3908.8 and E3908.8.3. Wire type equipment grounding conductors shall be sized in accordance with Section E3908.12.

History: 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30537c Devices and luminaires.

Rule 537c. Sections - E4002.2, and E4002.16, are amended to read as follows:

E4002.2. Grounding type. Receptacles installed on 15- and 20-ampere-rated branch circuits shall be of the grounding type and connected to an equipment grounding conductor.

Exception: Replacement receptacles as permitted by Section E4002.16.

E4002.16. Replacements. Replacement of receptacles shall comply with the following as applicable. [406.4(D) amended]

(1) Grounding-type receptacles. Where a grounding means exists in the receptacle enclosure or an equipment grounding conductor is installed grounding type receptacles shall be used and shall be connected to the equipment grounding conductor. [406.4(D)(1) amended]

(2) Non-grounding-type receptacles. Where attachment to an equipment grounding conductor does not exist in the receptacle enclosure, the installation shall comply with 1 of the following: [406.4(D)(2) amended]

(a) A non-grounding-type receptacle may be replaced with another non-grounding-type receptacle. [406.4(D)(2)(a)]

(b) A non-grounding-type receptacle may be replaced with a ground-fault circuit interrupter-type of receptacle. These receptacles shall be marked “no equipment ground.” An equipment grounding conductor shall not be connected from the ground-fault circuit-interrupter-type receptacle to any outlet supplied from the ground-fault circuit-interrupter receptacle. [406.4(D)(2)(b)]

(c) A non-grounding type receptacle may be replaced with a grounding-type receptacle where supplied through a ground-fault circuit interrupter. Grounding-type receptacles supplied through the ground-fault circuit interrupter shall be marked "GFCI protected" and "no equipment ground." An equipment grounding conductor shall not be connected between the grounding-type receptacles. [406.4(D)(2)(c)]
(3) Ground-fault circuit interrupters. Ground-fault circuit-interrupter protected receptacles shall be provided where replacements are made at receptacle outlets that are required to be so protected elsewhere in this code. [406.4(D)(3)]
Exception: Where replacement of the receptacle type is impracticable, such as where the outlet box size will not permit the installation of the GFCI receptacle, the receptacle may be replaced with a new receptacle of the existing type, where GFCI protection is provided and the receptacle is marked "GFCI protected" and "no equipment ground" in accordance with E4002.16 (2)(a), (b),or (c). [406.4(D)(3) Exception]
History: 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30537d Frames of ranges and clothes dryers.
Rule 537d. Section E4101.8 of the code is added to read as follows:
E4101.8. Frames of ranges and clothes dryers. Frames of electric ranges, wall-mounted ovens, counter-mounted cooking units, clothes dryers, and outlet or junction boxes that are part of the circuit for these appliances shall be connected to the equipment grounding conductor in the manner specified in E3908.9. [250.140 amended]
Exception: For existing branch-circuit installations only where an equipment grounding conductor is not present in the outlet or junction box, the frames of electric ranges, wall-mounted ovens, counter-mounted cooking units, clothes dryers, and outlet or junction boxes that are part of the circuit for these appliances may be connected to the grounded circuit conductor if all of the following conditions are met: [250.140 Exception]
1. The supply circuit is 120/240-volt single-phase, 3-wire connected system. [250.140 Exception (1)]
2. The grounded conductor is not smaller than 10 AWG copper or 8 AWG aluminum. [250.140 Exception (2)]
3. The grounded conductor is insulated, or the grounded conductor is uninsulated and part of a type SE service-entrance cable and the branch circuit originates at the service equipment. [250.140 Exception (3)]
4. Grounding contacts of the receptacles furnished as part of the equipment are bonded to the equipment. [250.140 Exception (4)]
History: 2015 MR 19, Eff. Feb. 8, 2016.

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 408.30541a Duct Installation.
Rule 541a. Section M1502.4.2 of the code is amended to read as follows:
M1502.4.2. Duct Installation. Dryer exhaust ducts shall be supported at 4 foot (1 219 mm) intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Ducts shall not be joined with screws or similar fasteners that protrude into the inside of the duct.
History: 2004 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30542 Floor register location.
Rule 542. Section M1601.4.10 is added to the code to read as follows:

M1601.4.10. Floor register location. Floor registers located in room or spaces containing water closets shall be located a minimum of 3 feet (914 mm) from the water closet.
History: 2004 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30543 Rescinded.
History: 2004 AACS; 2008 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30544 Light, ventilation, and heating.
Rule 544. Section R303.5.2 of the code is amended to read as follows:
R303.5.2. Exhaust openings. Outside exhaust openings shall be located as not to create a nuisance. Exhaust openings shall not be directed onto walkways. Exhaust openings shall not terminate within 3 feet of a ventilated section in a soffit.
History: 2004 AACS; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30544a
Source: 2010 AACS.

R 408.30544b Exterior walls.
Rule 544b. Section R302.5.1 of the code is amended and table R302.1(1) is added to read as follows:
R302.5.1. Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8 inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than 1 3/8 inches (35 mm) thick, or 20-minute fire-rated doors.

TABLE R302.1(1)
EXTERIOR WALLS

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour-tested in accordance with ASTM E 119 or UL 263 with exposure from both sides	< 5 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Projections	Not allowed[a]	NA	< 2 feet
	Fire-resistance rated	1 hour on the underside	≥ 2 feet to < 5 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Opening in walls	Not allowed	N/A	< 3 feet
	25% maximum of wall area	0 hours	3 feet
	Unlimited	0 hours	5 feet
Penetrations	All	Comply with Section R302.4	< 5 feet
		None required	5 feet

For SI: 1 foot = 304.8 mm
N/A = Not applicable
a. except as allowed as per Section R302.1 exceptions 3 and 4
History: 2004 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30544c Polyethylene plastic.
Rule 544c. Sections P2906.3.1, P2906.10.1, P3003.11.1 and P3003.12.1 of the code are amended to read as follows:

P2906.3.1. Heat-fusion joints. Joint surfaces shall be clean and free from moisture. Joint surfaces shall be heated to melting temperature and joined. The joint shall be undisturbed until cool. Joints shall be made in accordance with ASTM F 2620 and the manufacturer's instructions.

P2906.10.1. Heat-fusion joints. Heat fusion joints for polypropylene pipe and tubing joints shall be installed with socket-type heat-fused polypropylene fittings, butt-fusion polypropylene fittings, or electrofusion polypropylene fittings. Joint surfaces shall be clean and free from moisture. The joint shall be undisturbed until cool. Joints shall be made in accordance with ASTM D 2657 and the manufacturer's instructions.

P3003.11.1. Heat-fusion joints. Heat-fusion joints for polyolefin pipe and tubing joints shall be installed with socket-type heat-fused polyolefin fittings or electrofusion polyolefin fittings. Joint surfaces shall be clean and free from moisture. The joint shall be undisturbed until cool. Joints shall be made in accordance with ASTM D 2657, ASTM F 1290, or CSA B181.3, and the manufacturer's instructions.

P3003.12.1. Heat-fusion joints. Joint surfaces shall be clean and free from moisture. All joint surfaces shall be cut, heated to melting temperature, and joined using tools specifically designed for the operation. Joints shall be undisturbed until cool. Joints shall be made in accordance with ASTM F 2620 and the manufacturer's instructions.

History: 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30545 Masonry veneer wall covering.

Rule 545. Figures R703.8, R703.8.2.1, and R703.8.2.2, of the code are amended to read as follows:

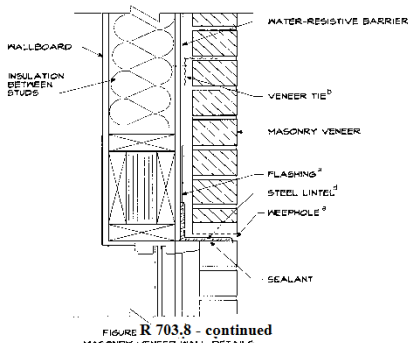


FIGURE **R 703.8 - continued**
MASONRY VENEER WALL DETAILS

FOR SI: 1 INCH = 25.4 mm

a. SEE SECTIONS R703.7.5, R703.7.6 AND R703.8.
b. SEE SECTIONS R703.2 AND R703.7.4.
c. SEE SECTIONS R703.7.4.2 AND R703.7.4.3.
d. SEE SECTION R703.7.3.

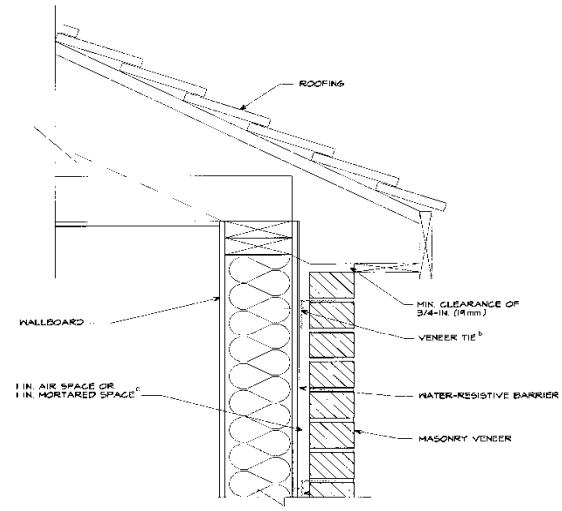
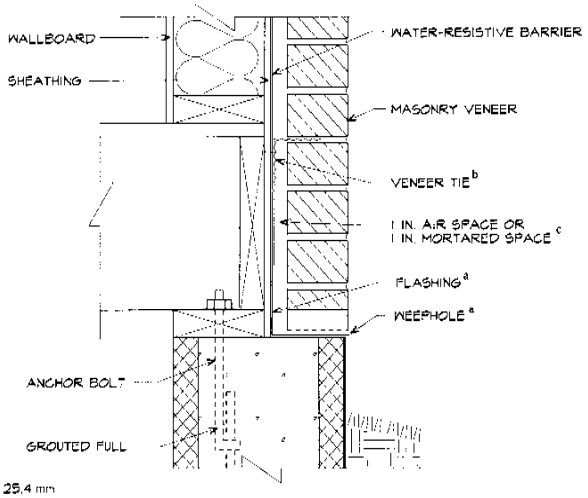


FIGURE **R 703.8 - continued**
MASONRY VENEER WALL DETAILS

FOR SI: 1 INCH = 25.4 mm

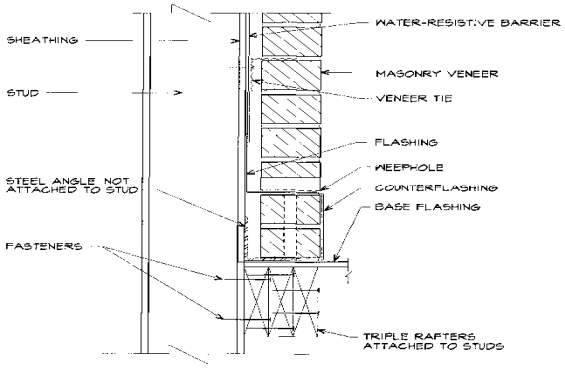
a. SEE SECTIONS R703.7.5, R703.7.6 AND R703.8.
b. SEE SECTIONS R703.2 AND R703.7.4.
c. SEE SECTIONS R703.7.4.2 AND R703.7.4.3.
d. SEE SECTION R703.7.3.



FOR SI: 1 INCH = 25.4 mm

FIGURE **R 703.8**
MASONRY VENEER WALL DETAILS

(CONTINUED)



SUPPORT BY ROOF CONSTRUCTION

FIGURE **R 703.8.2.2**
EXTERIOR MASONRY VENEER SUPPORT BY ROOF CONSTRUCTION

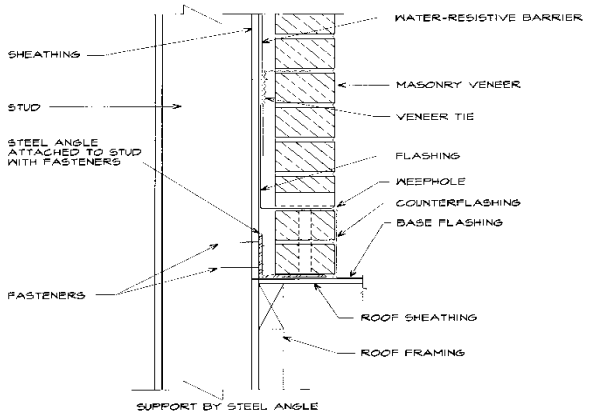
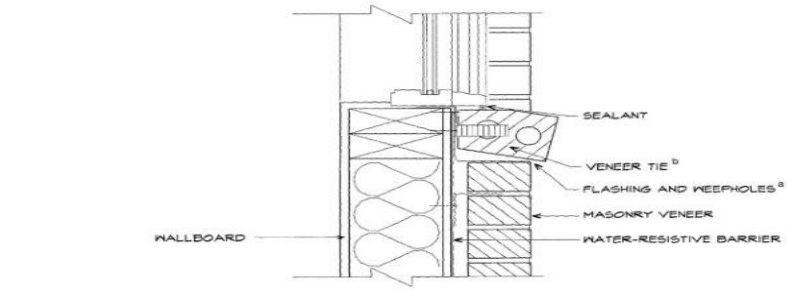


FIGURE **R 703.8.2.1**
EXTERIOR MASONRY VENEER SUPPORT BY STEEL ANGLES



FOR SI: 1 INCH = 25.4 mm

FIGURE R 703.8
MASONRY VENEER WALL DETAILS
(CONTINUED)

History: 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30545a Masonry heater clearance.

Rule 545a. Section R1002.5 of the code is amended to read as follows:

R1002.5. Masonry heater clearance. Combustible materials shall not be placed within 36 inches (914 mm) of the outside surface of a masonry heater unless installed in accordance with NFPA 211, 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:

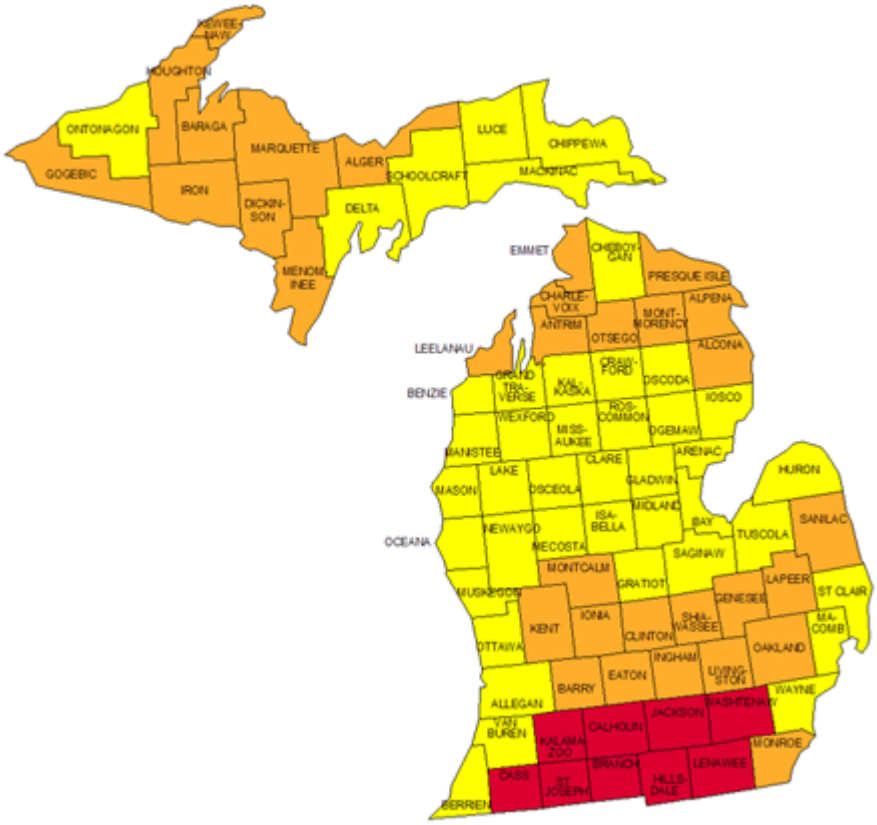
1. When the masonry heater wall is at least 8 inches (203 mm) thick of solid masonry and the wall of the heat exchange channels is at least 5 inches (127 mm) thick of solid masonry, combustible materials shall not be placed within 4 inches (102 mm) of the outside surface of a masonry heater. A clearance of at least 8 inches (203 mm) 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 may be installed in accordance with the listing specifications and the manufacturer's written instructions.
History: 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30546 Smoke alarm locations for existing buildings.
Rule 546. Sections R314.2.2, R314.3, R314.3.2, and R314.3.3, R314.4, are amended to the code to read as follows:
R314.2.2. Alterations, repairs, and additions. When alterations, repairs, or additions requiring a permit occur, or when 1 or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be equipped with smoke alarms located as required for new dwellings.
Exceptions:
1. Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck, are exempt from the requirements of this section.
2. Installations, alteration, or repairs of electrical, plumbing, or mechanical systems are exempt from the requirements of this section.
R314.3. Location. Smoke alarms shall be installed in the following locations:
1. In each sleeping room or in the immediate vicinity of the sleeping room.
2. On each additional story of the dwelling, including basements and habitable attics and not including crawl spaces and uninhabitable attics. In dwellings or dwelling 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. R314.3.2. Smoke alarms in existing buildings constructed before November 6, 1974, not undergoing an alteration, addition, or change in occupancy requiring a building permit, shall be installed in the following locations in each dwelling unit or sleeping unit:
(1) In each sleeping room or immediate vicinity of 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.
R314.3.3. Equipment requirements. The required equipment for smoke alarms required by R314.3.2 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 44.
(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 the smoke alarm is equipped with a battery backup. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.
(b) A battery operated smoke alarm.
(c) A rechargeable battery operated smoke alarm shall be automatically recharged by an AC circuit of the commercial light and power source.
(d) A household use alarm system with battery backup listed and approved in accordance with the household fire warning equipment provisions of NFPA 72, as referenced in Section R314.1 of the code.
(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.

R314.4. Interconnection. Where more than 1 smoke alarm is required to be installed within an individual dwelling unit in accordance with Section R314.3, the alarm devices shall be interconnected in such a manner that the actuation of 1 alarm will activate all of the alarms in the individual unit. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of 1 alarm.
Exception: Interconnection of smoke alarms in existing areas shall not be required.
History: 2005 AACS; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30547 Rescinded.
History: 2004 AACS; 2008 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30547a Radon Control Methods.
Rule 547a. Figure AF101 and table AF101 are amended to read as follows:
Figure AF101. EPA map of radon zones.



Zone 1 High Potential (Greater than 4 $_{p}$Ci/L[a])

Zone 2 Moderate potential (From 2 to 4 $_{p}$Ci/L)

Zone 3 Low potential (Less than 2 $_{p}$Ci/L)

apCi/L standard for picocuries per liter of radon gas. The U.S. environmental protection agency (EPA) recommends that all homes that measure 4 pCi/L and greater be mitigated.
The EPA and the U.S. geological survey have evaluated the radon potential in the U.S. and have developed a map of radon zones designed to assist building officials in deciding whether radon resistant features are applicable in new construction.
The map assigns each of the 83 counties in Michigan to 1 of 3 zones based on radon potential. Each zone designation reflects the average short-term radon measurement that can be expected to be measured in a building without the implementation of radon-control methods. The radon zone designation of highest priority is zone 1. Table AF101 lists the zone 1 counties illustrated on the map. More detailed information can be obtained from state-specific booklets (EPA-402-R-93-021 through 070) available through state radon offices or from EPA regional offices.

Figure AF101
EPA Map of Radon Zones

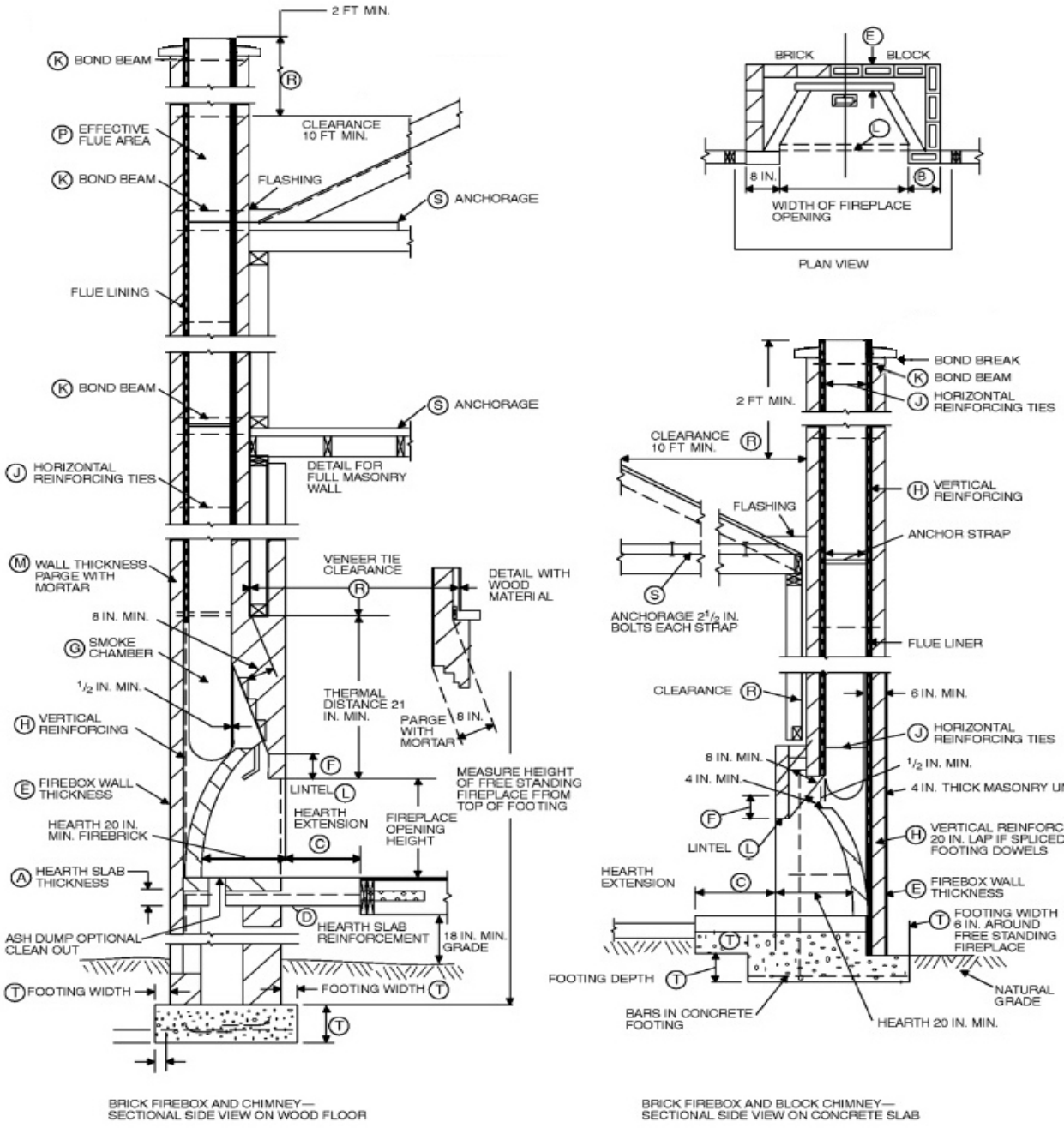
Table AF101
High Radon-Potential (Zone 1) Counties[a]
Michigan Counties

Branch
Calhoun
Cass
Hillsdale
Jackson
Kalamazoo
Lenawee
St. Joseph
Washtenaw

a. The EPA recommends that this county listing be supplemented with other available state and local data to further understand the radon potential of a zone 1 area.

History: 2015 MR 19, Eff. Feb. 8, 2016.

R 408.30547b Chimneys.
R547b. Sections R1003.9.1, R1005.4, Figure R1001.1, are amended and Figures R1003.9.1(1) and R1003.9.1(2) are added to read as follows:
R1003.9.1. Chimney caps. Masonry chimneys shall have a concrete, metal, or stone cap sloped a minimum of 10 degrees to shed water, a drip edge or slot and shall be flashed in accordance with figure R1003.9.1(1). The joint space between the flue liner and the cap shall be filled with compressible filler and caulked with a suitable sealant to allow for expansion and contraction of the materials. All vertical joints in a chimney cap shall be caulked with a suitable sealant.
The cap shall be a minimum of 2" (51 mm) thick at the outer edge and overhang the outer wall of the chimney by a minimum of 2" (51 mm). The drip slot shall be located not less than 1-1/2" (38 mm) from the outer surface of the chimney. A bond break shall be installed between the concrete cap and the chimney masonry.
Metal caps shall lap down the chimney wall a minimum of 4" (102 mm) and be sealed with a suitable sealant.
Joint sealants shall meet ASTM C 920, type S or M, grade NS, class 25 and be installed in accordance with the manufacturer's installation instructions.
R1005.4. Factory-built chimneys. Chimneys for use with factory-built fireplaces shall comply with the requirements of UL 127. The metal chase cover shall be sloped a minimum of 10° to shed water. Metal chase cover shall lap down the chimney wall a minimum of 4" (102 mm) and be sealed with a suitable sealant. Exterior wall claddings shall be applied and flashed in accordance with Section R703 and manufacturer's installation instructions.



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

Figure R1001.1
Fireplace and Chimney Details

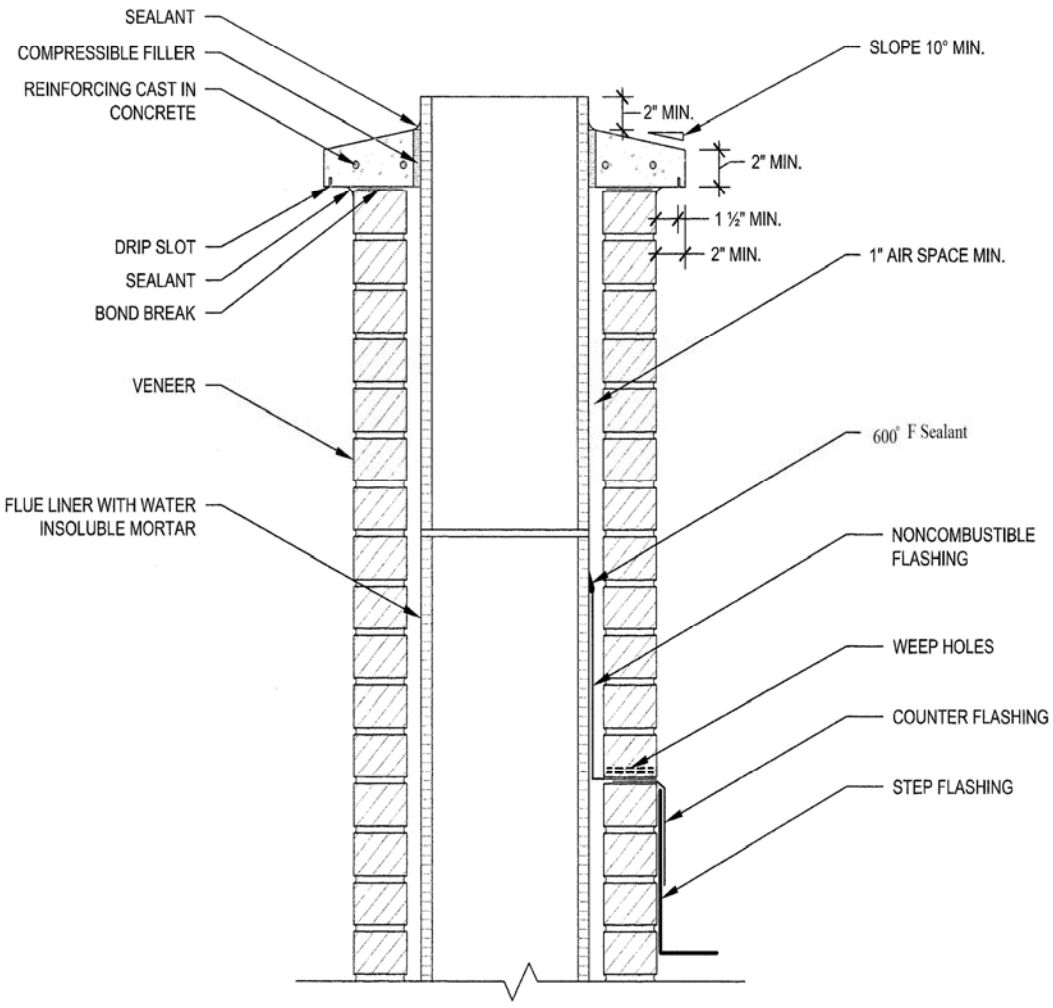


FIGURE R1003.9.1 (1)

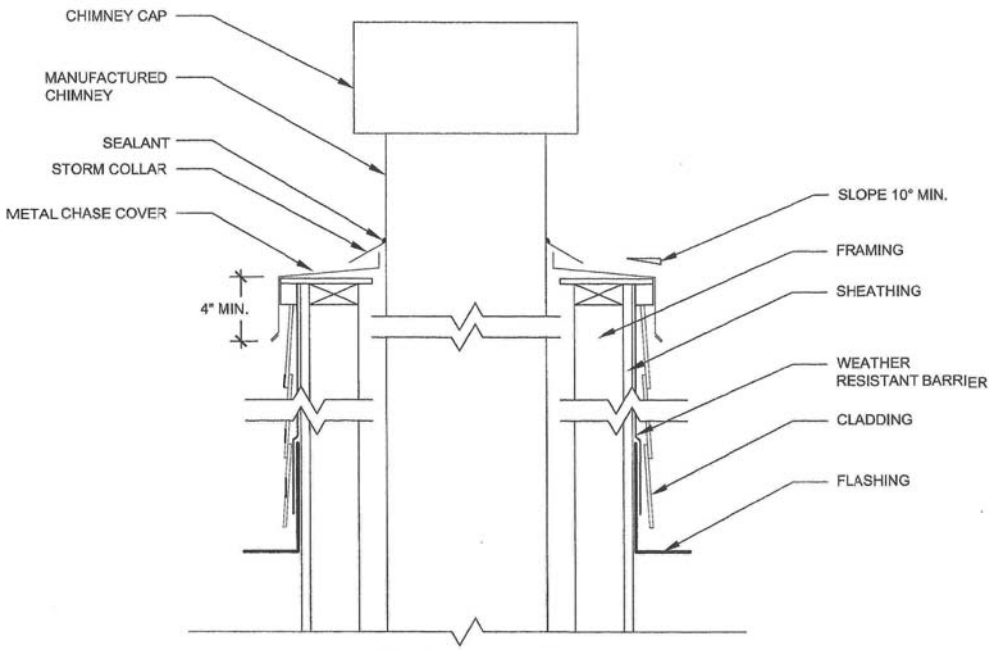


FIGURE R1003.9.1 (2)

History: 2015 MR 19, Eff. Feb. 8, 2016.

R408.30547c General.

Rule 547c. Sections N1101.3.1, N1101.7, N1101.10, N1101.12.3, N1101.16, tables N1101.10, and N1101.10.2(2) are amended and figure N1101.10a of the code is added to read as follows:

N1101.3.1 (R101.4.3). Additions, alterations, renovations, or repairs. Additions, alterations, renovations, or repairs to an existing building, building system, or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. Additions, alterations, renovations, or repairs shall not create an unsafe or hazardous condition or overload existing building systems. An addition shall be deemed to comply with this code if the addition alone complies or if the existing building and addition comply with this code as a single building.

Exception: The following are exempt provided the energy use of the building is not increased:

1. Storm windows installed over existing fenestration.
2. Glass only replacements in an existing sash and frame.
3. Existing ceiling, wall, or floor cavities exposed during construction provided that these cavities are filled with insulation.
4. Construction where the existing roof, wall, or floor cavity is not exposed.
5. Reroofing where the roof is part of the thermal envelope, and where neither the roof sheathing nor the roof insulation is exposed.
6. Reroofing where the roof is not part of the thermal envelope.
7. Replacement of existing doors that separate conditioned space from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a conditioned space from the exterior shall not be removed.

8. Alterations that replace less than 50% of the luminaries in a space, provided that such alterations do not increase the installed interior lighting power.
9. Alterations that replace only the bulb and ballast within the existing luminaries in a space provided that the alteration does not increase the installed interior lighting power.
N1101.7 (R102.1.1). Above code programs. The state construction code commission may evaluate and approve a national, state, or local energy efficiency program to exceed the energy efficiency required by this code. Buildings approved in writing by such an energy efficiency program, such as ICC 700-2012 "silver" or energy star version 3 (rev. 07), shall be considered in compliance with this code. The requirements identified as "mandatory" in chapter 4 shall be met.
N1101.10 (R301.1). Climate zones. Climate zones from figures 301.1, 301.1a or table 301.1 shall be used in determining the applicable requirements of this code.
N1101.12.3. Fenestration product rating. U-factors of fenestration products (windows, doors, and skylights) shall be determined in accordance with NFRC 100 by an accredited, independent laboratory, and labeled and certified by the manufacturer. Products lacking such a labeled U-factor shall be assigned a default U-factor from table N1101.12.3(1) or N1101.12.3(2).
Exception: Computer simulations by independent NFRC certified laboratories or approval under section 21 of 1972 PA 230, MCL 125.1521 is considered in compliance with this section.
N1101.16 (R401.3). Certificate (mandatory). A permanent certificate shall be posted on or in the electrical distribution panel, and shall meet all of the following:
(a) Be affixed or attached so it does not cover or obstruct the visibility of the circuit directory label, service disconnect label, or other required labels.
(b) Be completed by the builder or registered design professional.
(c) List the predominant *R*-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawlspace wall and/or floor) and ducts outside conditioned spaces and U-factors for fenestration. If there is more than 1 value for each component, then the certificate shall list the value covering the largest area.
(d) List the types and efficiencies of heating, cooling, and service water heating equipment.
(e) If a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, then the certificate shall list "gas-fired unvented room heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces, or electric baseboard heaters.

Table N1101.10
Climate Zones by County

Zones		
5A	6A	7
Allegan	Alcona	Baraga
Barry	Alger	Chippewa
Bay	Alpena	Gogebic
Berrien	Antrim	Houghton
Branch	Arenac	Iron
Calhoun	Benzie	Keweenaw
Cass	Charlevoix	Luce
Clinton	Cheboygan	Mackinac
Eaton	Clare	Ontonagon
Genesee	Crawford	Schoolcraft
Gratiot	Delta	
Hillsdale	Dickinson	
Ingham	Emmet	
Ionia	Gladwin	
Jackson	Grand Traverse	
Kalamazoo	Huron	
Kent	Iosco	
Lapeer	Isabella	
Lenawee	Kalkaska	

Livingston	Lake	
Macomb	Leelanau	
Midland	Manistee	
Monroe	Marquette	
Montcalm	Mason	
Muskegon	Mecosta	
Oakland	Menominee	
Ottawa	Missaukee	
Saginaw	Montmorency	
Shiawassee	Newaygo	
St. Clair	Oceana	
St. Joseph	Ogemaw	
Tuscola	Osceola	
Van Buren	Oscoda	
Washtenaw	Otsego	
Wayne	Presque Isle	
	Roscommon	
	Sanilac	
	Wexford	

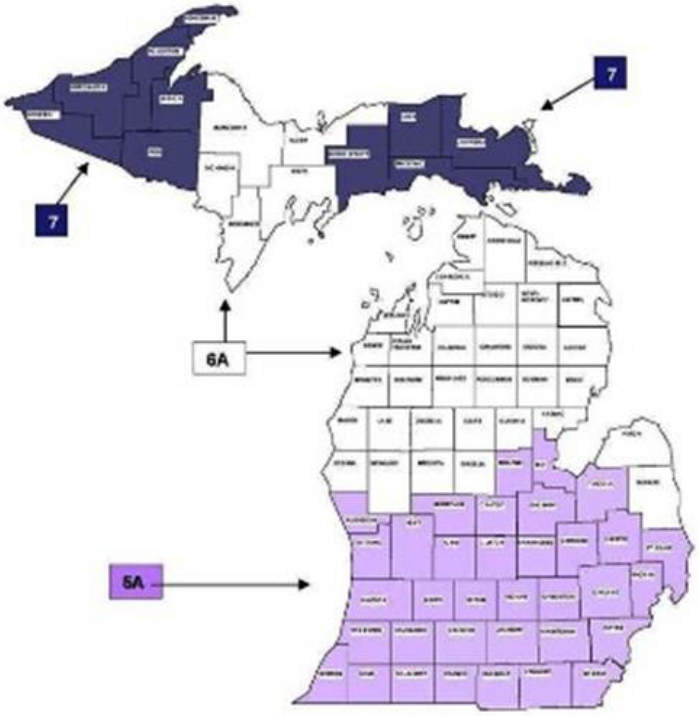
Key: A – Moist. Absence of moisture designation indicates moisture regime is irrelevant.

Table N1101.10.2(2)
Climate Zone Definitions

Zone Number	Thermal Criteria	
	IP Units	SI Units
5A	5400 < HDD65°F≤7200	3000 < HDD18°F≤4000
6A	7200 < HDD65°F≤9000	4000 < HDD18°F≤5000
7	9000 < HDD65°F≤12600	5000 < HDD18°F≤7000

For SI: ºC = [(ºF)-32]/1.8

FIGURE N1101.10a
CLIMATE ZONES



History: 2015 MR 19, Eff. Feb. 8, 2016.

R408.30547d Building thermal envelope.

Rule 547d. Sections N1102.2.6, N1102.2.12, N1102.3.3, N1102.3.6, N1102.4, N1102.4.1.1, N1102.4.1.2, N1102.4.2, N1102.4.3, N1102.4.4, tables N1102.1.1, N1102.1.3, and N1102.4.1.1 of the code are amended to read as follows:

N1102.2.6 (R402.2.6). Steel-frame ceilings, walls, and floors. Steel-frame ceilings, walls, and floors shall meet the insulation requirements of table N1102.2.6 or shall meet the U-factor requirements in table N1102.1.3. The calculation of the U-factor for a steel-frame envelope assembly shall use a series-parallel path calculation method.

N1102.2.12 Thermally isolated sunroom insulation. The minimum ceiling insulation R-values shall be R-24 in zones 5 to 7. The minimum wall R-value shall be R-13 in all zones. New wall or walls separating a sunroom from conditioned space shall meet the building thermal envelope requirements.

N1102.3.3 (R402.3.3). Glazed fenestration exemption. Up to 15 square feet (1.4m^2) of glazed fenestration per dwelling unit may be exempt from U-factor requirements in section N1102.1.1. This exemption shall not apply to the U-factor alternative approach in section N1102.1.1 and the total UA alternative in section N1102.1.4.

N1102.3.6 (R402.3.6). Replacement fenestration. Where some or all of an existing fenestration unit is replaced with a new fenestration product, including sash and glazing, the replacement fenestration unit shall meet the applicable requirements for U-factor in table N1102.1.3. Where some or all of an existing fenestration unit is replaced with a new fenestration product, including sash and glazing, the replacement fenestration unit shall meet the applicable requirements for U-factor in table N1102.1.1.

N1102.4 (R402.4). Air leakage. The building thermal envelope shall be constructed to limit air leakage in accordance with the requirements of sections N1102.4.1 through N1102.4.4.

N1102.4.1 (R402.4.1). Building thermal envelope. The building thermal envelope shall comply with sections N1102.4.1.1 and N1102.4.1.2.

N1102.4.1.1 (R402.4.1.1). Installation (mandatory). The components of the building thermal envelope as listed in table N1102.4.1.1 shall be installed in accordance with the manufacturer's instructions and the criteria listed in table N1102.4.1.1, as applicable to the method of construction. The sealing methods between dissimilar materials shall allow for differential expansion and contraction.

N1102.4.1.2 (R402.4.1.2). Testing (prescriptive). The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 4 air changes per hour. Testing shall be conducted with a blower door at a pressure of 0.2" w.g. (50 pascals). Where required by the code official, testing shall be conducted by a certified independent third party. Certification programs shall be approved by the state construction code commission. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.

During testing all of the following apply:

1. Exterior windows and doors, fireplace, and stove doors shall be closed, but not sealed, beyond the intended weather stripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, backdraft, and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

N1102.4.2 (R402.4.2). Fireplaces (mandatory). New wood-burning masonry fireplaces shall have tight-fitting flue dampers and outdoor combustion air.

N1102.4.3 (R402.4.3). Fenestration air leakage (mandatory). Windows, skylights, and sliding glass doors shall have an air infiltration rate of no more than 0.3 cfm per square foot (1.5 L/s/m^2), and swinging doors no more than 0.5 cfm per square foot (2.6 L/s/m^2), when tested according to NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled by the manufacturer.

Exception: Site-built windows, skylights, and doors.

N1102.4.4 (R402.4.4). Recessed lighting (mandatory). Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be IC-rated and labeled as having an air leakage rate not more than 2.0 cfm (0.944 L/s) when tested in accordance with ASTM E 283 at a 1.57 psf (75 Pa) pressure differential. All recessed luminaires shall be sealed with a gasket or caulk between the housing and the interior wall or ceiling covering.

TABLE N1102.1.1 (R402.1.1)
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

Climate Zone	Fenestration U-Factor[b]	Skylight[b] U-Factor	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value[g]	Floor R-Value	Basement[c] Wall R-Value	Slab[d] R-Value & Depth	Crawl Space[c] Wall R-Value
5A	0.32	0.55	38	20 or 13 + 5[f]	13/17	30[e]	10/13	10, 2 ft	15/19
6A	0.32	0.55	49	20 or 13 + 5[f]	15/20	30[e]	15/19	10, 4 ft	15/19
7	0.32	0.55	49	20 or 13 + 5[f]	19/21	38[e]	15/19	10, 4 ft	15/19

a. R-values are minimums. U-factors are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-values specified in the table.
b. The fenestration U-factor column excludes skylights.
c. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" may be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.
d. R-5 shall be added to the required slab edge R-values for heated slabs.
e. Or insulation sufficient to fill the framing cavity, R-19 minimum.
f. First value is cavity insulation, second is continuous insulation or insulated siding, so "13 + 5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding. If structural sheathing covers 40% or less of the exterior, continuous insulation R-value may be reduced by no more than R-3 in the locations where structural sheathing is used – to maintain a consistent total sheathing thickness.
g. The second R-value applies when more than 1/2 the insulation is on the interior of the mass wall.

TABLE N1102.1.3 (R402.1.3)
EQUIVALENT U-FACTORS[a]

Climate Zone	Fenestration U-Factor	Skylight U-Factor	Ceiling U-Factor	Frame Wall U-Factor	Mass Wall U-Factor[b]	Floor U-Factor	Basement Wall U-Factor	Crawl Space Wall U-Factor
5A	0.32	0.55	0.030	0.057	0.082	0.033	0.059	0.055
6A	0.32	0.55	0.026	0.057	0.060	0.033	0.050	0.055
7	0.32	0.55	0.026	0.057	0.057	0.028	0.050	0.055

a. Nonfenestration U-factors shall be obtained from measurement, calculation, or an approved source.
b. When more than half the insulation is on the interior, the mass wall U-factors shall be a maximum of 0.065 in zone 5 and marine 4, and 0.057 in zones 6 and 7.

TABLE N1102.4.1.1 (R402.4.1.1)
AIR BARRIER AND INSULATION INSTALLATION

COMPONENT	CRITERIA[a]
Air barrier and thermal barrier	A continuous air barrier shall be installed in the building envelope. Exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed. Air-permeable insulation shall not be used as a sealing material.
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier sealed. Access openings, drop down stair, or knee wall doors to unconditioned attic spaces shall be sealed.
Walls	Corners and headers shall be insulated and the junction of the foundation and sill plate shall be sealed. The junction of the top plate and top of exterior walls shall be sealed. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier. Knee walls shall be sealed.
Windows, skylights, and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed.
Rim joists	Rim joists shall be insulated and include the air barrier.
Floors (including above-garage and cantilevered floors)	Insulation shall be installed to maintain permanent contact with underside of subfloor decking. The air barrier shall be installed at any exposed edge of insulation.
Crawl space walls	Where provided in lieu of floor insulation, insulation shall be permanently attached to the crawlspace walls. Exposed earth in unvented crawl spaces shall be covered with a class I vapor retarder with overlapping joints taped.
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.
Narrow cavities	Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity space.
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be air tight, IC rated, and sealed to the drywall.

Plumbing and wiring	Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.
Shower/tub on exterior wall	Exterior walls adjacent to showers and tubs shall be insulated and the air barrier installed separating them from the showers and tubs.
Electrical/phone box on exterior walls	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.
HVAC register boots	HVAC register boots that penetrate the building thermal envelope shall be sealed to the subfloor or drywall.
Fireplace	An air barrier shall be installed on fireplace walls.

a. In addition, inspection of log walls shall be in accordance with the provisions of ICC-400.

History: 2015 MR 19, Eff. Feb. 8, 2016.

R408.30547e Simulated performance alternative.

Rule 547e. Table N1105.5.2(1) [R405.5.2(1)] of the code is amended to read as follows:

TABLE N1105.5.2(1) [R405.5.2(1)]
SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS

BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Above-grade walls	Type: mass wall if proposed wall is mass; otherwise wood frame. Gross area: same as proposed U-factor: from Table N1102.1.3 Solar absorptance = 0.75 Remittance = 0.90	As proposed As proposed As proposed As proposed As proposed
Basement and crawl space walls	Type: same as proposed Gross area: same as proposed U-factor: from Table N1102.1.3, with insulation layer on interior side of walls.	As proposed As proposed As proposed
Above-grade floors	Type: wood frame Gross area: same as proposed U-factor: from Table N1102.1.4	As proposed As proposed As proposed
Ceilings	Type: wood frame Gross area: same as proposed U-factor: from Table N1102.1.4	As proposed As proposed As proposed

Roofs	Type: composition shingle on wood sheathing Gross area: same as proposed Solar absorptance = 0.75 Emittance = 0.90	As proposed As proposed As proposed As proposed
Attics	Type: vented with aperture = 1 ft^2 per 300 ft^2 ceiling area	As proposed
Foundations	Type: same as proposed foundation wall area above and below grade and soil. Characteristics: same as proposed	As proposed As proposed
Doors	Area: 40 ft^2 Orientation: North U-factor: same as fenestration from Table N1102.1.3.	As proposed As proposed As proposed
Glazing	Total[b] = (a) The proposed glazing area: where proposed glazing area is less than 15% of the conditioned floor area. (b) 15% of the conditioned floor area; where the proposed glazing area is 15% or more of the conditioned floor area. Orientation: equally distributed to four cardinal compass orientations (N, E, S & W). U-factor: from Table N1102.1.4 SHGC: From Table N1102.1.2 except that for climates with no requirement (NR) SHGC = 0.40 shall be used. Interior shade fraction: 0.92-(0.21 x SHGC for the standard reference design) External shading: none	As proposed As proposed As proposed As proposed 0.92-(0.21 x SHGC as proposed) As proposed
Skylights	None	As proposed
Thermally isolated sunrooms	None	As proposed
Air exchange rate	Air leakage rate of 4 air changes per hour at a pressure of 0.2 inches w.g. (50 Pa). The mechanical ventilation rate shall be in addition to the air leakage rate and the same as in the proposed design, but no greater than 0.01 x CFA + 7.5 x (N_{br} + 1) where: CFA = conditioned floor area N_{br} = number of bedrooms Energy recovery shall not be assumed for mechanical ventilation.	The measured air exchange rate[c]. The mechanical ventilation rate[d] shall be in addition to the air leakage rate and shall be as proposed.
Internal gains	IGain = 17,900 + 23.8 x CFA + 4104 x N_{br} (Btu/day per dwelling unit)	Same as standard reference design.

Internal mass	An internal mass for furniture and contents of 8 pounds per square foot of floor area.	Same as standard reference design, plus any additional mass specifically designed as a thermal storage element[c] but not integral to the building envelope or structure.
Structural mass	For masonry floor slabs, 80% of floor area covered by R-2 carpet and pad, and 20% of floor directly exposed to room air. For Masonry basement walls, as proposed, but with insulation required by Table R402.1.4 located on the interior side of the walls. For other walls, for ceilings, floors, and interior walls, wood frame construction.	As proposed As proposed As proposed
Heating systems[f,g]	As proposed for other than electric heating without a heat pump. Where the proposed design utilizes electric heating without a heat pump the standard reference design shall be an air source heat pump meeting the requirements of the Michigan energy code-commercial provisions. Capacity: sized in accordance with Section N1103.7.	As proposed
Cooling systems[f,h]	As proposed Capacity: sized in accordance with Section N1103.7.	As proposed
Service water heating[f,g,h,i]	As proposed Use: same as proposed design	As proposed
Thermal distribution systems	Untested distribution systems: DSE = 0.88 Tested ducts: Leakage rate to outside conditioned space as specified Section N1103.3.2 Tested duct location: Unconditioned attic Tested duct insulation: in accordance with Section N1103.3.1	Untested distribution systems: DSE from Table N1105.5.2(2) Tested ducts: Tested leakage rate to outside conditioned space Duct location: As proposed Duct insulation: As proposed
Thermostat	Type: Manual, cooling temperature setpoint = 75°F; Heating temperature setpoint = 72°F	Same as standard reference

For SI: 1 square foot = 0.93 m^2, 1 British thermal unit = 1055 J, 1 pound per square foot = 4.88 kg/m^2, 1 gallon (U.S.) = 3.785 L, °C = (°F-3)/1.8, 1 degree = 0.79 rad, 1 inch water gauge = 1250 Pa.

a. Glazing shall be defined as sunlight-transmitting fenestration, including the area of sash, curbing, or other framing elements, that enclose conditioned space. Glazing includes the area of sunlight-transmitting fenestration assemblies in walls bounding conditioned basements. For doors where the sunlight-transmitting opening is less than 50% of the door area, the glazing area is the sunlight transmitting opening area. For all other doors, the glazing area is the rough frame opening area for the door including the door and the frame.
b. For residences with conditioned basements, R-2 and R-4 residences and townhouses, the following formula shall be used to determine glazing area:
$AF = A_s \times FA \times F$
where:
AF = Total glazing area.
A_s = Standard reference design total glazing area.
FA = (Above-grade thermal boundary gross wall area)/(above-grade boundary wall area + 0.5 x below-grade boundary wall area).
F = (Above-grade thermal boundary wall area)/(above-grade thermal boundary wall area + common wall area) or 0.56, whichever is greater.
and where:
Thermal boundary wall is any wall that separates conditioned space from unconditioned space from unconditioned space or ambient conditions.
Above-grade thermal boundary wall is any thermal boundary wall component not in contact with soil.
Below-grade boundary wall is any thermal boundary wall in soil contact.
Common wall area is the area of walls shared with an adjoining dwelling unit.
L and CFA are in the same units.
c. Where required by the code official, testing shall be conducted by a certified independent third party. Hourly calculations as specified in the ASHRAE handbook of fundamentals, or the equivalent shall be used to determine the energy loads resulting from infiltration.
d. The combined air exchange rate for infiltration and mechanical ventilation shall be determined in accordance with equation 43 of 2001 ASHRAE handbook of fundamentals, page 26.24 and the "whole-house ventilation" provisions of 2001 ASHRAE handbook of fundamentals, page 26.19 for intermittent mechanical ventilation.
e. Thermal storage element shall mean a component not part of the floors, walls, or ceilings that is part of a passive solar system, and that provides thermal storage such as enclosed water columns, rock beds, or phase-change containers. A thermal storage element must be in the same room as fenestration that faces within 15 degrees (0.26 rad) of true south, or must be connected to such a room with pipes or ducts that allow the element to be actively charged.
f. For a proposed design with multiple heating, cooling, or water heating systems using different fuel types, the applicable standard reference design system capacities and fuel types shall be weighted in accordance with their respective loads as calculated by accepted engineering practice for each equipment and fuel type present.
g. For a proposed design without a proposed heating system, a heating system with the prevailing federal minimum efficiency shall be assumed for both the standard reference and proposed design.
h. For a proposed design home without a proposed cooling system, an electric air conditioner with the prevailing federal minimum efficiency shall be assumed for both the standard reference design and the proposed design.
i. For a proposed design with a non-storage-type water heater, a 40-gallon storage-type water heater with the prevailing federal minimum energy factor for the same fuel as the predominant heating fuel type shall be assumed. For the case of a proposed design without a proposed water heater, a 40-gallon storage-type water heater with the prevailing federal minimum efficiency for the same fuel as the predominant heating fuel type shall be assumed for both the proposed design and standard reference design.
History: 2015 MR 19, Eff. Feb. 8, 2016.

R408.30547f Systems.
Rule 547e. Sections N1103.2.1, N1103.2.2, and N1103.4.2 of the code are amended to read as follows:
N1103.2.1. Insulation (prescriptive). All portions of the air distribution system shall be installed in accordance with Section M1601 and be insulated to an installed R-6 when system components are located within the building but outside the conditioned space, and R-8 when located outside to the building thermal envelope. When located within a building envelope assembly, at least R-8 shall be applied between the duct and that portion of the assembly farthest from conditioned space.
Exception: Portions of the air distribution system within appliances or equipment.
N1103.2.2. Sealing (mandatory). Ducts, air handlers, and filter boxes shall be sealed. Joints and seams shall comply with either the international mechanical code or international residential code, as applicable.
Exceptions:
1. Air-impermeable spray foam products may be applied without additional joint seals.
2. Where a duct connection is made that is partially inaccessible, 3 screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. Continuously welded and locking-type longitudinal joints and seams in ducts operating at static pressures less than 2 inches (51 mm) of water column (500 Pa) pressure classification shall not require additional closure systems.
Duct tightness shall be verified by either of the following:
1. Postconstruction test: Total leakage to the outside of a conditioned space or total leakage shall be less than or equal to 4 cfm (113.3 L/min) per 100 square feet (9.29 m^2) of conditioned floor area when tested at a pressure differential of 0.1 inches (2.54 mm) w. g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.
2. Rough-in test: Total leakage shall be less than or equal to 4 cfm (113.3 L/min) per 100 square feet (9.29 m^2) of conditioned floor area when tested at a pressure differential of 0.1 inches (2.54 mm) w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 3 cfm (85 L/min) per 100 square feet (9.29 m^2) of conditioned floor area.
Exception: The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope.
N1103.4.2. Hot water pipe insulation (prescriptive). Insulation for hot water pipe with a minimum thermal resistance (R-value) of R-3 shall be applied to the following:
1. Piping larger than 3/4 inch nominal diameter.
2. Piping serving more than 1 dwelling unit.
3. Piping located outside the conditioned space.
4. Piping from the water heater to a distribution manifold.
5. Piping located under a floor slab.
6. Buried piping.
7. Supply and return piping in recirculation systems other than demand recirculation systems.
History: 2015 MR 19, Eff. Feb. 8, 2016.

R408.30547g Energy rating index compliance alternative.
Rule 547f. Sections N1106.1, N1106.2, N1106.3, N1106.3.1, N1106.4, N1106.5, N1106.6, N1106.6.1, N1106.6.2, N1106.6.3, N1106.7, N1106.7.1, N1106.7.2, N1106.7.3, and table N1106.4 of the code are added to read as follows:
N1106.1 (R406.1). Scope. This section establishes criteria for compliance using an energy rating index (ERI) analysis.
N1106.2 (R406.2). Mandatory requirements. Compliance with this section requires that the mandatory provisions identified in sections N1101.2 and N1103.4.2 be met. The building thermal envelope shall be greater than or equal to levels of efficiency and solar heat gain coefficient in table 402.1.2 or 402.1.4 of the 2009 international energy conservation code.
Exception: Supply and return ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-6.
N1106.3 (R406.3). Energy rating index. The energy rating index (ERI) shall be a numerical integer value that is based on a linear scale constructed such that the ERI reference design has an index value of 100 and a residential building that uses no net purchased energy has an index value of 0. Each integer value on the scale shall represent a 1% change in the total energy use of the rated design relative to the total energy use of the ERI reference design. The ERI shall consider all energy used in the residential building.
N1106.3.1 (R406.3.1). ERI reference design. The ERI reference design shall be configured such that it meets the minimum requirements of the 2006 international energy conservation code prescriptive requirements.

The proposed residential building shall be shown to have an annual total normalized modified load less than or equal to the annual total loads of the ERI reference design.

N1106.4 (R406.4). ERI-based compliance. Compliance based on an ERI analysis requires that the rated design be shown to have an ERI less than or equal to the appropriate value listed in table N1106.4 when compared to the ERI reference design.

N1106.5 (R406.5). Verification by approved agency. Verification of compliance with section N1106 shall be completed by an approved third party.

N1106.6 (R406.6). Documentation. Documentation of the software used to determine the ERI and the parameters for the residential building shall be in accordance with sections N1106.6.1 through N1106.6.3.

N1106.6.1 (R406.6.1). Compliance software tools. Documentation verifying that the methods and accuracy of the compliance software tools conform to the provisions of this section shall be provided to the code official.

N1106.6.2 (R406.6.2). Compliance report. Compliance software tools shall generate a report that documents that the ERI of the rated design complies with sections N1106.3 and N1106.4. The compliance documentation shall include all of the following information:

1. Address or other identification of the residential building.
2. An inspection checklist documenting the building component characteristics of the rated design. The inspection checklist shall show results for both the ERI reference design and the rated design, and shall document all inputs entered by the user necessary to reproduce the results.
3. Name of individual completing the compliance report.
4. Name and version of the compliance software tool.

Exception: Multiple orientations. Where an otherwise identical building model is offered in multiple orientations, compliance for any orientation shall be permitted by documenting that the building meets the performance requirements in each of the 4 (north, east, south and west) cardinal orientations.

N1106.6.3 (R406.6.3). Additional documentation. The code official may require the following documents:

1. Documentation of the building component characteristics of the ERI reference design.
2. A certification signed by the builder providing the building component characteristics of the rated design.
3. Documentation of the actual values used in the software calculations for the rated design.

N1106.7 (R406.7). Calculation software tools. Calculation software, where used, shall be in accordance with sections N1106.7.1 through N1106.7.3.

N1106.7.1 (R406.7.1). Minimum capabilities. Calculation procedures used to comply with this section shall be software tools capable of calculating the ERI as described in section N1106.3, and shall include the following capabilities:

1. Computer generation of the ERI reference design using only the input for the rated design.

The calculation procedure shall not allow the user to directly modify the building component characteristics of the ERI reference design.

2. Calculation of whole-building, as single zone, sizing for the heating and cooling equipment in the ERI reference design residence in accordance with section N1103.7.
3. Calculations that account for the effects of indoor and outdoor temperatures and part-load ratios on the performance of heating, ventilating, and air-conditioning equipment based on climate and equipment sizing.
4. Printed code official inspection checklist listing each of the rated design component characteristics determined by the analysis to provide compliance, along with their respective performance ratings.

N1106.7.2 (R406.7.2). Specific approval. Performance analysis tools meeting the applicable sections of section N1106 shall be approved. Tools are permitted to be approved based on meeting a specified threshold for a jurisdiction. The code official shall approve tools for a specified application or limited scope.

N1106.7 (R406.7.3). Input values. When calculations require input values not specified by sections N1102, N1103, N1104, and N1105, those input values shall be taken from an approved source.

Table N1106.4 (R406.4)
Maximum Energy Rating Index

Climate Zone	Energy Rating Index
1	52
2	52
3	51
4	54
5	55
6	54

7	53
8	53

History: 2015 MR 19, Eff. Feb. 8, 2016.

REHABILITATION CODE

R 408.30551
Source: 2014 AACS.

R 408.30552
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R 408.30553
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R 408.30555
Source: 2003 AACS.

R 408.30556
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R 408.30557
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R 408.30559
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R 408.30560
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R 408.30561
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R 408.30571
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R 408.30572
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PART 6. MOBILE HOME CODE

R 408.30601
Source: 1998-2000 AACS.

R 408.30611
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R 408.30616
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R 408.30621
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R 408.30626
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R 408.30631
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R 408.30636
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PART 7. PLUMBING CODE

AMENDMENTS AND ADDITIONS TO BASIC PLUMBING CODE

R 408.30701
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R 408.30709
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R 408.30711
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R 408.30780a
Source: 1998-2000 AACS.

R 408.30780b
Source: 1998-2000 AACS.

R 408.30780c
Source: 1997 AACS.

R 408.30781
Source: 1997 AACS.

R 408.30782
Source: 1997 AACS.

R 408.30783
Source: 1997 AACS.

R 408.30784
Source: 1997 AACS.

R 408.30785
Source: 2010 AACS.

R 408.30786
Source: 2013 AACS.

R 408.30788
Source: 1998-2000 AACS.

R 408.30788a
Source: 1997 AACS.

R 408.30791
Source: 2013 AACS.

R 408.30792
Source: 2013 AACS.

R 408.30793
Source: 2001 AACS.

R 408.30795
Source: 2001 AACS.

R 408.30795a
Source: 2001 AACS.

R 408.30796
Source: 2001 AACS.

PART 8. ELECTRICAL CODE

R 408.30801 National electrical code; adoptions by reference; inspection; purchase.
Rule 801. (1) The standards contained in the national electrical code 2014 edition, except sections 110.24, 501.30B, 502.30B, 503.30B, 505.25B, 506.25B, 547.1 to 547.10, and Annex H, as published by the national fire protection association (NFPA), shall govern the installation, replacement, alteration, relocation, and use of electrical systems or material. With the exceptions noted, the national electrical code is adopted in these rules by reference.
(2) Informational notes contained within the body of the code are not adopted as a part of the code.
(3) All references to the ANSI/ASME A17.1 2010, safety code for elevators and escalators mean the Michigan elevator code and all references to the national electrical code mean the Michigan electrical code.
(4) NFPA 110, standard for emergency and standby power systems, 2013 edition and NFPA 111, standard on stored electrical energy emergency and standby power systems, 2013 edition, are adopted by reference in these rules.
(5) The codes are available for inspection at the Okemos office of the Michigan department of licensing and regulatory affairs, bureau of construction codes.
(6) The National Electrical Code, NFPA 110, and NFPA 111 may be purchased from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269, 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 rules of $82.00, $42.00, and $42.00 each, respectively.
History: 1979 AC; 1980 AACS; 1981 AACS; 1985 AACS; 1986 AACS; 1988 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2009 AACS; 2013 AACS; 2015 MR 12, Eff. June 18, 2015.

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
Source: 2013 AACS.

R 408.30811 Duties and powers of code official.
Rule 811. Sections 80.14, 80.14.1, 80.14.2, 80.14.3 and 80.14.4 are added to the code to read as follows:
80.14. Duties and powers of the code official. The code official is authorized and directed to enforce the provisions of this code. The code official may render interpretations of this code and adopt policies and procedures in order to clarify the application of its provisions. These interpretations, policies, and procedures shall be in compliance with the intent and

purpose of this code. These policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

80.14.1. Department records. The enforcing agency shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, notices and orders issued. These records shall be retained in the official records for the period required for the retention of public records.

80.14.2. Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

80.14.3. Right of Entry. Whenever it is necessary to make an inspection to enforce the provisions of this code, or whenever the code official has reasonable cause to believe that there exists in any building or upon any premises any conditions or violations of this code that make the building or premises unsafe, unsanitary, dangerous, or hazardous, the code official shall have the authority to enter the building or premises at all reasonable times to inspect or to perform the duties imposed upon the code official by this code. If the building or premises is occupied, the code official shall present credentials to the occupant and request entry. If the building or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner or other person having charge or control of the building or premises and request entry. If entry is refused, the code official shall have recourse to every remedy provided by law to secure entry.

80.14.4. Verification of the installation of the concrete encased electrode. The inspection of a concrete encased electrode meeting the requirements of the 2014 NEC NFPA 70 sections 250.50 and 250.52(A)(2) and (3) except for the connection of the grounding electrode conductor to the electrode shall be completed by 1 of the following:

(1) The electrical inspector for the enforcing agency.

(2) The building inspector for the enforcing agency if all of the following conditions are met:

(a) Both the electrical and building inspectors for the enforcing agency shall sign a written agreement which shall remain on file with the enforcing agency that designates authority to the building inspector for that agency to inspect a concrete encased electrode.

(b) Upon inspection and verification by the building inspector of a concrete encased electrode, the building inspector shall provide written documentation to the electrical inspector that the installation of the concrete incased electrode meets the requirements set forth in 250.52(A)(2) and (3) and 250.68(C)(3).

(c) Verification of approval of the concrete encased electrode shall be made at the construction site by signature of either the electrical inspector or the building inspector for the enforcing agency on the field copy of the building permit noting that the concrete encased electrode was approved along with the footing inspection or by a readily available inspection tag attached to the accessible grounding electrode reinforcing bar.

(d) The grounding electrode conductor connection to the concrete encased electrode shall be inspected by the electrical inspector for the enforcing agency.

History: 2004 AACS; 2013 AACS; 2015 MR 12, Eff. June 18, 2015.

R 408.30812
Source: 2013 AACS.

R 408.30813 Code arrangement.

Rule 813. Section 90.3 of the code is amended to read as follows:

90.3. Code arrangement. The code includes an administration section. Additionally, the code is divided into the introduction and 9 chapters. Chapters 1, 2, 3, and 4 apply generally; chapters 5, 6, and 7 apply to special occupancies, special equipment, or other special conditions. Chapters 5, 6, and 7 supplement or modify the general rules. Chapters 1 to 4 apply except as amended by chapters 5, 6, and 7 for the particular conditions. Chapter 8 covers communications systems and is not subject to the requirements of chapters 1 to 7 except where the requirements are specifically referenced in chapter 8. Chapter 9 consists of tables that are applicable as referenced. Informative annexes are not part of the requirements of the code but are included for informational purposes only.

History: 2004 AACS; 2009 AACS; 2015 MR 12, Eff. June 18, 2015.

R 408.30814
Source: 2004 AACS.

R 408.30815
Source: 2013 AACS.

R 408.30816
Source: 2004 AACS.

R 408.30817
Source: 2013 AACS.

R 408.30818 Permits and certificates.
Rule 818. Sections 80.19, 80.19.1, 80.19.2, 80.19.3, 80.19.4, 80.19.5, 80.19.6, 80.19.7, 80.19.8, 80.19.9, 80.19.10, 80.19.11, 80.19.12 and 80.19.13 are added to the code to read as follows:
80.19. Permits and certificates. A person shall not equip a building with electrical conductors or equipment or make an alteration of, change in, or addition to, electrical conductors or equipment without receiving a written permit to do the work described. If the electrical installation or alterations of, changes in, or addition to, electrical conductors or equipment are found to be in compliance with the provision of the code and if the work has passed the inspection of the enforcing agency, then the enforcing agency shall, upon the request of the permit holder to whom the permit was issued, issue a certificate of final electrical inspection. The certificate certifies that the provisions of the code have been complied with. This section does not apply to installations that are referred to in section 7(3)(a), (b), (c), (d), (e), (f), (h), (k), (l), (m), or (o) of the electrical administrative act, MCL 338.887.
80.19.1. To whom permits are issued.
(1) A permit for any type of electrical installation may be secured by 1 of the following:
(a) A holder of an electrical contractor license or the qualifying master for the electrical contractor when authorized by the electrical contractor to secure a permit.
(b) A homeowner who occupies or will occupy a single-family dwelling and other accessory structures located on the same lot intended for use by the homeowner for which the permit is obtained and who will install the electrical equipment as certified by the homeowner on the permit application pursuant to the act.
(2) A permit for a fire alarm system may be secured by the holder of a fire alarm specialty contractor license or the qualifying fire alarm specialty technician qualifying the fire alarm specialty contractor when authorized by the fire alarm specialty contractor to secure a permit.
(3) A permit for an electrical sign or outline lighting, as defined in section 1b(1) and (2) of 1956 PA 217 the electrical administrative act, MCL 338.881b(1) and (2), may be secured by the holder of a sign specialty contractor license or the sign specialty technician qualifying the sign specialty contractor when authorized by the sign specialty contractor to secure a permit.
(4) A permit for electrical wiring associated with the installation, removal, alteration, or repair of a water well pump on a single-family dwelling to the first point of attachment in the house from the well, may be secured by a registered pump installer under part 127 of the public health code, 1978 PA 368, MCL 333.12701 to 333.12771.
(5) A permit for wiring associated with existing mechanical and plumbing systems referenced in section 7(3)(i) of the electrical administrative act, 1956 PA 217, MCL 338.887(3)(i), may be secured by the following:
(a) A holder of a mechanical contractor license issued pursuant to section 6(3)(a), (b), (d), (e), and (f) of the Forbes mechanical contractors act, 1984 PA 192, MCL 338.976(3)(a), (b), (d), and (f).
(b) A holder of a plumbing contractor license issued pursuant to the state plumbing act, 2002 PA 733, MCL 338.3511 to 338.3569.
80.19.2. Application for permit. Each application for a permit, with the required fee, shall be filed with the code official on a form furnished for that purpose and shall contain a general description of the proposed work and its location. The permit application shall contain all applicable information pursuant to with the act and shall include the signature of the applicant in compliance with section 80.19.1 of the code.
80.19.3. Permit expiration. Each permit issued by the code official under the provisions of the code shall expire by limitation and become null and void if the work authorized by the permit is not begun within 180 days from the date of the permit or if not inspected after the work is begun for a period of 180 days. Before the work may be restarted, the permit shall be reinstated if the code has not changed. If the code has changed and the work was not started, a new permit is required based on the current requirements.
80.19.3.1. Posting of permit. The permit or a copy shall be kept on site of the work until the project is completed.
80.19.4. Uncompleted installation notification. If a person to whom a permit is issued for the installation and inspection of electrical conductors and electrical equipment quits the installation for any reason, then the person shall notify the enforcing agency.

80.19.5. Inspection and refunds for partial installation. If an installation is partially completed, then a permit holder, upon quitting the installation, shall notify the enforcing agency and shall request an inspection. The inspector shall record the acceptance of, or violations against, the work installed on the permit record according to the findings of the inspector. The enforcing agency shall not grant a refund to the permit holder of the permit fee covering electrical equipment installed and inspected.
80.19.6. Owner notification to enforcing agency. If a permit holder quits an installation after the electrical equipment is installed and fails to notify the enforcing agency, then the building owner or his or her agent may notify the enforcing agency and request inspection. Upon inspection, the enforcing agency shall send the permit holder a notice of a violation. The owner may then secure another licensed contractor to proceed with the work if the new contractor is properly covered by a permit.
80.19.7. Transfer of permit. An electrical permit is not transferable.
80.19.8. Fraudulent application for permit. A permit that is issued in violation of the laws of this state or as a result of false or fraudulent information or misinterpretation of conditions is subject to revocation at the direction of the enforcing agency. The enforcing agency shall notify the person holding the permit to appear and show cause why the permit should not be revoked. Failure to appear is sufficient grounds for revocation of the permit.
80.19.9. Suspension or revocation of permit. The code official shall have the authority to suspend or revoke a permit issued under the provisions of this code whenever the permit is issued in error or on the basis of incorrect, inaccurate, or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.
80.19.10. Annual permit. In place of an individual permit for each alteration to an already approved electrical installation, the enforcing agency may issue an annual permit upon application to any person, firm, or corporation. The applicant shall be licensed pursuant to the electrical administrative act, 1956 PA 217, MCL 338.881 to 338.892.
80.19.11. Annual permit records. The person, firm, and corporation 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.
80.19.12. Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless the application has been pursued in good faith or a permit has been issued; except that the code official may grant 1 or more extensions of time for additional periods not exceeding 90 days each. The extension shall be requested in writing and justifiable cause shall be demonstrated.
80.19.13. Validity of permit. The issuance of a permit or approval of construction documents shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or any other ordinance of the jurisdiction. No permit presuming to give authority to violate or cancel the provisions of this code shall be valid.
The issuance of a permit based upon construction documents and other data shall not prevent the code official from thereafter requiring the correction of errors in the construction documents and other data, or from preventing building operations being carried on thereunder, when in violation of this code or other ordinances of this jurisdiction.
History: 1979 AC; 1981 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2009 AACS; 2013 AACS; 2015 MR 12, Eff. June 18, 2015.

R 408.30819 Plans and specifications.
Rule 819. Sections 80.21, 80.21.1, 80.21.2, 80.21.3 and 80.21.4 are added to the code to read as follows:
80.21. Plans and specifications. An applicant shall submit a detailed set of plans and specifications with the application for an electrical permit for any wiring or alteration to an electrical system if the system requires installation of electrical equipment that has an ampacity of more than 400 amperes for the service or feeder and if the calculated floor area in a building is more than 3,500 square feet. The enforcing agency may request plans for projects that include an unusual design. The electrical drawings shall include all of the following details:
(a) Lighting layout.
(b) Circuiting.
(c) Switching.
(d) Conductor and raceway sizes.
(e) Wattage schedule.
(f) Service location and riser diagram.
(g) Load calculations and available fault current calculations.
(h) A proposed method of construction that is drawn with symbols of a standard form.
All conductors are assumed to be copper unless otherwise stated in the plan. Specifications, when provided, shall also include the information listed in this rule. The selection of suitable disconnect and overcurrent devices to provide proper

coordination and interrupting capacity for a wiring system is the responsibility of the designer. The enforcing agency, when approving electrical plans, does not assume responsibility for the design or for any deviations from any electrical drawings. The permit holder shall ensure that the plans and specifications approved by the enforcing agency, or a certified copy of the plans and specifications, where required, are available on the jobsite for the use of the enforcing agency.

80.21.1. Preparation of plans. An architect or engineer shall prepare, or supervise the preparation of, all plans and specifications for new construction work or repair, expansion, addition, or modification work. The architect or engineer shall be licensed under the occupational code, 1980 PA 299, MCL 339.101 to 339.2919. The plans and specifications shall be sealed and signed pursuant to the occupational code, 1980 PA 299, MCL 339.101 to 339.2919.

Note: For exceptions, see the occupational code, 1980 PA 299, MCL 339.101 to 339.2919.

80.21.2. Application and permits. The code official shall receive applications, review construction documents, and issue permits for the installation and alteration of electrical systems, inspect the premises for which the permits have been issued, and enforce compliance with the code.

The code official may issue a permit for the construction of and part of an electrical system before the entire construction documents for the whole system have been submitted or approved, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this code. The holders of the permit shall proceed at their own risk without assurance that the permit for the entire electrical system will be granted.

Work shall be installed pursuant to the code and approved construction documents, and any changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

80.21.3. Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been previously issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

80.21.4 . Retention of construction documents. The code official shall retain 1 set of approved construction documents for a period of not less than 180 days from the date of final inspection of the permitted work.

80.21.5. Information on construction documents. Construction documents shall be dimensioned and drawn upon suitable material. Electronic media documents may be submitted when approved by the enforcing agency. Construction documents shall be of sufficient clarity to indicate the location, nature, and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules, and regulations as determined by the enforcing agency.

History: 1979 AC; 1981 AACS; 1988 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2013 AACS; 2015 MR 12, Eff. June 18, 2015.

R 408.30820
Source: 2004 AACS.

R 408.30821
Source: 2007 AACS.

R 408.30822
Source: 2013 AACS.

R 408.30823
Source: 2013 AACS.

R 408.30824
Source: 2004 AACS.

R 408.30825
Source: 1998-2000 AACS.

R408.30826
Source: 2013 AACS.

R 408.30827
Source: 2013 AACS.

R 408.30828
Source: 2007 AACS.

R 408.30829
Source: 2004 AACS.

R 408.30830
Source: 1998-2000 AACS.

R 408.30831
Source: 2004 AACS.

R 408.30832
Source: 1997 AACS.

R 408.30834 Maximum number of disconnects.
Rule 834. Section 230.71(A) of the code is amended to read as follows:
230.71(A). General. The service disconnecting means for each service permitted by section 230.2 of the code, or for each set of service-entrance conductors permitted by section 230.40, exception nos. 1, 3, or 4, of the code, shall consist of not more than 6 switches or sets of circuit breakers, or a combination of not more than 6 switches and sets of circuit breakers, mounted in a single enclosure, in a group of separate enclosures, or in or on a switchboard, or in switchgear. There shall be not more than 6 sets of disconnects per service grouped in any 1 location.
For the purpose of this section, disconnecting means installed as part of listed equipment and used solely for the following, shall not be considered a service disconnecting means:
(1) Power monitoring equipment.
(2) Surge-protective device or devices.
(3) Control circuit of the ground-fault protection system.
(4) Power-operable service disconnecting means.
History: 2007 AACS; 2009 AACS; 2015 MR 12, Eff. June 18, 2015.

R 408.30835
Source: 2013 AACS.

R 408.30837
Source: 2004 AACS.

R 408.30838 NFPA code; adoption by reference.
Rule 838. Sections 700.9 and 701.9 of the code are amended to read as follows:
700.9. Installation. Emergency systems shall be installed pursuant to NFPA 110 and NFPA 111, 2013 editions, which are adopted by reference in these rules.
701.9. Installation. Legally required standby systems shall be installed pursuant to NFPA 110 and NFPA 111, 2013 editions, which are adopted by reference in these rules.
History: 1986 AACS; 1988 AACS; 1997 AACS; 2009 AACS; 2013 AACS; 2015 MR 12, Eff. June 18, 2015.

R 408.30839
Source: 1998-2000 AACS.

R 408.30843
Source: 2004 AACS.

R 408.30865 Rescinded.
History: 1979 AC; 1980 AACS; 1988 AACS; 1997 AACS; 2009 AACS; 2013 AACS; 2015 MR 12, Eff. June 18, 2015.

R 408.30866
Source: 2004 AACS.

R 408.30867
Source: 2007 AACS.

R 408.30868
Source: 2007 AACS.

R 408.30869 Grounding conductors.
Rule 869. Section 250.118 of the code is amended to read as follows:
250.118. Types of equipment grounding conductors. The equipment grounding conductor run with or enclosing the circuit conductors shall be 1 or more or a combination of the following:
(1) A copper, aluminum, or copper-clad aluminum conductor. This conductor shall be solid or stranded; insulated, covered, or bare; and, in the form of a wire or a busbar of any shape.
(2) Rigid metal conduit.
(3) Intermediate metal conduit.
(4) Electrical metallic tubing.
(5) Flexible metallic tubing where the tubing is terminated in listed fittings and meeting both of the following conditions:
(a) The circuit conductors contained in the tubing are protected by overcurrent devices rated at 20 amperes or less.
(b) The length of flexible metallic tubing in the ground return path does not exceed 1.8m (6 feet).
(6) Armor of type AC cable as provided in section 320.108 of the code.
(7) The copper sheath of mineral-insulated, metal-sheathed cable type MI.
(8) Type MC cable that provides an effective ground-fault current path pursuant to 1 or more of the following:
(a) It contains an insulated or uninsulated equipment grounding conductor in compliance with 250.118(1).
(b) The combined metallic sheath and uninsulated equipment grounding or bonding conductor of interlocked metal tape-type MC cable that is listed and identified as an equipment grounding conductor.
(c) The metallic sheath or the combined metallic sheath and equipment grounding conductors of the smooth or corrugated tube-type MC cable that is listed and identified as an equipment grounding conductor.
(9) Cable trays as permitted by sections 392.10 and 392.60of the code.
(10) Cablebus framework as permitted by section 370.60(1) of the code.
(11) Other listed electrically continuous metal raceways and listed auxiliary gutters.
(12) Surface metal raceways listed for grounding.
History: 1988 AACS; 1991 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2009 AACS; 2013 AACS; 2015 MR 12, Eff. June 18, 2015.

R 408.30870 Overcurrent protection.
Rule 870. Section 625.40 of the code is amended to read as follows:
625.40 Overcurrent protection. Overcurrent protection for feeders supplying electric vehicle supply equipment shall be sized for continuous duty and shall have a rating of not less than 125% of the maximum load of the electric vehicle supply equipment. When noncontinuous loads are supplied from the same feeder, the overcurrent device shall have a rating of not less than the sum of the noncontinuous loads plus 125% of the continuous loads. The branch circuit supplying the electric vehicle equipment shall be an individual branch circuit sized for continuous duty and shall have a rating of not less than 125% of the maximum load of the electric vehicle supply equipment.
History: 1988 AACS; 1991 AACS; 1997 AACS; 2009 AACS; 2013 AACS; 2015 MR 12, Eff. June 18, 2015.

R 408.30871 Bonding other metal piping.
Rule 871. Section 250.104(B) of the code is amended to read as follows:
250.104(B). (1) Other metal piping. If installed in or attached to a building or structure, a metal piping system, including gas piping, capable of becoming energized shall be bonded to any of the following:
(a) Equipment grounding conductor for the circuit that is likely to energize the piping system.
(b) Service equipment enclosure.
(c) Grounded conductor at the service.

(d) Grounding electrode conductor, if of sufficient size.
(e) One or more grounding electrodes used.
Either the bonding conductor or conductors, or the jumper or jumpers shall be sized pursuant to section 250.122, using the rating of the circuit that is likely to energize the piping system or systems. The points of attachment of the bonding jumper or jumpers shall be accessible.
(2) Corrugated stainless steel tubing (CSST). Listed corrugated stainless steel tubing gas piping systems shall be bonded to the electrical service grounding electrode system. The bonding jumper shall connect to a metallic pipe or fitting between the point of delivery and the first downstream CSST fitting. The bonding jumper shall be not smaller than 6 AWG copper wire or equivalent. A gas piping system that is bonded pursuant to this section shall be considered effectively bonded regardless of the amount of CSST in the system.
Exception: Listed CSST piping systems approved for installation without additional bonding by the manufacturer.
History: 1991 AACS; 1995 AACS; 1998-2000 AACS; 2009 AACS; 2013 AACS; 2015 MR 12, Eff. June 18, 2015.

R 408.30872
Source: 2013 AACS.

R 408.30873 Uses permitted.
Rule 873. Sections 334.10 and 334.12(A) of the code are amended to read as follows:
334.10. Uses Permitted. Type NM, type NMC, and type NMS cables may be used in the following, except as prohibited in section 334.12:
(1) One- and 2-family dwellings and their attached or detached garages, and their storage buildings.
(2) Multifamily dwellings.
(3) In other structures exceeding 1 floor above grade, cables shall be concealed within walls, floors, or ceilings that provide a thermal barrier of material that has at least a 15-minute finish rating as identified in listings of fire rated assemblies pursuant to the Michigan building code.
(4) Cable trays in structures permitted to be types III, IV, or V where the cables are identified for the use.
334.12(A). Uses not permitted. Types NM, NMC, and NMS cable shall not be permitted as follows:
(1) In any dwelling or structure not specifically permitted in section 334.10(1), (2) and (3).
(2) Exposed in dropped or suspended ceilings in other than 1- and 2-family and multifamily dwellings.
(3) As service-entrance cable.
(4) In commercial garages having hazardous or classified locations as defined in section 511.3.
(5) In theaters and similar locations, except where permitted in section 518.4(B).
(6) In motion picture studios.
(7) In storage battery rooms.
(8) In hoistways or on elevators or escalators.
(9) Embedded in poured cement, concrete, or aggregate.
(10) In hazardous or classified locations, except where specifically permitted by other articles in this code.
History: 1991 AACS; 1995 AACS; 1998-2000 AACS; 2007 AACS; 2013 AACS; 2015 MR 12, Eff. June 18, 2015.

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
Source: 2013 AACS.

R 408.30907a
Source: 2007 AACS.

R 408.30908a
Source: 2007 AACS.

R 408.30909a
Source: 2007 AACS.

R 408.30910a
Source: 2013 AACS.

R 408.30912a
Source: 2013 AACS.

R 408.30915a
Source: 2013 AACS.

R 408.30916
Source: 2010 AACS.

R 408.30917a
Source: 1998-2000 AACS.

R 408.30918a
Source: 2013 AACS.

R 408.30919a
Source: 1997 AACS.

R 408.30920a
Source: 1998-2000 AACS.

R 408.30921a
Source: 1997 AACS.

R 408.30922a
Source: 1998-2000 AACS.

R 408.30923a
Source: 2013 AACS.

R 408.30924a
Source: 2001 AACS.

R 408.30925a
Source: 1998-2000 AACS.

R 408.30926a
Source: 1998-2000 AACS.

R 408.30927a
Source: 2013 AACS.

R 408.30928a
Source: 2013 AACS.

R 408.30929a
Source: 1998-2000 AACS.

R 408.30930a
Source: 1998-2000 AACS.

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 LICENSING AND REGULATORY AFFAIRS

BUREAU OF CONSTRUCTION CODES

CONSTRUCTION CODE

PART 10. MICHIGAN ENERGY CODE

R 408.31059 Applicable code.
Rule 1059. The residential provisions of the international energy conservation code, 2015 edition, except for sections R107.2 to R107.5, R301.2, R301.3, R402.3.2, and Table R303.1.3(3), govern the energy efficiency for the design and construction of residential buildings and, with exceptions noted, the international energy conservation code is adopted by reference in these rules. All references to the international building code, international residential code, international energy conservation code, international electrical code, international existing building code, international mechanical code, and international plumbing code mean the Michigan building code, Michigan residential code, Michigan energy code, Michigan electrical code, Michigan rehabilitation code for existing buildings, Michigan mechanical code, and Michigan plumbing code respectively. The Michigan energy code is available for inspection or purchase at the Okemos office of 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 rules of $44.00 or may be purchased from the International Code Council, 500 New Jersey Avenue, N.W., 6th Floor, Washington, D.C. 20001.
History: 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.31060 Scope; requirements.
Rule 1060. Sections R101.1, R101.4.3, and R102.1.1 of the code are amended to read as follows:

R101.1. Title. This code shall be known and cited as the "Michigan Energy Code." It is referred to herein as "this code."
R101.4.3. Additions, alterations, renovations, or repairs. Additions, alterations, renovations, or repairs to an existing building, building system, or portion thereof, shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion or portions of the existing building or building system to comply with this code. Additions, alterations, renovations, or repairs shall not create an unsafe or hazardous condition or overload existing building systems. An addition shall be deemed to comply with this code if the addition alone complies or if the existing building and addition comply with this code as a single building.
Exception: The following need not comply provided the energy use of the building is not increased:
1. Storm windows installed over existing fenestration.
2. Glass only replacements in an existing sash and frame.
3. Existing ceiling, wall, or floor cavities exposed during construction provided that these cavities are filled with insulation.
4. Construction where the existing roof, wall, or floor cavity is not exposed.
5. Reroofing where the roof is part of the thermal envelope and where neither the roof sheathing nor the roof insulation is exposed.
6. Reroofing where the roof is not part of the thermal envelope.
7. Replacement of existing doors that separate conditioned space from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a conditioned space from the exterior shall not be removed.
8. Alterations that replace less than 50% of the luminaires in a space, provided that such alterations do not increase the installed interior lighting power.
9. Alterations that replace only the bulb and ballast within the existing luminaires in a space provided that the alteration does not increase the installed interior lighting power.
R102.1.1 Above code programs. The state construction code commission may evaluate and approve a national, state, or local energy efficiency program to exceed the energy efficiency required by this code. Buildings approved in writing by such an energy efficiency program, such as ICC 700-2012 "silver" or energy star version 3 (rev. 07), shall be considered in compliance with this code. The requirements identified as "mandatory" in chapter 4 shall be met.
History: 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

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 Insulation and fenestration criteria.
Rule 1063. Insulation and fenestration criteria. Table R402.1.1 of the code is amended to read as follows:

TABLE R 402.1.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT[b] U-FACTOR	CEILING R-Value	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE[g]	FLOOR R-VALUE	BASEMENT[c] WALL R-VALUE	SLAB [d] R-VALUE AND DEPTH	CRAWL SPACE[c] WALL R-VALUE
5A	0.32	0.55	38	20 or 13 + 5[f]	13/17	30[e]	10/13	10, 2ft	15/19
6A	0.32	0.55	49	20 or 13 + 5[f]	15/20	30[e]	15/19	10, 4ft	15/19
7	0.32	0.55	49	20 or 13 + 5[f]	19/21	38[e]	15/19	10, 4ft	15/19

a. R-values are minimums. U-factors are maximums. When insulation is installed in a cavity that is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-values specified in the table.
b. The fenestration U-factor column excludes skylights.
c. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" may be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.
d. R-5 shall be added to the required slab edge R-values for heated slabs.
e. Or insulation sufficient to fill the framing cavity, R-19 minimum.
f. First value is cavity insulation, second is continuous insulation or insulated siding, so "13 + 5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding. If structural sheathing covers 40 % or less of the exterior, continuous insulation R-value may be reduced by no more than R-3 in the locations where structural sheathing is used – to maintain a consistent total sheathing thickness.
g. The second R-value applies when more than half the insulation is on the interior of the mass wall.
History: 1998-2000 AACS; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.31063a Specific insulation requirements (prescriptive).
Rule 1063a Section R402.2.12 of the code is amended to read as follows.
R402.2.12. Thermally isolated sunroom insulation. The minimum ceiling insulation R-values shall be R-24 in zones 5 to 7. The minimum wall R-value shall be R-13 in all zones. New wall or walls separating a sunroom from conditioned space shall meet the building thermal envelope requirements.
History: 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.3~~0~~1064
Source: 2010 AACS.

R 408.31065 Equivalent U-Factors.
Rule 1065. Section R402.1.4 and table R402.1.3 of the code are amended to read as follows:

Table R402.1.3
Equivalent U-Factors[a]

Climate Zone	Fenestration U-Factor	Skylight U-Factor	Ceiling U-Factor	Frame Wall U-Factor	Mass wall U-Factor [b]	Floor U-Factor	Basement Wall U-Factor	Crawl Space Wall U-Factor
5A	0.32	0.55	0.030	0.057	0.082	0.033	0.059	0.055
6A	0.32	0.55	0.026	0.057	0.060	0.033	0.050	0.055
7	0.32	0.55	0.026	0.057	0.057	0.028	0.050	0.055

a. Nonfenestration U-factors shall be obtained from measurement, calculation, or an approved source.
b. When more than half the insulation is on the interior, the mass wall U-factors shall be a maximum of 0.065 in zone 5 and marine 4, and 0.057 in zones 6 and 7.
R402.1.4 Total UA alternative. If the total building thermal envelope UA (sum of U-factor times assembly area) is less than or equal to the total UA resulting from using the U-factors in Table R402.1.3 (multiplied by the same assembly area as in the proposed building), the building shall be considered in compliance with Table R402.1.1. The UA calculation shall be done using a method consistent with the ASHRAE Handbook of Fundamentals and shall include the thermal bridging effects of framing materials.
History: 1998-2000 AACS; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.31066 Systems
Rule 1066. Sections R403.2.1, R403.2.2, R403.4, and R403.4.2 of the code are amended to read as follows:
R403.2.1. Insulation (prescriptive). All portions of the air distribution system shall be installed in accordance with section M1601 and be insulated to an installed R-6 when system components are located within the building but outside the conditioned space, and R-8 when located outside to the building. When located within a building envelope assembly, at least R-8 shall be applied between the duct and that portion of the assembly farthest from conditioned space.
Exception: Portions of the air distribution system within appliances or equipment.
R403.2.2. Sealing (mandatory). Ducts, air handlers, and filter boxes shall be sealed. Joints and seams shall comply with either the international mechanical code or international residential code, as applicable.
Exceptions:
1. Air-impermeable spray foam products may be applied without additional joint seals.
2. Where a duct connection is made that is partially inaccessible, 3 screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. Continuously welded and locking-type longitudinal joints and seams in ducts operating at static pressures less than 2 inches of water column (500 Pa) pressure classification shall not require additional closure systems.
Duct tightness shall be verified by either of the following:
1. Post construction test: Total leakage to the outside of a conditioned space or total leakage shall be less than or equal to 4 cfm (113.3 L/min) per 100 square feet (9.29 m^2) of conditioned floor area when tested at a pressure differential of 0.1 inches w. g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.
2. Rough-in test: Total leakage shall be less than or equal to 4 cfm (113.3 L/min) per 100 square feet (9.29 m^2) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 3 cfm (85 L/min) per 100 square feet (9.29 m^2) of conditioned floor area.
Exception: The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope.
R403.4.1. Circulating hot water systems (mandatory). All circulating service hot water piping shall be insulated to at least R-2. Circulating hot water systems shall include an automatic or readily accessible manual switch that can turn off the hot water circulating pump when the system is not in use.
Exceptions:
1. Factory-installed piping within HVAC equipment tested and rated in accordance with a test procedure referenced by this code.
2. Runout piping not exceeding 4 feet (1 219 mm) in length and 1 inch (25 mm) in diameter between the control valve and HVAC coil.
R403.4.2. Hot water pipe insulation (prescriptive). Insulation for hot water pipe with a minimum thermal resistance (R-value) of R-3 shall be applied to the following:
1. Piping larger than 3/4 inch (19.05 mm) nominal diameter.
2. Piping serving more than 1 dwelling unit.
3. Piping located outside the conditioned space.
4. Piping from the water heater to a distribution manifold.
5. Piping located under a floor slab.
6. Buried piping.
7. Supply and return piping in recirculation systems other than demand recirculation systems.

History: 1998-2000 AACS; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.31069 Air leakage.

Rule 1069. Sections R402.4, R402.4.1, R402.4.1.1, R402.4.1.2, R402.4.2, R402.4.3, R402.4.4, and Table R402.4.1.1 of the code are amended to read as follows:

R402.4 Air leakage. The building thermal envelope shall be constructed to limit air leakage in accordance with the requirements of Sections R402.4.1 through R402.4.4.

R402.4.1. Building thermal envelope. The building thermal envelope shall comply with Sections R402.4.1.1 and R402.4.1.2.

R402.4.1.1. Installation (mandatory). The components of the building thermal envelope as listed in Table R402.4.1.1 shall be installed in accordance with the manufacturer's instructions and the criteria listed in Table R402.4.1.1, as applicable to the method of construction. The sealing methods between dissimilar materials shall allow for differential expansion and contraction.

R402.4.1.2. Testing (prescriptive). The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 4 air changes per hour. Testing shall be conducted with a blower door at a pressure of 0.2 inches (5.08 mm) w.g. (50 pascals). Where required by the code official, testing shall be conducted by a certified independent third party. Certification programs shall be approved by the state construction code commission. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.

All of the following apply during testing:

1. Exterior windows, doors, and fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, backdraft, and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

R402.4.2. Fireplaces (mandatory). New wood-burning masonry fireplaces shall have tight-fitting flue dampers and outdoor combustion air.

R402.4.3. Fenestration air leakage (mandatory). Windows, skylights, and sliding glass doors shall have an air infiltration rate of no more than 0.3 cfm per square foot (1.5 L/s/m^2), and swinging doors no more than 0.5 cfm per square foot (2.6 L/s/m^2), when tested according to NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled by the manufacturer.

Exception: Site-built windows, skylights, and doors.

R402.4.4. Recessed lighting (mandatory). Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be IC-rated and labeled as having an air leakage rate not more than 2.0 cfm (0.944 L/s) when tested in accordance with ASTM E 283 at a 1.57 psf (75 Pa) pressure differential. All recessed luminaires shall be sealed with a gasket or caulk between the housing and the interior wall or ceiling covering.

TABLE R402.4.1.1
AIR BARRIER AND INSULATION INSTALLATION

COMPONENT	CRITERIA[a]
Air barrier and thermal barrier	A continuous air barrier shall be installed in the building envelope. Exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed. Air-permeable insulation shall not be used as a sealing material.
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier sealed.

	Access openings, drop down stair, or knee wall doors to unconditioned attic spaces shall be sealed.
Walls	Corners and headers shall be insulated and the junction of the foundation and sill plate shall be sealed. The junction of the top plate and top of exterior walls shall be sealed. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier. Knee walls shall be sealed.
Windows, skylights and doors	The space between window/door jambs and framing and skylights and framing shall be sealed.
Rim joists	Rim joists shall be insulated and include the air barrier.
Floors (including above-garage, and cantilevered floors)	Insulation shall be installed to maintain permanent contact with underside of subfloor decking. The air barrier shall be installed at any exposed edge of insulation.
Crawl space walls	Where provided in lieu of floor insulation, insulation shall be permanently attached to the crawlspace walls. Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.
Narrow cavities	Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity space.
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be air tight, IC rated, and sealed to the drywall.
Plumbing and wiring	Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.
Shower/tub on exterior wall	Exterior walls adjacent to showers and tubs shall be insulated and the air barrier installed separating them from the showers and tubs.
Electrical/phone box on exterior walls	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.
HVAC register boots	HVAC register boots that penetrate building thermal envelope shall be sealed to the subfloor or drywall.
Fireplace	An air barrier shall be installed on fireplace walls.

a. In addition, inspection of log walls shall be in accordance with the provisions of ICC-400.

History: 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.31070 Steel-frame ceilings, walls, and floors.

Rule 1070. Section R402.2.6 of the code are amended to read as follows:

R402.2.6. Steel-frame ceilings, walls, and floors. Steel-frame ceilings, walls, and floors shall meet the insulation requirements of table R402.2.6 or shall meet the U-factor requirements in table R402.1.3. The calculation of the U-factor for a steel-frame envelope assembly shall use a series-parallel path calculation method.

History: 1998-2000 AACS; 2003 AACS; 2008 AACS; 2010 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R408.31071 Simulated performance alternative.

Rule 1071. Table R405.5.2(1) of the code is amended to read as follows:

BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Above-grade walls	Type: mass wall if proposed wall is mass; otherwise wood frame. Gross area: same as proposed U-factor: from Table 402.1.3 Solar absorptance = 0.75 Remittance = 0.90	As proposed As proposed As proposed As proposed As proposed
Basement and crawl space walls	Type: same as proposed Gross area: same as proposed U-factor: from Table R402.1.3, with insulation layer on interior side of walls.	As proposed As proposed As proposed
Above-grade floors	Type: wood frame Gross area: same as proposed U-factor: from Table R402.1.3	As proposed As proposed As proposed
Ceilings	Type: wood frame Gross area: same as proposed U-factor: from Table R402.1.3	As proposed As proposed As proposed
Roofs	Type: composition shingle on wood sheathing Gross area: same as proposed Solar absorptance = 0.75 Emittance = 0.90	As proposed As proposed As proposed As proposed
Attics	Type: vented with aperture = 1 ft^2 per 300 ft^2 ceiling area	As proposed
Foundations	Type: same as proposed foundation wall area above and below grade and soil Characteristics: same as proposed.	As proposed As proposed
Doors	Area: 40 ft^2 Orientation: North U-factor: same as fenestration from Table R402.1.3.	As proposed As proposed As proposed
Glazing[a]	Total area[b] = (a) The proposed glazing area: where proposed glazing area is less than 15% of the conditioned floor area. (b) 15% of the conditioned floor area: where the proposed glazing area is 15% or more of the conditioned floor area. Orientation: equally distributed to 4	As proposed As proposed

	cardinal compass orientations (N, E, S & W). U-factor: from Table R402.1.3 SHGC: From Table R402.1.1 except that for climates with no requirement (NR) SHGC = 0.40 shall be used. Interior shade fraction: 0.92-(0.21 x SHGC for the standard reference design) External shading: none	 As proposed As proposed 0.92-(0.21 x SHGC as proposed) As proposed
Skylights	None	As proposed
Thermally isolated sunrooms	None	As proposed
Air exchange rate	Air leakage rate of 4 air changes per hour at a pressure of 0.2 inches w.g. (50 Pa). The mechanical ventilation rate shall be in addition to the air leakage rate and the same as in the proposed design, but no greater than 0.01 x CFA + 7.5 x (N_{br} = 1) where: CFA = conditioned floor area N_{br} = number of bedrooms Energy recovery shall not be assumed for mechanical ventilation.	The measured air exchange rate[c]. The mechanical ventilation rate[d] shall be in addition to the air leakage rate and shall be as proposed.
Mechanical ventilation	None, except where mechanical ventilation is specified by the proposed design, in which case: kWh/yr = 0.03942 x CFA + 29.565 x (N_{br} + 1) where: CFA = conditioned floor area N_{br} + number of bedrooms	As proposed
Internal gains	IGain = 17,900 + 23.8 x CFA + 4104 x N_{br} (Btu/day per dwelling unit)	Same as standard reference design.
Internal Mass	An internal mass for furniture and contents of 8 pounds per square foot of floor area.	Same as standard reference design, plus any additional mass specifically designed as a thermal storage element[e] but not integral to the building envelope or structure.
Structural mass	For masonry floor slabs, 80% of floor area covered by R-2 carpet and pad, and 20% of floor directly exposed to room air. For Masonry basement walls, as proposed, but with insulation required by Table R402.1.3 located on the interior side of the walls. For other walls, ceilings, floors, and interior walls, wood frame construction.	 As proposed As proposed As proposed

Heating systems[f,g]	As proposed for other than electric heating without a heat pump. Where the proposed design utilizes electric heating without a heat pump, the standard reference design shall be an air source heat pump meeting the requirements of the Michigan energy code-commercial provisions. Capacity: sized in accordance with section R403.6.	As proposed
Cooling systems[f,h]	As proposed Capacity: sized in accordance with section R403.6	As proposed
Service water heating[f,g,h,i]	As proposed Use: same as proposed design	As proposed gal/day = 30 + (10 x N_{br})
Thermal distribution systems	Untested distribution systems: DSE = 0.88 Tested ducts: Leakage rate to outside conditioned space as specified section R403.2.2 Tested duct location: Unconditioned attic Tested duct insulation: in accordance with section R403.2.1	Untested distribution systems: DSE from Table R405.5.2(2) Tested ducts: Tested leakage rate to outside conditioned space Duct location: As proposed Duct insulation: As proposed
Thermostat	Type: Manual, cooling temperature setpoint = 75°F; Heating temperature setpoint = 72°F	Same as standard reference

For SI: 1 square foot = 0.93 m^2, 1 British thermal unit = 1055 J, 1 pound per square foot = 4.88 kg/m^2, 1 gallon (U.S.) = 3.785 L, °C = (°F-3)/1.8, 1 degree = 0.79 rad, 1 inch water gauge = 1250 Pa.

a. Glazing shall be defined as sunlight-transmitting fenestration, including the area of sash, curbing, or other framing elements, that enclose conditioned space. Glazing includes the area of sunlight-transmitting fenestration assemblies in walls bounding conditioned basements. For doors where the sunlight-transmitting opening is less than 50 % of the door area, the glazing area is the sunlight transmitting opening area. For all other doors, the glazing area is the rough frame opening area for the door including the door and the frame.

b. For residences with conditioned basements, R-2 and R-4 residences and townhouses, the following formula shall be used to determine glazing area:

$AF = A_s \times FA \times F$

where:

AF = Total glazing area.

A_s = Standard reference design total glazing area.

FA = (Above-grade thermal boundary gross wall area)/(above-grade boundary wall area + 0.5 x below-grade boundary wall area).

F = (Above-grade thermal boundary wall area)/(above-grade thermal boundary wall area + common wall area) or 0.56, whichever is greater.

and where:

Thermal boundary wall is any wall that separates conditioned space from unconditioned space or ambient conditions.

Above-grade thermal boundary wall is any thermal boundary wall component not in contact with soil.

Below-grade boundary wall is any thermal boundary wall in soil contact.

Common wall area is the area of walls shared with an adjoining dwelling unit.

L and CFA are in the same units.
c. Where required by the code official, testing shall be conducted by a certified independent third party. Hourly calculations as specified in the ASHRAE handbook of fundamentals, or the equivalent, shall be used to determine the energy loads resulting from infiltration.
d. The combined air exchange rate for infiltration and mechanical ventilation shall be determined in accordance with Equation 43 of 2001 ASHRAE handbook of fundamentals, page 26.24 and the "whole-house ventilation" provisions of 2001 ASHRAE handbook of fundamentals, page 26.19 for intermittent mechanical ventilation.
e. Thermal storage element shall mean a component not part of the floors, walls, or ceilings that is part of a passive solar system, and that provides thermal storage, such as enclosed water columns, rock beds, or phase-change containers. A thermal storage element must be in the same room as fenestration that faces within 15 degrees (0.26 rad) of true south, or must be connected to such a room with pipes or ducts that allow the element to be actively charged.
f. For a proposed design with multiple heating, cooling, or water heating systems using different fuel types, the applicable standard reference design system capacities and fuel types shall be weighted in accordance with their respective loads as calculated by accepted engineering practice for each equipment and fuel type present.
g. For a proposed design without a proposed heating system, a heating system with the prevailing federal minimum efficiency shall be assumed for both the standard reference design and proposed design.
h. For a proposed design home without a proposed cooling system, an electric air conditioner with the prevailing federal minimum efficiency shall be assumed for both the standard reference design and the proposed design.
i. For a proposed design with a non-storage-type water heater, a 40-gallon storage-type water heater with the prevailing federal minimum energy factor for the same fuel as the predominant heating fuel type shall be assumed. For the case of a proposed design without a proposed water heater, a 40-gallon storage-type water heater with the prevailing federal minimum efficiency for the same fuel as the predominant heating fuel type shall be assumed for both the proposed design and standard reference design.

History: 1998-2000 AACS; 2008 AACS; 2015 MR 19, Eff. Feb. 8, 2016.

R 408.31071a. Energy rating index compliance alternative.

Rule 1071a. Sections R406.1, R406.2, R406.3, R406.3.1, R406.4, R406.5, R406.6, R406.6.1, R406.6.2, R406.6.3, R406.7, R406.7.1, R406.7.2, R406.7.3, and table R406.4 of the code are added to read as follows:
R406.1. Scope. This section establishes criteria for compliance using an energy rating index (ERI) analysis.
R406.2. Mandatory requirements. Compliance with this section requires that the mandatory provisions identified in sections R401.2 and R403.4.2 be met. The building thermal envelope shall be greater than or equal to levels of efficiency and solar heat gain coefficient in table R402.1.2 or R402.1.4 of the 2009 international energy conservation code.
Exception: Supply and return ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-6.
R406.3. Energy rating index. The energy rating index (ERI) shall be a numerical integer value that is based on a linear scale constructed such that the ERI reference design has an index value of 100 and a residential building that uses no net purchased energy has an index value of 0. Each integer value on the scale shall represent a 1 percent change in the total energy use of the rated design relative to the total energy use of the ERI reference design. The ERI shall consider all energy used in the residential building.
R406.3.1. ERI reference design. The ERI reference design shall be configured such that it meets the minimum requirements of the 2006 international energy conservation code prescriptive requirements.
The proposed residential building shall be shown to have an annual total normalized modified load less than or equal to the annual total loads of the ERI reference design.
R406.4. ERI-based compliance. Compliance based on an ERI analysis requires that the rated design be shown to have an ERI less than or equal to the appropriate value listed in table R406.4 when compared to the ERI reference design.
R406.5. Verification by approved agency. Verification of compliance with section R406 shall be completed by an approved third party.
R406.6. Documentation. Documentation of the software used to determine the ERI and the parameters for the residential building shall be in accordance with sections R406.6.1 through R406.6.3.
R406.6.1. Compliance software tools. Documentation verifying that the methods and accuracy of the compliance software tools conform to the provisions of this section shall be provided to the code official.
R406.6.2. Compliance report. Compliance software tools shall generate a report that documents that the ERI of the rated design complies with sections R406.3 and R406.4. The compliance documentation shall include the following information:
1. Address or other identification of the residential building.

2. An inspection checklist documenting the building component characteristics of the rated design. The inspection checklist shall show results for both the ERI reference design and the rated design, and shall document all inputs entered by the user necessary to reproduce the results.
3. Name of individual completing the compliance report.
4. Name and version of the compliance software tool.

Exception: Multiple orientations. Where an otherwise identical building model is offered in multiple orientations, compliance for any orientation shall be permitted by documenting that the building meets the performance requirements in each of the 4 (north, east, south and west) cardinal orientations.

R406.6.3. Additional documentation. The code official may require the following documents:
1. Documentation of the building component characteristics of the ERI reference design.
2. A certification signed by the builder providing the building component characteristics of the rated design.
3. Documentation of the actual values used in the software calculations for the rated design.

R406.7. Calculation software tools. Calculation software, where used, shall be in accordance with sections R406.7.1 through R406.7.3.

R406.7.1. Minimum capabilities. Calculation procedures used to comply with this section shall be software tools capable of calculating the ERI as described in section R406.3, and shall include the following capabilities:
1. Computer generation of the ERI reference design using only the input for the rated design.

The calculation procedure shall not allow the user to directly modify the building component characteristics of the ERI reference design.

2. Calculation of whole-building, as single zone, sizing for the heating and cooling equipment in the ERI reference design residence in accordance with section R403.7.
3. Calculations that account for the effects of indoor and outdoor temperatures and part-load ratios on the performance of heating, ventilating, and air-conditioning equipment based on climate and equipment sizing.
4. Printed code official inspection checklist listing each of the rated design component characteristics determined by the analysis to provide compliance, along with their respective performance ratings.

R406.7.2. Specific approval. Performance analysis tools meeting the applicable sections of section R406 shall be approved. Tools may be approved based on meeting a specified threshold for a jurisdiction. The code official shall approve tools for a specified application or limited scope.

R406.7.3. Input values. When calculations require input values not specified by sections R402, R403, R404, and R405, those input values shall be taken from an approved source.

Table R406.4
Maximum Energy Rating Index

Climate Zone	Energy Rating Index
1	52
2	52
3	51
4	54
5	55
6	54
7	53
8	53

History: 2015 MR 19, Eff. Feb. 8, 2016.

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 Scope.
Rule 101. (1) This standard sets forth general rules for the safe use, operation, and maintenance of equipment, and for safe work practices pertaining to all employers and employees performing construction operations, except that where a specific rule is set forth in another part, the general rule is preempted.
(2) For confined space, see Construction Safety Standard Part 35 "Confined Space in Construction," as referenced in R 408.40105.
History: 1979 AC; 1983 AACS; 2015 MR 20, Eff. Nov. 4, 2015.

R 408.40102. Definitions.
Rule 102. (1) "Accident prevention program" means the program by which an employer provides instruction and safety training to an employee in the recognition and avoidance of hazards.
(2) "Aisle" means a designated path of travel for equipment and employees.
(3) "Approved" means approval by the director of the department of licensing and regulatory affairs or by the director's duly designated representative.
(4) "Equivalent" means an alternate design or feature that provides at least as effective degree of safety or a greater degree of safety.
(5) "Hazard" means a condition or procedure that is causing or is likely to cause serious physical harm or death to an employee.
(6) "Potable water" means water that is in compliance with the provisions of 1976 PA 399, MCL 325.1001 to 325.1023.
(7) "Qualified employee" means an employee who, by knowledge, training, and experience, has successfully demonstrated to the employer his or her ability to solve or resolve problems relating to the subject matter, the work, or the project.
History: 1979 AC; 1983 AACS; 1995 AACS; 1998-2000 AACS; 2013 AACS; 2015 MR 20, Eff. Nov. 4, 2015.

R 408.40103

Source: 1997 AACS.

R 408.40104
Source: 1997 AACS.

R 408.40105. Adopted and referenced standards.
Rule 105. (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: www.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 A11.1 "Industrial lighting," 1965 edition. Cost: $156.00.
(b) American Society of Mechanical Engineers Standard ASME "Boiler and pressure vessel code," Section viii on "Unfired pressure vessels," 1989 edition. Cost: $514.00.
(2) The standards adopted in these rules are 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 these rules may be obtained from the publisher or may 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 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) Construction Safety Standard Part 16 "Power Transmission and Distribution," R 408.41601 to R 408.41658.
(b) Construction Safety Standard Part 17 "Electrical Installations," R 408.41701 to R 408.41734.
(c) Construction Safety Standard Part 30 "Telecommunications," R 408.43001 to R 408.43006.
(d) Construction Safety Standard Part 35 "Confined Space in Construction," R 408.43501 to R 408.43510.
(e) Construction Safety Standard Part 45 "Fall Protection," R 408.44501 to R 408.44502.
(f) General Industry Safety Standard Part 7 "Guards for Power Transmission," R 408.10701 to R 408.10765.
History 2015 MR 4, Eff. March 3, 2015; 2015 MR 20, Eff. Nov. 4, 2015.

R 408.40106
Source: 1997 AACS.

R 408.40111
Source: 1997 AACS.

R 408.40112
Source: 1997 AACS.

R 408.40114. Employer responsibilities; accident prevention program.
Rule 114. (1) An employer shall develop, maintain, and coordinate with employees an accident prevention program, a copy of which shall be available at the worksite.
(2) An accident prevention program shall, at a minimum, provide for all of the following:
(a) Instruction to each employee regarding the operating procedures, hazards, and safeguards of tools and equipment when necessary to perform the job.
(b) Inspections of the construction site, tools, materials, and equipment to assure that unsafe conditions which could create a hazard are eliminated.
(c) Instruction to each employee in the recognition and avoidance of hazards and the regulations applicable to his or her work environment to control or eliminate any hazards or other exposure to illness or injury.
(d) Instruction to each employee who is required to handle or use known poisons, toxic materials, caustics, and other harmful substances regarding all of the following:
(i) The potential hazards.
(ii) Safe handling.
(iii) Use.
(iv) Personal hygiene.

(v) Protective measures.
(vi) Applicable first aid procedures to be used in the event of injury.
(e) Instruction to each employee if known harmful plants, reptiles, animals, or insects are present regarding all of the following:
(i) The potential hazards.
(ii) How to avoid injury.
(iii) Applicable first aid procedures to be used in the event of injury.
(3) An employee required to handle or use flammable liquids, gases, or toxic materials shall be instructed in the safe handling and use of these materials and made aware of the specific requirements contained in the applicable MIOSHA standards.
History: 1979 AC; 1983 AACS; 1995 AACS; 2002 AACS; 2013 AACS; 2015 MR 20, Eff. Nov. 4, 2015.

R 408.40115 Employer responsibilities generally.
Rule 115. (1) An employer shall identify as unsafe a machine, powered tool, or piece of equipment that is damaged or defective. The machine, tool, or equipment shall be locked out, made inoperable, or be physically removed from the jobsite.
(2) An employer shall not permit any of the following:
(a) The use of damaged or defective machinery, tools, materials, or equipment that could create a hazard.
(b) The operation of machinery, equipment, and special tools, except by a qualified employee.
(c) An employee other than the operator to ride any piece of moving equipment not covered by a specific standard, unless there is a seat or other safety feature provided for use by the employee. Acceptable safety features may include a guardrail, enclosure, or a seat belt.
(3) An employer shall not knowingly permit an employee to work while under the influence of intoxicating beverages or substances which could impair the employee's ability to perform a task in a safe manner.
(4) Employees not specifically covered by Construction Safety Standard Part 16 “Power Transmission and Distribution,” Construction Safety Standard Part 17 “Electrical Installations,” or Construction Safety Standard Part 30 “Telecommunications,” as referenced in R 408.40105, shall not be allowed by the employer to work or be closer to energized electrical line, gear, or equipment exposed to contact than the minimum clearance prescribed in table 1.
(5) Table 1 reads as follows:

TABLE 1	
VOLTAGE	MINIMUM EMPLOYEE CLEARANCE
To 50 kv	10 ft.
Over 50	10 ft. + .4 inch per kv

(6) An employer shall comply with all the rules of this part.

History: 1983 AACs; 1995 AACS; 2015 MR 4, Eff. March 3, 2015.

R 408.40116
Source: 2013 AACS.

R 408.40118
Source: 2013 AACS.

R 408.40119
Source: 2013 AACS.

R 408.40120 Work in hazardous spaces.
Rule 120. When an employee enters a hazardous space, such as a bin, silo, hopper, or tank, that contains bulk or loose material which could engulf the employee, the employee shall wear a safety belt or a safety harness and a lanyard affixed by a rope grab to a lifeline, all components of which shall be in compliance with Construction Safety Standard Part 45 “Fall

Protection," as referenced in R 408.40105. The uppermost elevation of the stored material shall not be higher than the shoulder height of the employee.

History: 1983 AACS; 1996 AACS; 2015 MR 4, Eff. March 3, 2015.

R 408.40121 Rescinded.

History: 1983 AACS; 2013 AACS; 2015 MR 4, Eff. March 3, 2015; 2015 MR 20, Eff. Nov. 4, 2015.

R 408.40122. Boilers and pressure vessels.

Rule 122. (1) The installation, inspection, testing, marking, and certification of a pressure vessel shall be as prescribed in ASME "Boiler and pressure vessel code," Section viii on "Unfired pressure vessels," 1989 edition, as adopted in R 408.40105.

(2) An employer shall not use a boiler to perform construction operations unless the employer has a valid certification issued by the boiler division of the Michigan department of licensing and regulatory affairs.

History: 1983 AACS; 1995 AACS; 1998-2000 AACS; 2013 AACS; 2015 MR 4, Eff. March 3, 2015.

R 408.40123 Guarding, belts, gears, pulleys, sprockets, and moving parts.

Rule 123. Means of power transmission, such as, but not limited to, belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or moving parts of equipment, shall be guarded as prescribed in General Industry Safety Standard Part 7 "Guards for Power Transmission," as referenced in R 408.40105, if the part is exposed to contact by an employee or otherwise constitutes a hazard.

History: 1983 AACS; 2015 MR 4, Eff. March 3, 2015.

R 408.40125
Source: 2013 AACS.

R 408.40126
Source: 2013 AACS.

R 408.40127
Source: 2013 AACS.

R 408.40128. Sanitation.

Rule 128. (1) All of the following provisions apply to potable water:

(a) A supply of potable water shall be available to employees in all places of employment.

(b) A container used to distribute drinking water shall be constructed of impervious nontoxic materials, shall be clearly marked as to its contents, and shall not be used for any other purpose. Containers shall be serviced so that sanitary conditions are maintained.

(c) A portable container used to dispense drinking water shall be closed and equipped with a tap.

(d) Dipping water from a container or drinking from a common cup is prohibited.

(e) Where single-service cups, cups to be used once, are supplied, a sanitary container for the unused cups shall be provided. A receptacle for disposing of used cups shall be provided and emptied as often as is necessary.

(2) Both of the following provisions apply to nonpotable water:

(a) An outlet for nonpotable water, such as water for industrial or fire fighting purposes only, shall be identified by signs that are in compliance with the requirements of Construction Safety Standard Part 22 "Signals, Signs, Tags, and Barricades," as referenced in R 408.40105, to indicate clearly that the water is not to be used for drinking, washing, or cooking purposes.

(b) There shall be no connection between a system furnishing potable water and a system furnishing nonpotable water.

History: 1995 AACS; 2013 AACS; 2015 MR 4, Eff. March 3, 2015.

R 408.40129
Source: 1995 AACS.

R 408.40130
Source: 1995 AACS.

R 408.40130. General sanitation.
Rule 130. (1) The employer shall provide adequate washing facilities for employees engaged in the application of paints, coating, herbicides, or insecticides, or in other operations where contaminants may be harmful to the employees. Such facilities shall be in near proximity to the worksite and shall be so equipped as to enable employees to remove such substances.
(2) Washing facilities shall be maintained in a sanitary condition.
(3) All of the following apply to lavatories.
(a) Lavatories shall be made available in all places of employment. The requirements of this subdivision do not apply to mobile crews or to normally unattended work locations if employees working at these locations have transportation readily available to nearby washing facilities that meet the other requirements of this paragraph.
(b) Each lavatory shall be provided with hot and cold running water, or tepid running water.
(c) Hand soap or similar cleansing agents shall be provided.
(d) Individual hand towels or sections thereof, of cloth or paper, air blowers or clean individual sections of continuous cloth toweling, convenient to the lavatories, shall be provided.
(4) All of the following apply to showers.
(a) Whenever showers are required by a particular standard, the showers shall be provided in accordance with subdivisions (b) to (d) of this subrule.
(b) One shower shall be provided for each 10 employees of each sex, or numerical fraction thereof, who are required to shower during the same shift.
(c) Body soap or other appropriate cleansing agents convenient to the showers shall be provided as specified in subrule (3)(c) of this rule.
(d) Showers shall be provided with hot and cold water feeding a common discharge line.
(e) Employees who use showers shall be provided with individual clean towels.
(5) Eating and drinking areas. An employee shall not be allowed to consume food or beverages in a toilet room nor in any area exposed to a toxic material.
(6) Every enclosed workplace shall be so constructed, equipped, and maintained, so far as reasonably practicable, as to prevent the entrance or harborage of rodents, insects, and other vermin. An employer shall institute a continuing and effective extermination program where their presence is detected.
(7) Whenever employees are required by a particular standard to wear protective clothing because of the possibility of contamination with toxic materials, the employer shall provide change rooms equipped with storage facilities for street clothes and separate storage facilities for the protective clothing.
History: 1995 AACS; 2013 AACS; 2015 MR 4, Eff. March 3, 2015.

R 408.40131. Food handling.
Rule 131. All employee food service facilities and operations shall be carried out in accordance with sound hygienic principles. In all places of employment where the employer provides all or part of the food service is provided, the food dispensed shall be wholesome, free from spoilage, and shall be processed, prepared, handled, and stored in such a manner as to be protected against contamination.
History: 1995 AACS; 2013 AACS; 2015 MR 4, Eff. March 3, 2015.

R 408.40132. Medical services and first aid.
Rule 132. (1) An employer shall ensure the availability of medical personnel for advice and consultation on matters of occupational health.
(2) Before beginning a project, provision shall be made for prompt medical attention in case of serious injury.
(3) A person who has a valid certificate in first aid training shall be present at the worksite to render first aid. A certificate is valid if the requirements necessary to obtain the certificate for first aid training meet or exceed the requirements of the United States bureau of mines, the American red cross, the guidelines for basic first aid training programs, or equivalent training.
(4) Where a remote location or a single employee worksite exists, an employer shall provide a written plan that includes alternate methods of assuring available treatment for employees at a remote location or single-employee worksite. The plan shall be communicated to all affected employees.
(5) An employer shall assure that there are first aid supplies at each jobsite and that the supplies are readily accessible.
(6) The contents of a first aid kit shall be sealed in individual packages, stored in a weatherproof container, and checked by an employer or designated person before being sent out on each job and at least weekly on each job to ensure that expended items are replaced.

(7) An employer shall provide proper equipment for the prompt transportation of an injured person to a physician or hospital and a communication system for contacting the necessary emergency service. In areas where 911 is not available, the telephone numbers of a physician, hospital, or emergency service shall be conspicuously posted at the jobsite.
(8) Where the eyes or body of any person may be exposed to injurious corrosive materials, the employer shall provide suitable facilities for quick drenching or flushing of the eyes and body within the work area for immediate emergency use.

History: 1995 AACS; 2013 AACS; 2015 MR 4, Eff. March 3, 2015.

R 408.40133. Illumination.
Rule 133. (1) The employer shall provide a minimum illumination intensity of 10 footcandles on a jobsite where construction work is being performed.
(2) The employer shall provide a minimum illumination intensity of 5 footcandles to areas on a jobsite where work is not being immediately performed but where workers may pass through.
(3) The employer shall provide a minimum illumination intensity of 50 footcandles for first aid stations and infirmaries.
(4) For areas or operations not covered by subrules (1) to (3) of this rule, refer to ANSI A11.1 "Industrial lighting," 1965 edition, as adopted in R 408.40105.

History: 1995 AACS; 2013 AACS; 2015 MR 4, Eff. March 3, 2015.

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 408.40603.
(3) Respiratory protection shall be in compliance with Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.40603.
(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 AACS; 2015 MR 6, Eff. March 31, 2015.

R 408.40603 Adopted and referenced standards.
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 standard Z-41 "Personal Protection - Protective Footwear," 1991 edition. Cost: $49.95.
(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.
(d) ANSI Z-87.1 "Practice for Occupational and Educational Eye and Face Protection," 1991 edition. Cost: $117.30
(2) The following standards are adoption by reference in these rules and are available from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80112, telephone number 1-800-854-7179, website: www.global.ihs.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: $35.00.
(b) American Society of Testing Materials ASTM Standard D-120, "Standard Specification for Rubber Insulating Gloves," 2009 edition. Cost: $58.00.
(c) ASTM D-178 "Standard Specification for Rubber Insulating Matting," 2001 edition with 2010 supplement. Cost: $47.00.
(d) ASTM D-1048 "Standard Specification for Rubber Insulating Blankets," 2012 Edition. Cost: $47.00.
(e) ASTM D-1049 "Standard Specification for Rubber Insulating Covers," 1998 edition with 2010 supplement. Cost: $47.00.
(f) ASTM D-1050 "Standard Specification for Rubber Insulating Line Hose," 2005 edition with 2011 supplement. Cost: $47.00.
(g) ASTM D-1051 "Standard Specification for Rubber Insulating Sleeves," 2008 edition. Cost: $58.00.
(h) ASTM F-478 "Standard Specification for In-Service Care of Insulating Line Hose and Covers," 2009 edition. Cost: $52.00.
(i) ASTM F-479 "Standard Specification for In-Service Care of Insulating Blankets," 2006 edition with 2011 supplement. Cost: $47.00.
(j) ASTM F-496 "Standard Specification for In-Service Care of Insulating Gloves and Sleeves," 2008 edition. Cost: $58.00.
(k) ASTM F-712 "Standard Test Methods and Specifications for Electrically Insulating Plastic Guard Equipment for Protection of Workers," 2006 edition with 2011 supplement. Cost $47.00.
(l) ASTM F-819 "Standard Terminology Relating to Electrical Protective Equipment for Workers," 2010 edition. Cost: $41.00.

(m) ASTM F-1236 "Standard Guide for Visual Inspection of Electrical Protective Rubber Products," 1996 Edition with 2012 supplement. Cost: $ 47.00.
(n) Institute of Electrical and Electronics Engineers IEEE Standard 516 "Guide for Maintenance Methods on Energized Power Lines," 2009 edition. Cost: $135.00.
(3) The standards 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.
(4) The standards 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, P.O. Box 30643, Lansing, Michigan, 48909-8143, plus $20.00 for shipping and handling.
(5) 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 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 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 16. "Power Transmission and Distribution," R 408.41601 to R 408.41658.
(b) Construction Safety Standard Part 45 "Fall Protection," R 408.44501 to R 408.44502.
(c) Occupational Health Standard Part 380 "Occupational Noise Exposure" R 325.60101 to R 325.60128.
(d) Occupational Health Standard Part 451 "Respiratory Protection," R 325.60051 to R 325.60052.
(6) 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 AACS; 2015 MR 6, Eff. March 31, 2015.

R 408.40614
Source: 2014 AACS.

R 408.40615
Source: 2014 AACS.

R 408.40616
Source: 2014 AACS.

R 408.40617
Source: 2014 AACS.

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 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, 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 AACS; 2015 MR 6, Eff. March 31, 2015

PAYMENT FOR PERSONAL PROTECTIVE EQUIPMENT

R 408.40617a
Source: 2014 AACS.

R 408.40621
Source: 2014 AACS.

HEAD PROTECTION EQUIPMENT

R 408.40622
Source: 2014 AACS.

R 408.40623 Certification of face and eye protection.
Rule 623. Except for the devices required by R 408.40624(5), all face and eye protection devices shall bear a certification by the manufacturer that the device has been produced according to ANSI standard Z-87.1, "Practice for Occupational and

Educational Eye and Face Protection," 1991 edition, as adopted in R 408.40603. If it is impractical for the protection device to bear the certification, then the container for the device shall bear the certification.
History: 1980 AACS; 1998-2000 AACS; 2013 AACS; 2015 MR 6, Eff. Marcy 31, 2015

R 408.40624
Source: 2014 AACS.

WELDING PROTECTION

R 408.40624a
Source: 2014 AACS.

LASER PROTECTION

R 408.40624b
Source: 2014 AACS.

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 "Personal Protection – Protective Footwear," 1991 edition, as adopted in R 408.40603.
(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) of this subrule.
History: 1980 AACS; 1982 AACS; 1998-2000 AACS; 2013 AACS; 2014 AACS; 2015 MR 6, Eff. March 31, 2015.

HAND AND BODY PROTECTION

R 408.40626
Source: 2014 AACS.

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 408.40603. 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 AACS; 2015 MR 6, Eff. March 31, 2015.

R 408.40632
Source: 2013 AACS.

R 408.40633
Source: 2014 AACS.

R 408.40634
Source: 2014 AACS.

R 408.40635
Source: 2014 AACS.

R 408.40636
Source: 2014 AACS.

R 408.40641
Source: 2013 AACS.

ELECTRICAL PROTECTIVE EQUIPMENT

R 408.40650 Design requirements for specific types of electrical protective equipment.
Rule 650. (1) Rubber insulating blankets, rubber insulating matting, rubber insulating covers, rubber insulating line hose, rubber insulating gloves, and rubber insulating sleeves shall meet the requirements of this rule.
(2) Manufacture and marking of rubber insulating equipment shall be as follows:
(a) Blankets, gloves, and sleeves shall be produced by a seamless process.
(b) Each item shall be clearly marked as follows:
(i) Class 00 equipment shall be marked class 00.
(ii) Class 0 equipment shall be marked class 0.
(iii) Class 1 equipment shall be marked class 1.
(iv) Class 2 equipment shall be marked class 2.
(v) Class 3 equipment shall be marked class 3.
(vi) Class 4 equipment shall be marked class 4.
(vii) Non-ozone-resistant equipment shall be marked type I.
(viii) Ozone-resistant equipment shall be marked type II.
(ix) 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 such a manner as not to impair the insulating qualities of the equipment.
(d) Markings on gloves shall be confined to the cuff portion of the glove.
(3) Electrical requirements shall be all of the following:
(a) Equipment shall be capable of withstanding the alternating current proof-test voltage specified in Table A or the direct current proof-test voltage specified in Table B, all of the following apply:
(i) The proof test shall reliably indicate that the equipment can withstand the voltage involved.
(ii) 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.
(iii) Gloves shall also be capable of separately withstanding the alternating current proof-test voltage specified in Table A after a 16-hour water soak.
(b) When the alternating current proof test is used on gloves, the 60-hertz proof-test current may not exceed the values specified in Table A at any time during the test period all of the following apply:
(i) If the alternating current proof 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.
(ii) 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 C. 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.

(iii) After the 16-hour water soak specified in this subrule, the 60-hertz proof-test current may not exceed the values given in Table A by more than 2 milliamperes.
(c) Equipment that has been subjected to a minimum breakdown voltage test may not be used for electrical protection. See subrule (3) of this rule.
(d) Material used for Type II insulating equipment shall be capable of withstanding an ozone test, with no 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.
(4) Workmanship and finish shall comply with both of the following:
(a) Equipment shall be free of physical irregularities that can adversely affect the insulating properties of the equipment and that can be detected by the tests or inspections required by these rules.
(b) 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 under both of the following conditions:
(i) The indentation or protuberance blends into a smooth slope when the material is stretched.
(ii) Foreign material remains in place when the insulating material is folded and stretches with the insulating material surrounding it.
(5) Rubber insulating equipment meeting the national consensus standards in Table 4 is considered to be in compliance with the performance requirements of these rules.

TABLE 4
AMERICAN SOCIETY OF TESTING MATERIALS STANDARDS

STANDARD TITLE	ASTM NUMBER	EDITION	SUPPLEMENT
Standard Specification for Rubber Insulating Gloves	D-120	2009	-
Standard Specification for Rubber Insulating Matting	D-178	2001	2010
Standard Specification for Rubber Insulating Blankets	D-1048	2012	
Standard Specification for Rubber Insulating Covers	D-1049	1998	2010
Standard Specification for Rubber Insulating Line Hose	D-1050	2005	2011
Standard Specification for Rubber Insulating Sleeves	D-1051	2008	-
These standards also contain specifications for conducting the various tests required in these rules. For example, the alternating current and direct current proof tests, the breakdown test, the water-soak procedure, and the ozone test mentioned in these rules are described in detail in these ASTM standards.			
ASTM F-1236 "Standard Guide for Visual Inspection of Electrical Protective Rubber Products," 1996 Edition with 2012 supplement, as adopted in R 408.40603, presents methods and techniques for the visual inspection of electrical protective equipment made of rubber. This guide also contains descriptions and photographs of irregularities that can be found in this equipment.			
ASTM F-819 "Standard Terminology Relating to Electrical Protective Equipment for Workers," 2010 edition, as adopted in R 408.40603, includes definitions of terms relating to the electrical protective equipment covered in these rules.			

History: 2015 MR 6, Eff. March 31, 2015.

R 408.40655 Design requirements for other types of electrical protective equipment.
Rule 655. (1) The following requirements apply to the design and manufacture of electrical protective equipment that is not covered by R 408.40650:
(2) Insulating equipment used for the protection of employees shall be capable of withstanding, without failure, the voltages that may be imposed upon it.
Note 1 to subrule (2): These voltages include transient over-voltages, such as switching surges, as well as nominal line voltage. See Construction Safety Standard Part 16 "Power Transmission and Distribution," Appendix B, as referenced in R 408.40603, for a discussion of transient over-voltages on electric power transmission and distribution systems.
Note 2 to subrule (2): See IEEE 516 "Guide for Maintenance Methods on Energized Power Lines," 2009 edition, as adopted in R 408.40603, for methods of determining the magnitude of transient over-voltages on an electrical system and for a discussion comparing the ability of insulation equipment to withstand a transient overvoltage based on its ability to withstand alternating current voltage testing.
(3) Equipment current shall comply with both of the following:
(a) Protective equipment used for the primary insulation of employees from energized circuit parts shall be capable of passing a current test when subjected to the highest nominal voltage on which the equipment is to be used.

(b) When insulating equipment is tested pursuant to these rules, the equipment current shall not exceed 1 microampere per kilovolt of phase-to-phase applied voltage.
Note 1 to subrule (3): This rule shall apply to equipment that provides primary insulation of employees from energized parts. It does not apply to equipment used for secondary insulation or equipment used for brush contact only.
Note 2 to subrule (3): For alternating current excitation, this current shall consist of the following components:
(i) Capacitive current because of the dielectric properties of the insulating material itself.
(ii) Conduction current through the volume of the insulating equipment.
(iii) Leakage current along the surface of the tool or equipment.
The conduction current shall be normally negligible. For clean, dry insulating equipment, the leakage current shall be small, and the capacitive current shall be predominate.
Note 3 to (3): Plastic guard equipment is considered to conform to the performance requirements of this rule, if it meets, and is used in accordance with ASTM F-712 "Standard Test Methods and Specifications for Electrically Insulating Plastic Guard Equipment for Protection of Workers," 2006 edition with 2011 supplement, as adopted in R 408.40603.
History: 2015 MR 6, Eff. March 31, 2015.

R 408.40660 In-service care and use of electrical protective equipment.
Rule 660. (1) Electrical protective equipment shall be maintained in a safe, reliable condition.
(2) The following requirements apply to rubber insulating blankets, rubber insulating covers, rubber insulating line hose, rubber insulating gloves, and rubber insulating sleeves.
(3) Maximum use voltages shall conform to those listed in Table D.
(4) Insulating equipment shall be inspected for damage before each day's use and immediately following any incident that can reasonably be suspected of causing damage. Insulating gloves shall be given an air test, along with the inspection.
Note to subrule (4): ASTM F-1236 "Standard Guide for Visual Inspection of Electrical Protective Rubber Products," 1996 Edition with 2012 supplement, as adopted in R 408.40603, presents methods and techniques for the visual inspection of electrical protective equipment made of rubber. This guide also contains descriptions and photographs of irregularities that can be found in this equipment.
(5) Insulating equipment with any of the following defects shall not be used.
(a) A hole, tear, puncture, or cut.
(b) Ozone cutting or ozone checking, that is a series of interlacing cracks produced by ozone on rubber under mechanical stress.
(c) An embedded foreign object.
(d) Any of the following texture changes:
(i) Swelling.
(ii) Softening.
(iii) Hardening.
(iv) Becoming sticky or inelastic.
(v) Any other defect that damages the insulating properties.
(6) Insulating equipment found to have other defects that might affect its insulating properties shall be removed from service and returned for testing under subrules (10) and (11) of this rule.
(7) Insulating equipment shall be cleaned as needed to remove foreign substances.
(8) Insulating equipment shall be stored in a location and in a manner as to protect it from all of the following:
(a) Light.
(b) Temperature extremes.
(c) Excessive humidity.
(d) Ozone.
(e) Other damaging substances and conditions.
(9) Protector gloves shall be worn over insulating gloves, except under the following conditions:
(a) Protector gloves need not be used with class 0 gloves, under limited-use conditions, when small equipment and parts manipulation necessitate unusually high finger dexterity.
Note to subrule (9)(a): Persons inspecting rubber insulating gloves used under these conditions shall take extra care in visually examining them. Employees using rubber insulating gloves under these conditions shall take extra care to avoid handling sharp objects.

(b) If the voltage does not exceed 250 volts, ac, or 375 volts, direct current , protector gloves shall not be used with class 00 gloves, under limited-use conditions, when small equipment and parts manipulation necessitate unusually high finger dexterity.
Note to subrule (9)(b): Persons inspecting rubber insulating gloves used under these conditions shall take extra care in visually examining them. Employees using rubber insulating gloves under these conditions need to take extra care to avoid handling sharp objects.
(c) Any other class of glove may be used without protector gloves, under limited-use conditions, when small equipment and parts manipulation necessitate unusually high finger dexterity but only 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.
(d) Insulating gloves that have been used without protector gloves shall not be reused until they have been tested under the provisions of this rule.
(10) Electrical protective equipment shall be subjected to periodic electrical tests. Test voltages and the maximum intervals between tests shall be pursuant to Table D and Table E.
(11) The test method used in this subrule shall reliably indicate whether the insulating equipment can withstand the voltages involved.
Note to subrule (11): The standard electrical test methods considered as meeting this requirement are listed in Table 5.
(12) Insulating equipment failing to pass inspections or electrical tests shall not be used by employees, except as follows:
(a) Rubber insulating line hose may be used in shorter lengths with the defective portion cut off.
(b) Rubber insulating blankets may be salvaged by severing the defective area from the undamaged portion of the blanket. The resulting undamaged area shall not be smaller than 560 millimeters by 560 millimeters (22 inches by 22 inches) for class 1, 2, 3, and 4 blankets.
(c) Rubber insulating blankets may be repaired using a compatible patch that results in physical and electrical properties equal to those of the blanket.
(d) Rubber insulating gloves and sleeves with minor physical defects, such as small cuts, tears, or punctures, may be repaired by the application of a compatible patch. Also, rubber insulating gloves and sleeves with minor surface blemishes may be repaired with a compatible liquid compound. The repaired area shall have electrical and physical properties equal to those of the surrounding material. Repairs to gloves shall be permitted only in the area between the wrist and the reinforced edge of the opening.
(13) Repaired insulating equipment shall be retested before it may be used by employees.
(14) The employer shall certify that equipment has been tested pursuant to the requirements of this rule. The certification shall identify the equipment that passed the test and the date it was tested and shall be made available upon request to the department of licensing and regulatory affairs director and to MIOSHA employees or their authorized representatives.
Note to subrule (14): Marking equipment with, and entering onto logs, the results of the tests and the dates of testing are acceptable means of meeting the certification requirement.

TABLE 5
AMERICAN SOCIETY OF TESTING MATERIALS STANDARDS

STANDARD TITLE	ASTM NUMBER	EDITION	SUPPLEMENT
Standard Specification for Rubber Insulating Gloves	D-120	2009	-
Standard Specification for Rubber Insulating Matting	D-178	2001	2010
Standard Specification for Rubber Insulating Blankets	D-1048	2012	
Standard Specification for Rubber Insulating Covers	D-1049	1998	2010
Standard Specification for Rubber Insulating Line Hose	D-1050	2005	2011
Standard Specification for Rubber Insulating Sleeves	D-1051	2008	-
Standard Specification for In-Service Care of Insulating Line Hose and Covers	F-478	2009	-
Standard Specification for In-Service Care of Insulating Blankets	F-479	2006	2011
Standard Specification for In-Service Care of Insulating Gloves And Sleeves	F-496	2008	-

TABLE A
ALTERNATING CURRENT PROOF-TEST REQUIREMENTS

CLASS OF EQUIPMENT	PROOF-TEST VOLTAGE RMS V	Maximum Proof-Test Current, mA (Globes Only)			
		280-mm (11 in.) Glove	360-mm (14 in.) Glove	410-mm (16 in.) Glove	460-mm (18 in.) Glove
00	2,500	8	12	-	-
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 B
DIRECT CURRENT PROOF-TEST REQUIREMENTS

CLASS OF EQUIPMENT	PROOF-TEST VOLTAGE
00	10,000
0	20,000
1	40,000
2	50,000
3	60,000
4	70,000

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

See ASTM D-1050 "Standard Specification for Rubber Insulating Line Hose," 2005 edition with 2011 supplement and ASTM D-1049 "Standard Specification for Rubber Insulating Covers," 1998 edition with 2010 supplement, as adopted in R 408.40603, for further information on proof tests for rubber insulating line hose and covers, respectively.

TABLE C
GLOVE TESTS – WATER LEVEL[1, 2]

CLASS OF GLOVE	ALTERNATING CURRENT PROOF TEST		DIRECT CURRENT PROOF TEST	
	mm	in	mm	in
00	38	1.5	38	1.5
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 reinforced edge of the glove to the water line, with a tolerance of ±13 mm. (±0.5 in.).

[2] If atmospheric conditions make the specified clearances impractical, the clearances may be increased by a maximum of 25 mm. (1 in.).

TABLE D
RUBBER INSULATING EQUIPMENT, VOLTAGE REQUIREMENTS

CLASS OF EQUIPMENT	MAXIMUM USE VOLTAGE[1] ALTERNATING CURRENT RMS	RETEST VOLTAGE[2] ALTERNATING CURRENT RMS	RETEST VOLTAGE[2] DIRECT CURRENT AVG
00	500	2,500	10.000
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 ac voltage (rms) classification of the protective equipment that designates the maximum nominal design voltage of the energized system that may be safely worked. The nominal design 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 if either of the following occur:
(1) There is no multiphase exposure in a system area and the voltage exposure is limited to the phase-to-ground potential.
(2) The electric 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 at least 1 minute, but no more than 3 minutes.

TABLE E
RUBBER INSULATING EQUIPMENT TEST INTERVALS

TYPE OF EQUIPMENT	WHEN TO TEST
Rubber insulating line hose	Upon indication that insulating value is suspect and after repair.
Rubber insulating covers	Upon indication that insulating value is suspect and after repair.
Rubber insulating blankets	Before first issue and every 12 months thereafter;[1] upon indication that insulating value is suspect; and after repair
Rubber insulating gloves	Before first issue and every 6 months thereafter;[1] upon indication that insulating value is suspect; after repair; and after use without protectors
Rubber insulating sleeves	Before first issue and every 12 months thereafter;[1] upon indication that insulating value is suspect; and after repair

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

History: 2015 MR 6, Eff. March 31, 2015.

PART 7. WELDING AND CUTTING

R 408.40701
Source: 1980 AACS.

R 408.40705 Definitions; A to C.
Rule 705.(1) "AC" means alternating current.
(2) "Arc welding" means a process for joining metals by melting with an electric arc with or without the use of pressure and with or without a filler material.
(3) "Brazing" means a process of joining metals, without melting them, with a filler metal melting above 800 degrees Fahrenheit(427 degrees Celsius).
(4) "Cutting" means a process in which the severing or removing of metal is effected by the use of an arc or flame.
(5) "Cylinders" means containers for storing compressed gases.
History: 1980 AACS; 2005 AACS; 2015 MR 20, Eff. Oct. 29, 2015.

R 408.40706
Source: 1980 AACS.

R 408.40707
Source: 1980 AACS.

R 408.40709 Adopted and referenced standards.
Rule 709.(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 Standard ANSI/AWS Z49.1, "Safety in Welding and Cutting and Allied Processes," 1973 edition. Cost: $96.00
(b) American National Standard Institute Standard ANSI/ASA B57.1, "Compressed Gas Cylinder Valve Outlet and Inlet Connections," 1965 edition. Cost $29.00

(2) This standard is adopted by reference in these rules, National Fire Protection Association NFPA 50 "Standards for Bulk Oxygen Systems at Consumer Sites," 1974 edition. This standard is available from National Fire Prevention Association, 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.
(3) The Code of Federal Regulations, Title 49 Transportation, Parts 186-199, "Subchapter D-Pipeline Safety" is available from the United States Government Printing Office website: www.ecfr.gov, at no charge as of the time of adoption of these rules.
(4) The standards 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.
(5) The standards 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, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost of the standard plus $20.00 for shipping and handling.
(6) 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 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) Construction Safety Standard Part 1 "General Rules," R 408.40101 to R 408.40134.
(b) Construction Safety Standard Part 6 "Personal Protective Equipment," R 408.40601 to R 408.40641.
(c) Construction Safety Standard Part 35 "Confined Space in Construction," R 408.43501 to R 408.43510.
(d) Construction Safety Standard Part 45 "Fall Protection," R 408.44501 to R 408.44502.
History: 2005 AACS; 2013 AACS; 2015 MR 4, Eff. March 3, 2015; 2015 MR 20, Eff. Oct. 29, 2015.

R 408.40711
Source: 2013 AACS.

R 408.40712
Source: 2013 AACS.

R 408.40713 Working in confined spaces.
Rule 713.(1) Before the start of a welding operation in a confined space, the employer shall ensure that the atmosphere is tested and recorded. Ventilation shall be provided and maintained in accordance with the requirements of the department of licensing and regulatory affairs.
(2) For specific confined space rules, see Construction Safety Standard Part 35 "Confined Space in Construction." as referenced in R 408.40709.
(3) When working in a confined space, the torch valves, the gas supply valve, and oxygen valve outside the confined space shall be shut off during the lunch period, overnight, or during any other prolonged period and the torch and hose shall be removed from the confined space. Open-end fuel gas and oxygen hoses shall be immediately removed from enclosed spaces when they are disconnected from the torch or other gas-consuming device.
(4) When electrodes are used in a confined space and welding is suspended during the lunch period, overnight, or during any other prolonged period, the electrode shall be removed from the holder and the machine shall be shut off. The holders shall be placed or protected so that they cannot make electrical contact with employees or conducting objects.
(5) A gas cylinder or a welding machine used for welding operations in a confined space shall be placed on the outside of the space where work is being performed.
(6) If an employee must enter a confined space through a small opening to perform welding operations, another employee trained in rescue procedures and equipped with the means necessary to effect a rescue shall be stationed outside the confined space in position to watch the welder. When a safety harness and lifeline are used, they shall be provided for as prescribed in Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.40709, and shall be attached to the welder's body so that his or her body cannot be jammed in a small exit opening.
History: 1980 AACS; 1982 AACS; 1996 AACS; 2005 AACS; 2015 MR 4, Eff. March 3, 2015; 2015 MR 20, Eff. Oct. 29, 2015.

R 408.40714
Source: 2013 AACS.

R 408.40715
Source: 1980 AACS.

R 408.40721 Cylinders manufacturing, labeling, periodic testing, and marking.
Rule 721. (1) A cylinder shall be manufactured, labeled, and periodically tested in accordance with the specifications of the federal department of transportation requirements published in 49 C.F.R. Part 178, Subpart C, "Specification for Cylinders," which are adopted by reference in R 408.40709.
(2) A cylinder shall be legibly marked with either the chemical or trade name. Marking shall be by stenciling, stamping, or labeling and shall not be tampered with or be readily removable. Whenever practical, the marking shall be located on the shoulder of the cylinder.
History: 1980 AACS; 2005 AACS; 2013 AACS; 2015 MR 4, Eff. March 3, 2015.

R 408.40722 Storage.
Rule 722. (1) An oxygen cylinder shall be stored not less than 20 feet from fuel gas cylinders or any highly combustible material, such as, but not limited to, oil, grease, excelsior, flammable gas, or a source of ignition, or shall be separated from the material by a noncombustible wall not less than 5 feet (1.6 meters) high which has a fire resistance rating of 30 minutes.
(2) A cylinder shall be stored away from any source of heat more than 125 degrees Fahrenheit.
(3) A cylinder, whether full or empty, in storage or during shipment, or with the regulator removed, shall have the valve closed and the cap connected in place if a cap is provided in the design, or shall be otherwise protected.
(4) Where different gases are stored, they shall be grouped by types. Groupings shall separate the fuel gases from the oxidizing gases as specified in subrule (1) of this rule.
(5) A storage area for cylinders shall be well ventilated.
(6) A cylinder shall not be stored in basements or pits.
(7) Where a liquid or gaseous oxygen system is used to supply gaseous oxygen for welding and cutting and the system has a storage capacity of more than 20,000 cubic feet (560 cubic meters), measured at 14.7 psia and 70 degrees Fahrenheit, including unconnected reserves at the site, the system shall be as prescribed in National Fire Protection Association Standard NFPA 50, "Standards for Bulk Oxygen Systems at Consumer Sites," 1974 edition, which is adopted by reference in R 408.40709.
History: 1980 AACS; 2005 AACS; 2013 AACS; 2015 MR 4, Eff. March 3, 2015.

R 408.40723 Cylinders generally.
Rule 723. (1) A chain, bracket, or other restraining device shall be used at all times to prevent cylinders from falling.
(2) A cylinder shall stand valve end up at all times.
(3) A cylinder shall not be dropped, dragged, rolled on its side, or struck violently.
(4) When using a crane or hoisting device, a cylinder shall be lifted only by cradles or enclosed platforms. An electromagnet, hook, rope, or sling shall not be used.
(5) A frozen or ice-clogged valve shall be thawed either by warm air or warm water and shall be dried before using. Boiling water or a flame shall not be used. Force shall not be applied to a valve or cap to loosen a cylinder frozen in place.
(6) Gases shall not be mixed within a cylinder except by the supplier. Only the owner of the cylinder, if the owner is qualified, or a person trained, qualified, and authorized by the owner, shall refill a cylinder. The contents of a cylinder shall be used only for those purposes intended by the supplier.
(7) A cylinder shall not be placed where it will become a part of the electrical circuit by accidental grounding or where it may be burned by an electric welding arc. A cylinder shall not be placed so that hot slag or flame can reach it unless the cylinder is protected by a fire-resistant shield. An electrode shall not be tapped against a cylinder to strike an arc.
(8) A regulator, gauge, or hose shall not be interchangeable between fuel gas, oxidizing gas, or inert gas. Connections for compressed gas cylinders shall be as prescribed in American National Standard Institute Standard ANSI/ASA B57.1, 1965 edition, "Compressed Gas Cylinder Valve Outlet and Inlet Connections," which is adopted by reference in R 408.40709.
(9) A cylinder valve shall be opened slightly for an instant and then closed before connecting to a regulator or manifold to clear the valve of dust and dirt. The employee opening the valve shall stand to one side of the outlet, not in front of it. The employee shall not open the valve near a source of ignition. Pressure to a regulator shall be introduced by slowly opening the cylinder valve. An acetylene cylinder valve shall only be opened enough to allow proper working pressure, but shall not be opened more than 1 1/2 turns of the spindle.
(10) Acetylene shall not be utilized or piped, except in cylinder manifolds, at a pressure in excess of 15 psig.

(11) A cylinder to which a regulator is attached shall not be moved unless secured to a hand or powered truck designed or equipped for this purpose.
(12) A cylinder valve must be closed in any of the following situations:
(a) When moving the cylinder.
(b) When the work is finished or is left unattended during the lunch period, overnight, or any other prolonged period.
(c) When the cylinder is empty.
(d) When the regulator is removed.
(13) A cylinder without fixed handwheels shall have keys, handles, or nonadjustable wrenches on valve stems while in service. A multiple cylinder installation shall require only 1 key or handle for each manifold.
A hammer shall not be used to open a cylinder valve or loosen a cap.
(14) A cylinder, whether full or empty, shall not be used as a roller or support.
(15) A damaged or a leaking cylinder, a cylinder with a valve stuck open, or a valve in need of repair shall be taken outdoors away from sources of ignition, tagged with a warning sign, and the manufacturer or distributor notified. Complete removal of the stem from the cylinder valve shall be avoided.
(16) Nothing shall be placed on top of the cylinder.
History: 1980 AACS; 2005 AACS; 2015 MR 4, Eff. March 3, 2015.

R 408.40729
Source: 2013 AACS.

R 408.40731 Hoses and connections.
Rule 731. (1) Hose and hose connections used for a welding operation shall be as prescribed in paragraph 3.5.6 of the American National Standard Institute Standard ANSI/AWS Z49.1, "Safety in Welding and Cutting and Allied Processes," 1973 edition, which is adopted by reference in R 408.40709.
(2) Parallel lengths of hose taped together shall have not more than 4 inches out of each 12 inches covered by tape.
(3) Parallel hoses shall be color coded as follows:
(a) Red-fuel gases. See subrule (4) of this rule.
(b) Green-oxygen.
(c) Black-inert gas or air.
(4) The employer shall assure that only approved hose is used for LP gas.
(5) A hose and its connections shall be inspected before each shift for burns, leaks, worn places, or other defects which could affect the safety of an employee. Suspected leaks shall be checked by use of a grease-free soap solution.
(6) A defective hose shall not be used, but shall be repaired or replaced.
(7) A hose that has been subject to a flashback or has been repaired or spliced shall be tested at twice the normal pressure, but not less than 300 psig.
(8) A box used for the storage of gas hose shall be ventilated.
History: 1980 AACS; 2005 AACS; 2015 MR 4, Eff. March 3, 2015.

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 Personal protective equipment.
Rule 751. (1) A welder shall wear face and eye protection when performing welding operations and by other employees exposed to a risk of injury from spatter or flash, or both. The protective devices shall be provided for as prescribed in Construction Safety Standard Part 6 "Personal Protective Equipment," as referenced in R 408.40709.
(2) The employer shall provide welding gloves at no expense to the employee and the employee shall wear them to protect their hands and wrists.
(3) The employer shall provide other protective devices, such as, but not limited to, body protection, chaps, and curtains, at no expense to the employee, and the employee shall use them when ~~is~~ exposed to a risk of injury by flash burn, sparks, and foreign bodies.
History: 1980 AACS; 1982 AACS; 2005 AACS; 2013 AACS; 2015 MR 4, Eff. March 3, 2015.

GENERAL FIRE RULES

R 408.40761 Fire precautions.
Rule 761. (1) Welding operations shall not be performed within 50 feet of explosives, stored cylinders, or stored fuel. Combustible and flammable materials located within 35 feet of a welding operation shall either be removed or covered with fire-resistant material.
(2) Cracks or openings through which sparks could pass in the floor or wall that are within 35 feet of a welding operation shall be covered with a fire-resistant material.
(3) A wood floor within 10 feet of a welding operation shall be protected by either wetting down, covering with sand, or covering with a fire-resistant material.
(4) A minimum of 1 2A-10BC portable fire extinguisher shall be immediately available to the work area during welding operations.
(5) An employer shall designate a person as responsible for fire safety during a welding operation where a fire could start or where 1 of the following conditions exists:
(a) Appreciable combustible and flammable materials are more than 35 feet from a welding operation but are easily ignited.
(b) Combustible and flammable material is adjacent to the opposite side of a metal partition, wall, ceiling, or roof that is likely to ignite by conduction or radiation.
(c) If there is a possibility that a smoldering fire may have started, the person shall remain at the scene of the work for not less than 30 minutes after the welding operation has stopped. Personnel shall be instructed as to the specific anticipated fire hazards and how the firefighting equipment provided is to be used.
(6) The connection, by welding, of branches to a pipeline carrying a flammable substance shall be performed in accordance with the regulations of the department of transportation, 49 C.F.R. Part 192, "Minimum Federal Safety Standards for Gas Pipelines," which are adopted by reference in R 408.40709.
(7) Before welding, cutting, or heating is commenced on any surface covered by a preservative coating whose flammability is not known, a test shall be made by a competent person to determine its flammability. Preservative coatings shall be considered to be highly flammable when scrapings burn with extreme rapidity.
History: 1980 AACS; 2005 AACS; 2013 AACS; 2015 MR 4, Eff. March 3, 2015.

R 408.40762 Welding drums, barrels, tanks, or other containers.
Rule 762. (1) Welding operations shall not be performed on drums, barrels, tanks, or other containers until they have been cleaned of all flammable, combustible, or toxic materials or fumes.
(2) All pipelines or other connections to drums, barrels, or tanks shall be disconnected or blanked before performing welding operations.
(3) Hollow spaces or cavities shall be vented and either filled with water or purged with an inert gas before preheating, cutting, or welding.

(4) An opening shall be maintained during welding and cutting to vent gases or vapors.
(5) Welding on natural gas pipelines shall be as prescribed by the regulations of the department of transportation, 49 C.F.R. Part 192, "Minimum Federal Safety Standards for Gas Pipelines," which are adopted by reference in R 408.40709.

History: 1980 AACS; 2005 AACS; 2015 MR 4, Eff. March 3, 2015.

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
Source: 2014 AACS.

R 408.41002a
Source: 2012 AACS.

R 408.41003a
Source: 2014 AACS.

R 408.41003f
Source: 2014 AACS.

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
Source: 2014 AACS.

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
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.41111

Source: 2014 AACS.

R 408.41112
Source: 1993 AACS.

R 408.41113
Source: 2014 AACS.

R 408.41115
Source: 2013 AACS.

R 408.41121
Source: 2014 AACS.

R 408.41122
Source: 2013 AACS.

R 408.41123
Source: 2014 AACS.

R 408.41124
Source: 2014 AACS.

R 408.41125
Source: 2013 AACS.

R 408.41126
Source: 2013 AACS.

R 408.41127
Source: 2014 AACS.

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
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.41405
Source: 2003 AACS.

R 408.41410
Source: 2014 AACS.

R 408.41454
Source: 2003 AACS.

R 408.41455
Source: 2003 AACS.

R 408.41456
Source: 2003 AACS.

R 408.41461
Source: 2014 AACS.
R 408.41462
Source: 2013 AACS.

R 408.41463
Source: 2014 AACS.

R 408.41464
Source: 2014 AACS.

R 408.41465
Source: 2013 AACS.

R 408.41466
Source: 2014 AACS.

R 408.41467
Source: 2014 AACS.

R 408.41468
Source: 2013 AACS.

TUNNELS AND SHAFTS

R 408.41471
Source: 2003 AACS.

R 408.41472
Source: 2014 AACS.

R 408.41473
Source: 1979 AC.

R 408.41474
Source: 2014 AACS.

R 408.41475
Source: 2014 AACS.

R 408.41475a
Source: 2014 AACS.

R 408.41476
Source: 2014 AACS.

R 408.41477
Source: 2014 AACS.

R 408.41477a
Source: 2013 AACS.

R 408.41478
Source: 2014 AACS.

R 408.41479
Source: 2014 AACS.

COFFERDAMS AND CAISSONS

R 408.41481
Source: 2014 AACS.

R 408.41482
Source: 2014 AACS.

R 408.41483
Source: 2014 AACS.

PART 16. POWER TRANSMISSION AND DISTRIBUTION

R 408.41601 Application.
Rule 1601. (1) The occupational safety and health standards contained in this part apply to the construction of electric transmission and distribution lines and equipment.
(2) As used in this part, the term "construction" includes the erection of new electric transmission and distribution lines and equipment and the alteration, conversion, and improvement of existing electric transmission and distribution lines and equipment.
(3) Existing electric transmission and distribution lines and electrical equipment need not be modified to conform to the requirements of applicable standards in this part until such work as described in subrule (2) of this rule is to be performed on such lines or equipment.
(4) The standards set forth in this part provide minimum requirements for safety and health. Employers may require adherence to additional standards which are not in conflict with the standards contained in this part.
(5) This standard does not apply to communication lines defined as the conductors and their supporting or containing structures that are used for public or private signal or communication service, that operate at potentials not exceeding 400 volts to ground or 750 volts between any 2 points of the circuit, and the transmitted power of which does not exceed 150 watts. When operating at less than 150 volts, no limit is placed on the capacity of the system. Telephone, telegraph, railroad signal, data, clock, fire, police-alarm, community television antenna, and other systems conforming with this subrule are examples of communication lines. Lines used for signaling purposes, but not included in this definition, are considered as supply lines of the same voltage and are to be so run.
History: 1979 AC; 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41605 Adoption of OSHA rules.
Rule 1605. (1) The following provisions of the occupational safety and health administration, (OSHA) regulations, except as amended in these rules, are adopted by reference in these rules:
(a) 29 C.F.R. §1926.950 “General.”
(b) 29 C.F.R. §1926.951 “Medical services and first aid.”
(c) 29 C.F.R. §1926.952 “Job briefing.”
(d) 29 C.F.R. §1926.953 “Enclosed spaces.”
(e) 29 C.F.R. §1926.954 “Personal protective equipment.”
(f) 29 C.F.R. §1926.955 “Portable ladders and platforms.”
(g) 29 C.F.R. §1926.956 “Hand and portable power equipment.”
(h) 29 C.F.R. §1926.957 “Live-line tools.”
(i) 29 C.F.R. §1926.958 “Materials handling and storage.”
(j) 29 C.F.R. §1926.959 “Mechanical equipment.”
(k) 29 C.F.R. §1926.960 “Working on or near exposed energized parts.”
(l) 29 C.F.R. §1926.961 “Deenergizing lines and equipment for employee protection.”
(m) 29 C.F.R. §1926.962 “Grounding for the protection of employees.”
(n) 29 C.F.R. §1926.963 “Testing and test facilities.”
(o) 29 C.F.R. §1926.964 “Overhead lines and live-line barehand work.”
(p) 29 C.F.R. §1926.965 “Underground electrical installations.”
(q) 29 C.F.R. §1926.966 “Substations.”
(r) 29 C.F.R. §1926.967 “Special conditions.”
(s) 29 C.F.R. §1926.968 “Definitions.”
(t) Appendix A to Subpart V of Part 1926 “Reserved.”
(u) Appendix B to Subpart V of Part 1926 “Working on Exposed Energized Parts.”
(v) Appendix C to Subpart V of Part 1926 “Protection from Hazardous Differences in Electric Potential.”

(w) Appendix D to Subpart V of Part 1926 "Methods of Inspecting and Testing Wood Poles."
(x) Appendix E to Subpart V of Part 1926 "Protection from Flames and Electric Arcs."
(y) Appendix F to Subpart V of Part 1926 "Work-Positioning Equipment Inspection Guidelines."
(z) Appendix G to Subpart V of Part 1926 "Reference Documents."
(2) All of the following provisions apply with respect to the regulations adopted in subrule (1) of this rule and are referenced in R 408.41610:
(a) A reference to 29 C.F.R. §1926.50 "Medical services and first aid," means Construction Safety Standard (CS) Part 1 "General Rules."
(b) A reference to 29 C.F.R. §1926.54. "Nonionizing radiation," means Occupational Health Standard (OH) Part 681 "Radiation of Construction: Ionizing and Nonionizing."
(c) A reference to 29 C.F.R. §1926.56 "Illumination," means CS Part 1 "General Rules."
(d) A reference to 29 C.F.R. §1926.59 "Hazard Communication," means CS Part 42 "Hazard Communication."
(e) A reference to 29 C.F.R. §1926.95 "Criteria for personal protective equipment," means CS Part 6 "Personal Protective Equipment."
(f) A reference to 29 C.F.R. §1926.100 "Head protection," means CS Part 6 "Personal Protective Equipment."
(g) A reference to 29 C.F.R. §1926.106 "Working over or near water," means CS Part 6 "Personal Protective Equipment."
(h) A reference to 29 C.F.R. §1926.200 "Accident prevention signs and tags," means CS Part 22 "Signals, Signs, Tags, and Barricades."
(i) A reference to 29 C.F.R. §1926.302 "Power-operated hand tools," means CS Part 19 "Tools."
(j) A reference to 29 C.F.R. §1926.453 "Aerial lifts," means CS Part 32 "Aerial Work Platforms."
(k) A reference to 29 C.F.R. §1926.502 "Fall protection systems criteria and practices," means CS Part 45 "Fall Protection."
(l) A reference to 29 C.F.R. §1926.1053 "Ladders," means CS Part 11 "Fixed and Portable Ladders."
(m) A reference to 29 C.F.R. §1910.97 "Nonionizing radiation," means OH Part 382 "Nonionizing Radiation."
(n) A reference to 29 C.F.R. §1910.135 "Head protection," means General Industry Safety Standard (GI) Part 33 "Personal Protective Equipment."
(o) A reference to 29 C.F.R. §1910.146 "Permit-required confined spaces," means GI Part 90 "Permit-Required Confined Spaces," and OH Part 490 "Permit-Required Confined Spaces."
(p) A reference to 29 C.F.R. §1910.268 "Telecommunications," means CS Part 30 "Telecommunications," and GI Part 50 "Telecommunications."
(q) A reference to 29 C.F.R. §1910.269 "Electric Power Generation, Transmission, and Distribution," means GI Part 86 "Electric Power Generation, Transmission, and Distribution."
(r) A reference to 29 C.F.R. §1910.1200 "Hazard Communication," means GI Part 92 "Hazard Communication," and OH Part 430 "Hazard Communication."
(3) The provisions of the OSHA regulations adopted in these rules 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.
History: 2015 MR 10, Eff. May 28, 2015.

R 408.41610 Adopted and referenced standards.
Rule 1610. (1) The following federal occupational safety and health administration (OSHA) regulations, filed April 1, 2014, are adopted by reference in these rules:
(a) 29 C.F.R. §1926.950 "General."
(b) 29 C.F.R. §1926.951 "Medical services and first aid."
(c) 29 C.F.R. §1926.952 "Job briefing."
(d) 29 C.F.R. §1926.953 "Enclosed spaces."
(e) 29 C.F.R. §1926.954 "Personal protective equipment."
(f) 29 C.F.R. §1926.955 "Portable ladders and platforms."
(g) 29 C.F.R. §1926.956 "Hand and portable power equipment."
(h) 29 C.F.R. §1926.957 "Live-line tools."
(i) 29 C.F.R. §1926.958 "Materials handling and storage."
(j) 29 C.F.R. §1926.959 "Mechanical equipment."
(k) 29 C.F.R. §1926.960 "Working on or near exposed energized parts."
(l) 29 C.F.R. §1926.961 "Deenergizing lines and equipment for employee protection."
(m) 29 C.F.R. §1926.962 "Grounding for the protection of employees."
(n) 29 C.F.R. §1926.963 "Testing and test facilities."

(o) 29 C.F.R. §1926.964 "Overhead lines and live-line barehand work."
(p) 29 C.F.R. §1926.965 "Underground electrical installations."
(q) 29 C.F.R. §1926.966 "Substations."
(r) 29 C.F.R. §1926.967 "Special conditions."
(s) 29 C.F.R. §1926.968 "Definitions."
(t) Appendix A to Subpart V of Part 1926 "Reserved."
(u) Appendix B to Subpart V of Part 1926 "Working on Exposed Energized Parts."
(v) Appendix C to Subpart V of Part 1926 "Protection from Hazardous Differences in Electric Potential."
(w) Appendix D to Subpart V of Part 1926 "Methods of Inspecting and Testing Wood Poles."
(x) Appendix E to Subpart V of Part 1926 "Protection from Flames and Electric Arcs."
(y) Appendix F to Subpart V of Part 1926 "Work-Positioning Equipment Inspection Guidelines."
(z) Appendix G to Subpart V of Part 1926 "Reference Documents."
(2) 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.
(3) The standards 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.
(4) The standards 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, P.O. Box 30643, Lansing, Michigan, 48909-8143, plus $20.00 for shipping and handling.
(5) 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 Regulatory Services 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 1 "General Rules," R 408.40101 to R 408.40134.
(b) Construction Safety Standard Part 6 "Personal Protective Equipment," R 408.40601 to R 408.40641.
(c) Construction Safety Standard Part 11 "Fixed and Portable Ladders," R 408.41101 to R 408.41140
(d) Construction Safety Standard Part 19 "Tools," R 408.41901 to R 408.41980.
(e) Construction Safety Standard Part 22 "Signals, Signs, Tags, and Barricades," R 408.42201 to R 408.42243.
(f) Construction Safety Standard Part 30 "Telecommunications," R 408.43001 to R 408.43006.
(g) Construction Safety Standard Part 32 "Aerial Work Platforms," R 408.43201 to R 408.43220.
(h) Construction Safety Standard Part 42 "Hazard Communication," R 408.44201 to R 408.44204.
(i) Construction Safety Standard Part 45 "Fall Protection," R 408.44501 to R 408.44502
(j) General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.
(k) General Industry Safety Standard Part 50 "Telecommunications," R 408.15001 to R 408.15004.
(l) General Industry Safety Standard Part 86 "Electric Power Generation, Transmission, and Distribution," R 408.18601 to R 408.18602.
(m) General Industry Safety Standard Part 90 "Permit-Required Confined Spaces," R 408.19001 to R 408.19002.
(n) General Industry Safety Standard Part 92 "Hazard Communication," R 408.19201 to R 408.19204.
(p) Occupational Health Standard Part 382 "Nonionizing Radiation," R 325.60701 to R 325.60704.
(q) Occupational Health Standard Part 430 "Hazard Communication," R 325.77001 to R 325.77004.
(r) Occupational Health Standard Part 490 "Permit-Required Confined Spaces," R 325.63001 to R 325.63049.
(s) Occupational Health Standard Part 681 "Radiation of Construction: Ionizing and Nonionizing," R 325.68101 to R 325.68102.
History: 2005 AACS; 2013 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41625 Rescinded.
History: 1980 AACS; 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41626 Rescinded.
History: 1980 AACS; 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41627 Rescinded.
History: 1982 AACS; 1985 AACS; 2005 AACS; 2013 AACS ; 2015 MR 10, Eff. May 28, 2015.

R 408.41628 Rescinded.
History: 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41629 Rescinded.
History: 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41630 Rescinded.
History: 1982 AACS; 1985 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41631 Rescinded.
History: 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41632 Rescinded.
History: 1982 AACS; 1985 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41633 Rescinded.
History: 1982 AACS; 1985 AACS; 2005 AACS; 2013 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41634 Rescinded.
History: 1982 AACS; 1985 AACS; 1996 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41635 Rescinded.
History: 1982 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41636 Rescinded.
History: 1982 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41637 Rescinded.
History: 1982 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41638 Rescinded.
History: 1982 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41639 Rescinded.
History: 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41640 Rescinded.
History: 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41641 Rescinded.
History: 1982 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41642 Rescinded.
History: 1982 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41643 Rescinded.
History: 1982 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41644 Rescinded.
History: 1982 AACS; 1985 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41645 Rescinded.
History: 1982 AACS; 1985 AACS; 2005 AACS; 2010 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41646 Rescinded.
History: 1982 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41647 Rescinded.
History: 1982 AACS; 1985 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41648 Rescinded.
History: 1982 AACS; 1985 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41649 Rescinded.
History: 1982 AACS; 1985 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41650 Rescinded.
History: 1982 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41651 Rescinded.
History: 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41652 Rescinded.
History: 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41653 Rescinded.
History: 1982 AACS; 2005 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41654 Rescinded.
History: 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41655 Rescinded.
History: 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41656 Rescinded.
History: 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41657 Rescinded.
History: 1982 AACS; 2015 MR 10, Eff. May 28, 2015.

R 408.41658 Rescinded.
History: 1982 AACS; 2013 AACS; 2015 MR 10, Eff. May 28, 2015.

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 Adopted and referenced standards.
Rule 1802. (1) 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, 02169-7471, USA; telephone number: 617-770-3000; or via the internet at web-site: www.nfpa.org, at a cost as of the time of adoption of these rules as stated in this subrule.
(a) NFPA 13 "Installation Of Sprinkler System" 1991 edition. Cost $27.00.
(b) NFPA 14 "Standard For The Installation Of Standpipe, Private Hydrants And Hose Systems", 2000 edition. Cost $39.00.
(c) NFPA 25 "Inspection, Testing, And Maintenance Of Water-Based Fire Protection Systems", 1998 edition. Cost $50.50.
(d) NFPA 251 "Standard Methods Of Fire Testing Of Building Construction And Materials," 1990 edition. Cost $27.00.
(e) NFPA 30 "Flammable And Combustible Liquids Code," 1996 edition. Cost $27.00.

(f) NFPA 385 “Standard For Tank Vehicles For Flammable And Combustible Liquids,” 1990 edition. Cost $27.00.
(g) NFPA 10A “Maintenance and Use of Portable Fire Extinguishers,” 1970 edition. Cost $29.00.
(h) NFPA 80 “Standard for Fire Doors and Windows,” 1970 edition. Cost $29.00.
(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 web-site: http://global.ihs.com; at a cost as of the time of adoption of these rules, as stated in this subrule.
(a) Compressed Gas Association (CGA) Standard CGA C7 “Guide To The Preparation Of Precautionary Labeling And Marking Of Compressed Gas Containers,” 2000 edition. Cost $892.00.
(b) American Society for Testing and Materials (ASTM) Standard ASTM D56 “Standard Test Method for Flash Point by Tag Closed Cup Tester,” 1969 edition. Cost: $58.00.
(c) ASTM D93 “Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester,” 1969 edition. Cost $67.00.
(3) The provisions of the Department of Transportation Title 49 C.F.R. Part 178, “Shipping Container Specifications,” is adopted by reference in these rules and is available via the internet at web-site: www.ecfr.gov; which is free, as of the time of adoption of these rules.
(4) The standards 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.
(5) Copies of the standards 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.
(6) The following Michigan occupational safety and health standards (MIOSHA) are 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 Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48908-8143, 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 22 'Signals, Signs, Tags and Barricades,' R 480.42201 to R 408.42242.
(b) Construction Safety Standard Part 42 “Hazard Communication,” R 408.44201 to R 408.44203.
History: 2002 AACS; 2013 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41836 Definitions; A to C.
Rule 1836. (1) "Approved" means equipment that has been listed or approved by a nationally recognized testing laboratory, such as Factory Mutual Engineering Corporation, or Underwriters’ Laboratories, Inc., or federal agencies such as Bureau of Mines, or U.S. Coast Guard, which issue approvals for the equipment.
(2) "Closed container" means a container that is sealed by means of a lid or other device so that neither liquid nor vapor will escape from it at ordinary temperatures.
(3) “Combustion” means any chemical process that involves oxidation sufficient to produce light or heat.
(4) "Container" means all vessels, such as tanks, cylinders, or drums, used for transportation or storing liquefied petroleum gases.
(5) "Container in use" means a container connected for use.
History: 1979 AC; 1983 AACS; 2002 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41837 Definitions; F.
Rule 1837. (1) "Fire alarm signaling system" means an alerting signal that is clearly audible throughout all areas and which would immediately alert employees in case of an emergency.
(2) “Fire brigade” means an organized group of employees that are knowledgeable, trained, and skilled in the safe evacuation of employees during emergency situations and in assisting in fire fighting operations.
(3) "Fire fighting equipment" means any of the following:
(a) Portable extinguishers.
(b) Fixed fire equipment.
(c) Water barrels and pails.
(d) Standpipes.
(e) Fire hose.
(f) Fire alarms.
(4) "Fire protection" means to provide fire fighting equipment, training, and evacuation plans.

(5) "Fire resistance" means that quality of a material that renders it so resistant to fire that, for a specified time and under conditions of a standard heat intensity, the material will not fail structurally and will not permit the side away from the fire to become hotter than a specified temperature. For purposes of this part, fire resistance shall be determined by the fire test of building construction and materials, as prescribed in The National Fire Protection Association Standard NFPA 251, "Standard Methods Of Fire Testing Of Building Construction And Materials," 1990 edition, which is adopted by reference in R 408.41802.
(6) "Fixed fire equipment" means a fire extinguishing system that is permanently mounted and portable portions of a system, such as a hose and nozzle attached to a fixed supply of extinguishing agent.
(7) "Flammable" means to ignite easily and burn intensely or means to have a rapid rate of flame spread.
(8) "Flammable liquid" means any liquid having a vapor pressure not exceeding 40 pounds per square inch (absolute) at 100 ºF (37.8 ºC) and having a flashpoint at or below 199.4 ºF (93 ºC). Flammable liquids are divided into the following categories:
(a) Category 1 shall include liquids having flashpoints below 73.4 ºF (23 ºC) and having a boiling point at or below 95 ºF (35 ºC).
(b) Category 2 shall include liquids having flashpoints below 73.4 ºF (23 ºC) and having a boiling point above 95 ºF (35 ºC).
(c) Category 3 shall include liquids having flashpoints at or above 73.4 ºF (23 ºC) and at or below 140 ºF (60 ºC).
(d) Category 4 shall include liquids having flashpoints above 140 ºF (60 ºC) and at or below 199.4 ºF (93 ºC).
(9) "Flash point of the liquid" means the temperature at which it gives off vapor sufficient to form an ignitable mixture with the air near the surface of the liquid within the vessel used as determined by appropriate test procedure and apparatus as follows:
(a) The flashpoint of liquids having a viscosity less than 45 Saybolt Universal Second(s) at 100 ºF (37.8 ºC) and a flashpoint below 175 ºF (79.4 ºC) shall be determined in accordance with ASTM D56 "Standard Test Method for Flash Point by Tag Closed Cup Tester," 1969 edition, as adopted by reference in R 408.41802, or an equivalent method as defined in Construction Safety Standard Part 42 "Hazard Communication," Appendix B, as referenced in R 408.41802.
(b) The flashpoints of liquids having a viscosity of 45 Saybolt Universal Second(s) or more at 175 ºF (79.4 ºC) or higher shall be determined in accordance with ASTM D93 "Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester," 1969 edition, as adopted by reference in R 408.41802, or an equivalent method as defined in Construction Safety Standard Part 42 "Hazard Communication," Appendix B, as referenced in R 408.41802.
History: 1979 AC; 1983 AACS; 1995 AACS; 2002 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41838 Definitions; L to V.
Rule 1838. (1) "Liquefied petroleum gas," "L.P.G.," or "L.P. gas" means any material that is composed predominately of any of the following hydrocarbons or mixtures of hydrocarbons:
(a) Propane.
(b) Propylene.
(c) Butane.
(d) Isobutene.
(e) Butylene.
(2) "Means of egress" means a continuous path of travel from any part within a building to the open air outside at ground level.
(3) "Portable tank" means a closed container that has a liquid capacity of more than 60 United States gallons, which is not intended for fixed installation.
(4) "Safety can" means an approved metal or nonmetallic closed container that has a capacity of not more than 5 gallons, that has a flash-arresting screen, spring-closing lid and spout cover, and that is designed so that it will safely relieve internal pressure when exposed to fire.
(5) "Temporary building" means a structure erected or placed for a period not longer than the project construction time.
(6) "Temporary heating device" means a heating unit to provide heat for a period not longer than the project construction time.
(7) "Vapor pressure" means the pressure, measured in pounds per square inch (absolute), exerted by a volatile liquid.
History: 1979 AC; 1983 AACS; 2002 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41841 Employer responsibility.

Rule 1841. (1) An employer shall be responsible for the development of a fire protection program to be followed throughout all phases of the construction and demolition work, and the employer shall provide the firefighting equipment as specified in these rules. As fire hazards occur, there shall be no delay in providing the necessary equipment.
(2) The fire protection portion of the program shall include all of the following:
(a) Establishing and maintaining a means of egress from all areas of the building occupied by employees to provide free and unobstructed egress from all parts of the building or structure at all times when the building or structure is occupied. A lock or fastening that prevents free escape from the inside of any building shall not be installed, except in mental, penal, or corrective institutions where supervisory personnel is continually on duty and effective provisions are made to remove occupants in case of fire or other emergency.
(b) Posting fire rules or, by other means, informing the employees of the evacuation signal, escape routes, and emergency phone numbers. Exits shall be marked by a readily visible sign. Access to exits shall be marked by readily visible signs in all cases where the exit or way to reach the exit is not immediately visible to the occupants.
(c) A requirement that means of egress shall be continually maintained free of all obstructions or impediments to full instant use in the case of fire or other emergency.
(3) The fire prevention portion of the program shall include both of the following:
(a) A housekeeping policy designed to keep a means of egress free from the accumulation of stored materials and debris and to reduce the likelihood of fire.
(b) A policy for the storage of combustible and flammable liquids and materials and for the use of proper heating equipment as prescribed in this part.
(4) The employer shall provide fire fighting equipment and meet all of the applicable requirements of this part as to location, accessibility, inspection, testing, and maintenance. The employer shall immediately replace defective equipment.
(5) As warranted by the project, the employer shall provide a trained and equipped firefighting organization, Fire Brigade, to assure adequate protection to life.
(6) Fire walls and exit stairways, required for the completed buildings, shall be given construction priority. Fire doors, with automatic closing devices, shall be hung on openings as soon as practicable.
(7) Fire cutoffs shall be retained in buildings undergoing alterations or demolition until operations necessitate their removal.
History: 1979 AC; 1983 AACS; 1995 AACS; 2002 AACS; 2013 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41842
Source: 2013 AACS.

R 408.41850
Source: 2013 AACS.

R 408.41851 Portable fire extinguishing equipment; selection and installation.
Rule 1851. (1) All portable fire extinguishers shall bear an approved label of a nationally recognized testing laboratory.
A fire extinguisher or extinguishing device that contains an active agent or propellant that has thermal decomposition products that have a level of vapor toxicity equal to or greater than any of the following listed materials shall not be used, installed for use, or allowed to remain installed for use:
(a) Carbon tetrachloride, CCL4.
(b) Chlorobromomethane, CH2 BrCL.
(c) Azeotropic chlormethane, CM7.
(d) Dibromodifluoromethane, CBr2F2.
(e) 1, 2-dibromo-2-chloro-1, 1, 2-trifluoroethane, Cbr-F2, CBrCLf.
(f) 1, 2-dibromo-2, 2-difluoroethane, CH2BrCbrF2.
(g) Methylbromide, CH3Br.
(h) Ethylene dibromide, CH2BrCH2Br.
(i) Hydrogen bromide, HBr.
(j) Methylene bromide, CH2Br2.
(k) Bromodifluoromethane, CHBrF2.
(2) A fire extinguisher, rated not less than 2A, shall be provided for each 3,000 square feet of the protected building area, or major fraction thereof. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 100 feet.

(3) One or more fire extinguishers, rated not less than 2A, shall be provided on each floor. In multistory buildings, at least 1 fire extinguisher shall be located adjacent to stairway.
(4) Fire fighting equipment shall be located where it will be readily seen and accessible along normal paths of travel in the protected area.
(5) One 55-gallon open drum of water and 2 fire pails may be substituted for a fire extinguisher that has a 2A rating. Extinguishers and water drums, subject to freezing, shall be protected from freezing.
(6) A 1/2 inch or larger interior diameter garden hose that is not more than 100 feet in length and that is equipped with a nozzle may be substituted for a 2A fire extinguisher if it is capable of reaching all points in the area that would be covered by the replaced extinguisher and is capable of discharging not less than 5 gallons per minute with a horizontal hose stream of not less than 30 feet. The hose line shall be mounted on a rack or reel. Not more than 1/2 of the total number of required fire extinguishers may be replaced by the hose.
(7) In addition to the requirements of this rule, fire extinguishers shall be supplied as follows:
(a) Not less than 1 portable fire extinguisher that has a rating of not less than 20 BC units shall be located as follows:
(i) Outside of, but not more than 10 feet from, a door opening to a room used for the storage of more than 60 gallons of flammable liquids.
(ii) Not less than 25 feet, nor more than 75 feet, from an outside storage area.
(iii) On each tank truck or other vehicle used to transport or dispense flammable liquids.
(iv) A fire extinguisher, rated not less than 10B, shall be provided within 50 feet of wherever more than 5 gallons of flammable or combustible liquids or 5 pounds of flammable gas are being used on the jobsite. This requirement does not apply to the integral fuel tanks of motor vehicles.
(b) Each service or fueling area shall have at least 1 portable fire extinguisher which has not less than a 20 BC unit rating and which is located within 75 feet of each pump, dispenser, underground fill opening, and lubricating or service area.
(c) Storage locations for liquefied petroleum gas (L.P.G.) shall be provided with at least 1 approved portable fire extinguisher that has a rating of not less than 20 BC.
(d) Each site of a hazardous process shall be provided with a portable fire extinguisher of an appropriate size and type. Other means for safety or control may be provided if approved or required by the process.
(8) Table 1 may be used in selecting and providing an extinguisher.
(9) Table 1 reads as follows:

TABLE 1

HAZARD	DESCRIPTION	EXTINGUISHER TYPE AND CONTENTS
Class "A" Fire	Combustible Material	Loaded stream, Multipurpose dry chemical, Pressure-operated water, Water pump tanks, Water mist, Halon 1211.
Class "B" Fire	Flammable Liquids, Gas, Or Grease	Carbon dioxide, Dry chemical, Foam, Loaded stream, Multipurpose dry chemical, Halon 1211.
Class "C" Fire	Electrical Equipment	Carbon dioxide with plastic horn only, Dry chemical, Multipurpose dry chemical, Water mist, Halon 1211.
Class "D" Fire	Combustible Metal	Extinguishing agent listed for use on a specific combustible metal hazard.

History: 1979 AC; 1983 AACS; 1995 AACS; 2002 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41852 Portable fire extinguishers.
Rule 1852. Portable fire extinguishers shall be inspected periodically and maintained in accordance with NFPA 10A "Maintenance and Use of Portable Fire Extinguishers," 1970 edition, as adopted by reference in R 408.41802.
History: 1979 AC; 1983 AACS; 1995 AACS; 2002 AACS; 2013 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41853 Fixed fire equipment.
Rule 1853. (1) Sprinkler protection shall be as follows:
(a) If the facility being constructed includes the installation of automatic sprinkler protection, the installation shall closely follow the construction and be placed in service as soon as applicable laws permit following completion of each story.
(b) In all structures in which standpipes are required, or where standpipes exist in structures being altered, they shall be brought up as soon as applicable laws permit, and shall be maintained as construction progresses in such a manner that they are always ready for fire protection use. The standpipes shall be provided with Siamese fire department connections on the outside of the structure, at the street level, which shall be conspicuously marked.
(2) During demolition or alterations, an existing sprinkler or standpipe system shall be maintained in service in any portion of a structure that is not subject to demolition or alteration. The operation of a sprinkler control valve shall be permitted only by a properly authorized person. Modification of a sprinkler system to permit alterations or additional demolition shall be expedited so that the automatic protection may be returned to service as quickly as possible. Sprinkler control valves shall be checked daily at the close of work to ascertain whether the protection is in service. When the sprinkler or standpipe system is out of service for other than routine maintenance, the local fire department and the building manager or designated representative shall be notified. A sign shall be posted on each fire department connection that is out of service and the balance of the service shall be tested and resealed in operable condition, where required, and both the fire department and the building manager or designated representative shall be advised that the system is again in service.
(3) A standpipe and hose system shall have not less than 1 outlet per story.
(4) An automatic sprinkler system shall be installed and maintained as prescribed in The National Fire Protection Association Standards NFPA 13 "Installation of Sprinkler Systems," 1991 edition; NFPA 14 "Standard For The Installation Of Standpipe, Private Hydrants And Hose Systems," 2000 edition; and NFPA 25 "Inspection, Testing, And Maintenance Of Water-Based Fire Protection Systems," 1998 edition. The standards are adopted by reference in R 408.41802.
History: 1979 AC; 1983 AACS; 1995 AACS; 2002 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41854 Water supply.
Rule 1854. (1) An employer shall make available temporary or permanent water supply, of sufficient volume, duration, and pressure, required to properly operate the firefighting equipment - as soon as combustible materials accumulate.
(2) Where an underground water main is to provide water for fire protection equipment, the main shall be installed, completed, and made available for use as soon as practicable.
History: 1979 AC; 1983 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41855 Fire hose and connections.
Rule 1855. (1) One-hundred feet or less of 1-1/2 inch hose, with a nozzle capable of discharging water at 25 gallons or more per minute supplied from an approved standpipe system may be substituted for a fire extinguisher rated not more than 2A in the designated area provided that the hose line can reach all points in the area.
(2) The employer shall contact the local fire fighting organization to assure that fire hose connections on the jobsite are compatible with their fire fighting equipment. If a connection is not compatible, the employer shall install an adapter, or equivalent, to permit connection of local fire fighting equipment.
(3) During demolition involving combustible materials, charged hose lines, supplied by hydrants, water tank trucks with pumps, or equivalent, shall be made available.
History: 1979 AC; 1983 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41856
Source: 1983 AACS.

R 408.41851 Portable fire extinguishing equipment; selection and installation.
Rule 1851. (1) All portable fire extinguishers shall bear an approved label of a nationally recognized testing laboratory.

A fire extinguisher or extinguishing device that contains an active agent or propellant that has thermal decomposition products that have a level of vapor toxicity equal to or greater than any of the following listed materials shall not be used, installed for use, or allowed to remain installed for use:
(a) Carbon tetrachloride, CCL4.
(b) Chlorobromomethane, CH2 BrCL.
(c) Azeotropic chlormethane, CM7.
(d) Dibromodifluoromethane, CBr2F2.
(e) 1, 2-dibromo-2-chloro-1, 1, 2-trifluoroethane, Cbr-F2, CBrCLf.
(f) 1, 2-dibromo-2, 2-difluoroethane, CH2BrCbrF2.
(g) Methylbromide, CH3Br.
(h) Ethylene dibromide, CH2BrCH2Br.
(i) Hydrogen bromide, HBr.
(j) Methylene bromide, CH2Br2.
(k) Bromodifluoromethane, CHBrF2.
(2) A fire extinguisher, rated not less than 2A, shall be provided for each 3,000 square feet of the protected building area, or major fraction thereof. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 100 feet.
(3) One or more fire extinguishers, rated not less than 2A, shall be provided on each floor. In multistory buildings, at least 1 fire extinguisher shall be located adjacent to stairway.
(4) Fire fighting equipment shall be located where it will be readily seen and accessible along normal paths of travel in the protected area.
(5) One 55-gallon open drum of water and 2 fire pails may be substituted for a fire extinguisher that has a 2A rating. Extinguishers and water drums, subject to freezing, shall be protected from freezing.
(6) A 1/2 inch or larger interior diameter garden hose that is not more than 100 feet in length and that is equipped with a nozzle may be substituted for a 2A fire extinguisher if it is capable of reaching all points in the area that would be covered by the replaced extinguisher and is capable of discharging not less than 5 gallons per minute with a horizontal hose stream of not less than 30 feet. The hose line shall be mounted on a rack or reel. Not more than 1/2 of the total number of required fire extinguishers may be replaced by the hose.
(7) In addition to the requirements of this rule, fire extinguishers shall be supplied as follows:
(a) Not less than 1 portable fire extinguisher that has a rating of not less than 20 BC units shall be located as follows:
(i) Outside of, but not more than 10 feet from, a door opening to a room used for the storage of more than 60 gallons of flammable liquids.
(ii) Not less than 25 feet, nor more than 75 feet, from an outside storage area.
(iii) On each tank truck or other vehicle used to transport or dispense flammable liquids.
(iv) A fire extinguisher, rated not less than 10B, shall be provided within 50 feet of wherever more than 5 gallons of flammable or combustible liquids or 5 pounds of flammable gas are being used on the jobsite. This requirement does not apply to the integral fuel tanks of motor vehicles.
(b) Each service or fueling area shall have at least 1 portable fire extinguisher which has not less than a 20 BC unit rating and which is located within 75 feet of each pump, dispenser, underground fill opening, and lubricating or service area.
(c) Storage locations for liquefied petroleum gas (L.P.G.) shall be provided with at least 1 approved portable fire extinguisher that has a rating of not less than 20 BC.
(d) Each site of a hazardous process shall be provided with a portable fire extinguisher of an appropriate size and type. Other means for safety or control may be provided if approved or required by the process.
(8) Table 1 may be used in selecting and providing an extinguisher.
(9) Table 1 reads as follows:

TABLE 1		
HAZARD	DESCRIPTION	EXTINGUISHER TYPE AND CONTENTS

Class "A" Fire	Combustible Material	Loaded stream, Multipurpose dry chemical, Pressure-operated water, Water pump tanks, Water mist, Halon 1211.
Class "B" Fire	Flammable Liquids, Gas, Or Grease	Carbon dioxide, Dry chemical, Foam, Loaded stream, Multipurpose dry chemical, Halon 1211.
Class "C" Fire	Electrical Equipment	Carbon dioxide with plastic horn only, Dry chemical, Multipurpose dry chemical, Water mist, Halon 1211.
Class "D" Fire	Combustible Metal	Extinguishing agent listed for use on a specific combustible metal hazard.

History: 1979 AC; 1983 AACS; 1995 AACS; 2002 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41852 Portable fire extinguishers.

Rule 1852. Portable fire extinguishers shall be inspected periodically and maintained in accordance with NFPA 10A "Maintenance and Use of Portable Fire Extinguishers," 1970 edition, as adopted by reference in R 408.41802.

History: 1979 AC; 1983 AACS; 1995 AACS; 2002 AACS; 2013 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41853 Fixed fire equipment.

Rule 1853. (1) Sprinkler protection shall be as follows:

(a) If the facility being constructed includes the installation of automatic sprinkler protection, the installation shall closely follow the construction and be placed in service as soon as applicable laws permit following completion of each story.

(b) In all structures in which standpipes are required, or where standpipes exist in structures being altered, they shall be brought up as soon as applicable laws permit, and shall be maintained as construction progresses in such a manner that they are always ready for fire protection use. The standpipes shall be provided with Siamese fire department connections on the outside of the structure, at the street level, which shall be conspicuously marked.

(2) During demolition or alterations, an existing sprinkler or standpipe system shall be maintained in service in any portion of a structure that is not subject to demolition or alteration. The operation of a sprinkler control valve shall be permitted only by a properly authorized person. Modification of a sprinkler system to permit alterations or additional demolition shall be expedited so that the automatic protection may be returned to service as quickly as possible. Sprinkler control valves shall be checked daily at the close of work to ascertain whether the protection is in service. When the sprinkler or standpipe system is out of service for other than routine maintenance, the local fire department and the building manager or designated representative shall be notified. A sign shall be posted on each fire department connection that is out of service and the balance of the service shall be tested and resealed in operable condition, where required, and both the fire department and the building manager or designated representative shall be advised that the system is again in service.

(3) A standpipe and hose system shall have not less than 1 outlet per story.

(4) An automatic sprinkler system shall be installed and maintained as prescribed in The National Fire Protection Association Standards NFPA 13 "Installation of Sprinkler Systems," 1991 edition; NFPA 14 "Standard For The Installation Of Standpipe, Private Hydrants And Hose Systems," 2000 edition; and NFPA 25 "Inspection, Testing, And Maintenance Of Water-Based Fire Protection Systems," 1998 edition. The standards are adopted by reference in R 408.41802.

History: 1979 AC; 1983 AACS; 1995 AACS; 2002 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41854 Water supply.

Rule 1854. (1) An employer shall make available temporary or permanent water supply, of sufficient volume, duration, and pressure, required to properly operate the firefighting equipment - as soon as combustible materials accumulate.

(2) Where an underground water main is to provide water for fire protection equipment, the main shall be installed, completed, and made available for use as soon as practicable.

History: 1979 AC; 1983 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41855 Fire hose and connections.
Rule 1855. (1) One-hundred feet or less of 1-1/2 inch hose, with a nozzle capable of discharging water at 25 gallons or more per minute supplied from an approved standpipe system may be substituted for a fire extinguisher rated not more than 2A in the designated area provided that the hose line can reach all points in the area.
(2) The employer shall contact the local fire fighting organization to assure that fire hose connections on the jobsite are compatible with their fire fighting equipment. If a connection is not compatible, the employer shall install an adapter, or equivalent, to permit connection of local fire fighting equipment.
(3) During demolition involving combustible materials, charged hose lines, supplied by hydrants, water tank trucks with pumps, or equivalent, shall be made available.
History: 1979 AC; 1983 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41873
Source: 1983 AACS.

R 408.41874 L.P. gas appliances.
Rule 1874. (1) LP-Gas consuming appliances shall be approved types.
(2) Any appliance that was originally manufactured for operation with a gaseous fuel other than LP-Gas, and is in good condition, may be used with LP-Gas only after it is properly converted, adapted, and tested for performance with LP-Gas before the appliance is placed in use.
History: 1979 AC; 1983 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41875 L.P. containers and equipment.
Rule 1875. (1) Containers in use shall be in compliance with all of the following provisions:
(a) Each system shall have containers, valves, connectors, manifold valve assemblies, and regulators of an approved type.
(b) Filling of fuel containers for trucks or motor vehicles from bulk storage containers shall be performed not less than 10 feet from the nearest masonry-walled building, or not less than 25 feet from the nearest building or other construction and, in any event, not less than 25 feet from any building opening.
(c) Filling of portable containers or containers mounted on skids from storage containers shall be performed not less than 50 feet from the nearest building.
(d) All of the following provisions apply to multiple container systems:
(i) Valves in the assembly of multiple container systems shall be arranged so that replacement of containers can be made without shutting off the flow of gas in the system. This provision shall not be construed as requiring an automatic changeover device.
(ii) Heaters shall be equipped with an approved regulator in the supply line between the fuel cylinder and the heater unit. Cylinder connectors shall be provided with an excess flow valve to minimize the flow of gas in the event the fuel line becomes ruptured.
(iii) Regulators and low-pressure relief devices shall be rigidly attached to the cylinder valves, cylinders, supporting standards, the building walls, or otherwise rigidly secured, and shall be so installed or protected from the elements.
(2) When damage to LP-Gas systems from vehicular traffic is a possibility, the employer shall ensure that precautions against such damage are taken.
(3) Piping, pipe and tubing fittings, and valves used to supply utilization equipment within the scope of this standard shall be acceptable for services as approved by the manufacture of the equipment.
(4) Welding is prohibited on containers.
(5) Valves, fittings, and accessories connected directly to the container, including primary shut off valves, shall have a rated working pressure of at least 250 p.s.i.g. and shall be of material and design suitable for LP-Gas service.
(6) Connections to containers, except safety relief connections, liquid level gauging devices, and plugged openings, shall have shutoff valves located as close to the container as practicable.
(7) All cylinders shall meet the provisions of the Department of Transportation Title 49 C.F.R. Part 178, "Shipping Container Specifications," as adopted in R 408.41802.
(8) When operational requirements make portable use of containers necessary, and their location outside of buildings or structures is impracticable, containers and equipment shall be permitted to be used inside of buildings or structures in accordance with R 408.41884 (12), (13), and (16), and the following rules:

(a) Systems utilizing containers having a water capacity greater than 2 1/2 pounds, nominal 1 pound LP-Gas capacity, shall be equipped with excess flow valves. Such excess flow valves shall be either integral with the container valves or in the connections to the container valve outlets.
(b) Regulators shall be either directly connected to the container valves or to manifolds connected to the container valves. The regulator shall be suitable for use with LP -Gas. Manifolds and fittings connecting containers to pressure regulator inlets shall be designed for not less than 250 p.s.i.g. service pressure.
(c) Valves on containers having water capacity greater than 50 pounds, nominal 20 pounds LP-Gas capacity, shall be protected from damage while in use or storage.
(d) Aluminum piping or tubing shall not be used.
(e) Hose shall be designed for a working pressure of at least 250 p.s.i.g. Design, construction, and performance of hose, and hose connections shall have their suitability determined by listing by a nationally recognized testing agency. The hose length shall be as short as practicable. Hoses shall be long enough to permit compliance with spacing provisions of this rule and R 408.41884 (6), (7), (8), (12), (13), and (16), without kinking or straining, or causing hose to be so close to a burner as to be damaged by heat.
(f) Containers having a water capacity greater than 2 1/2 pounds, nominal 1 pound LP-Gas capacity, connected for use shall stand on a firm and substantially level surface and, when necessary, shall be secured in an upright position.
(g) The maximum water capacity of individual containers shall be 245 pounds (nominal 100 pounds L.P. gas capacity).
History: 1979 AC; 1983 AACS; 2002 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41876 Rescinded.
History: 1979 AC; 1983 AACS; 1995 AACS; 2002 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41877 Storage of LPG containers.
Rule 1877. (1) This rule applies to the storage of portable containers whether filled or empty if they have been in service.
(2) Storage of L.P. gas within buildings is prohibited.
(3) Storage outside of buildings, for containers awaiting use, shall be located away from the nearest building or group of buildings as specified in table 4.
(4) Table 4 reads as follows:

TABLE 4

QUANTITY OF L.P. GAS STORED	DISTANCE (FEET) FROM A BUILDING
500 lbs. or less	0
501 to 6,000 lbs.	10
6,001 to 10,000 lbs.	20
over 10,000 lbs.	25

(5) Containers shall be stored within a suitable ventilated enclosure or otherwise protected against tampering, and located as specified in table 4.
(6) When L.P. gas and 1 or more other gases are stored or used in the same area, the containers shall be marked to identify their content. Marking shall be in compliance with The Compressed Gas Association Standard CGA C7 "Guide To The Preparation Of Precautionary Labeling And Marking Of Compressed Gas Containers," 2000 edition, which is adopted by reference in R 408.41802.
History: 1979 AC; 1983 AACS; 2002 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41877a Systems utilizing containers other than DOT containers.
Rule 1877a. (1) This rule apply specifically to systems utilizing storage containers other than those constructed in accordance with DOT specifications. R 408.41875(4) applies to this rule unless otherwise noted in R 408.41875(4).
(2) Storage containers shall be designed and classified in accordance with Table 5.

TABLE 5			
Container Type	For gases with vapor press. Not to exceed lb. per sq. in. gage at 100 deg. F. (37.8 deg. C.)	MINIMUM DESIGN PRESSURE OF CONTAINER, LB. PER SQ. IN. GAGE	
		1949 and earlier editions of ASME Code (Par. U-68, U-69)	1949 edition of ASME Code (Par. U-200, U-201); 1950, 1952, 1956, 1959, 1962, 1965, and 1968 (Division 1) editions of ASME Code; All editions of API-ASME Code(3)
80(1)	80(1)	80 (1)	100 (1)
100	100	100	125
125	125	125	156
150	150	150	187
175	175	175	219
200(2)	215	200	250
Footnote(1) New storage containers of the 80 type have not been authorized since Dec. 31, 1947.			
Footnote(2) Container type may be increased by increments of 25. The minimum design pressure of containers shall per 100 percent of the container type designation when constructed under 1949 or earlier editions of the ASME Code (Par. U-68 and U-69). The minimum design pressure of containers shall be 125 percent of the container type designation when constructed under: (1) the 1949 ASME Code (Par. U-200 and U-201), (2) 1950, 1952, 1956, 1959, 1962, 1965, and 1968 (Division 1) editions of the ASME Code, and (3) all editions of the API-ASME Code.			
Footnote(3) Construction of containers under the API-ASME Code is not authorized after July 1, 1961.			

(3) Containers with foundations attached, portable or semiportable b containers with suitable steel "runners" or "skids" and popularly known in the industry as "skid tanks," shall be designed, installed, and used in accordance with these rules subject to the following provisions:
(a) If they are to be used at a given general location for a temporary period not to exceed 6 months they need not have fire-resisting foundations or saddles but shall have adequate ferrous metal supports.
(b) They shall not be located with the outside bottom of the container shell more than 5 feet, 1.52 m, above the surface of the ground unless fire-resisting supports are provided.
(c) The bottom of the skids shall not be less than 2 inches, 5.08 cm, or more than 12 inches, 30.48 cm, below the outside bottom of the container shell.
(d) Flanges, nozzles, valves, fittings, and the like, having communication with the interior of the container, shall be protected against physical damage.
(e) When not permanently located on fire-resisting foundations, piping connections shall be sufficiently flexible to minimize the possibility of breakage or leakage of connections if the container settles, moves, or is otherwise displaced.

(f) Skids, or lugs for attachment of skids, shall be secured to the container in accordance with the code or rules under which the container is designed and built, with a minimum factor of safety of 4, to withstand loading in any direction equal to 4 times the weight of the container and attachments when filled to the maximum permissible loaded weight.
(4) Field welding where necessary shall be made only on saddle plates or brackets that were applied by the manufacturer of the tank.
History: 2015 MR 7, Eff. April 14, 2015.

R 408.41878 Rescinded.
History: 1979 AC; 1983 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41879 Rescinded.
History: 1979 AC; 1983 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41881 Rescinded.
History: 1979 AC; 1983 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41882 Rescinded.
History: 1979 AC; 1983 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.41883 Rescinded.
History: 1979 AC; 1983 AACS; 2015 MR 7, Eff. April 14, 2015.

TEMPORARY HEATING DEVICES

R 408.41884 Heating devices.
Rule 1884. (1) Fresh air shall be supplied in sufficient quantities to maintain the health and safety of workmen. Where natural means of fresh air supply is inadequate, mechanical ventilation shall be provided.
(2) When heaters are used in confined spaces, special care shall be taken to provide sufficient ventilation in order to ensure proper combustion, maintain the health and safety of workmen, and limit temperature rise in the area.
(3) A temporary heating device shall not be located less than 50 feet from a point where a flammable liquid is used or dispensed.
(4) A temporary heating device that is set on a combustible floor shall be separated from the floor by an insulating material or 1 inch of concrete. The insulating material shall extend not less than 2 feet beyond the heater in all directions.
(5) A temporary heating device shall be located not less than 10 feet from a combustible covering, such as, but not limited to, canvas or tarpaulins, unless the covering is fastened to prevent its dislodgement due to wind action.
(6) A temporary heating device using L.P. gas, other than in an integral heater-container unit, shall be located not less than 6 feet from any L.P. gas container.
(7) Integral heaters may be used if designed and installed so as to prevent direct or radiant heat application to the container.
(8) Blower-and radiant-type units shall not be directed toward any L.P. gas container that is less than 20 feet away.
(9) If 2 or more heater units are located within the same unpartitioned area, then the containers of each unit shall be separated from the containers of any such other unit by not less than 20 feet.
(10) If containers are manifolded together and serve 1 heater on the same floor, then the total water capacity of the containers shall not be more than 735 pounds (nominal 300 pounds L.P. gas capacity). If more than 1 such manifold is used they shall be separated by not less than 20 feet.
(11) Heating devices, including portable heaters and salamanders using a liquid flammable fuel such as, but not limited to, fuel oil or kerosene, shall be equipped with an approved automatic shutoff safety control device which will, in the event of flame failure, shut off the flow of fuel to the main burner and pilot if used. The device shall not be relit while the combustion chamber is hot.
(12) Portable heaters including salamanders shall be equipped with an approved automatic device to shut off the flow of gas to the main burner, and pilot if used, in the event of flame failure. Such heaters, having inputs above 50,000 British thermal unit's (B.T.U.) per hour, shall be equipped with either a pilot, that is lighted and proved before the main burner can be turned on, or an electric ignition system.
NOTE: The provisions of this rule do not apply to tar kettles, hand torches, melting pots, or portable heaters of less than 7,500 British thermal unit's (B.T.U.), if used with 2 1/2 pound containers.

(13) A temporary heating device shall be installed horizontally level.
(14) A solid fuel salamander shall not be used in a building or on a scaffold.
(15) L.P. gas containers valves, connectors, regulators and manifolds, piping, and tubing shall not be used as structural supports for heaters and shall be located to minimize exposure to high temperatures or physical damage.
(16) A heating device, including a temporary heating device, designed for barometric or gravity oil feed shall be used only with an integral tank.
(17) Heaters specifically designed and approved for use with separate supply tanks may be connected for gravity feed, or an automatic pump, from a supply tank.
(18) Heating equipment of an approved type may be installed in the lubrication or service area where there is no dispensing or transferring of category 1, 2, or 3 flammable liquids, provided the bottom of the heating unit is at least 18 inches above the floor and is protected from physical damage.
(19) Heating equipment installed in lubrication or service areas, where category 1, 2, or 3 flammable liquids are dispensed, shall be of an approved type for garages and shall be installed at least 8 feet above the floor.
History: 1979 AC; 1983 AACS; 2002 AACS; 2013 AACS; 2015 MR 7, Eff. April 14, 2015.

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
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R 408.42143
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R 408.42144
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R 408.42145
Source: 2013 AACS.

R 408.42146
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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
Source: 2014 AACS.

R 408.42222
Source: 2001 AACS.

R 408.42223
Source: 2014 AACS.

R 408.42224
Source: 2014 AACS.

R 408.42225
Source: 2013 AACS.

R 408.42229
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.42242
Source: 1979 AC.

R 408.42243
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.42606
Source: 2002 AACS.

R 408.42607
Source: 2002 AACS.

R 408.42608
Source: 2014 AACS.

R 408.42609
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.42628
Source: 2007 AACS.

R 408.42629
Source: 2014 AACS.

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
Source: 2014 AACS.

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
Source: 2014 AACS.

R 408.42653
Source: 2002 AACS.

R 408.42654
Source: 2002 AACS.

R 408.42655
Source: 2014 AACS.

R 408.42656
Source: 2002 AACS.

PART 27. BLASTING AND USE OF EXPLOSIVES

R 408.42701 Scope.
Rule 2701. This part provides for the training and qualifications of employees and for the storage, transport, and use of blasting materials for construction operations. This part also provides for the protection of other employees while working within a blast area.
History: 1979 AC; 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42705 Adoption of standards by reference.
Rule 2705. (1) The federal occupational safety and health administration (OSHA) regulations from the Code of Federal Regulations 1926 Subpart U "Blasting and Use of Explosives," 29 C.F.R. §1926.900 to 29 C.F.R. §1926.914 are 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: 2015 MR 7, Eff. April 14, 2015.

R 408.42710 Availability of adopted rules.
Rule 2710. (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 Regulatory Services 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 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.
History: 2015 MR 7, Eff. April 14, 2015.

R 408.42724 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42725 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42726 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42727 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42728 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42731 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42732 Rescinded.
History: 1982 AACS; 2013 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42733 Rescinded.
History: 1982 AACS; 2013 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42734 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42735 Rescinded.
History: 1982 AACS; 1988 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42737 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42741 Rescinded.
History: 1982 AACS; 1994 AACS; 2013 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42742 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42743 Rescinded.
History: 1982 AACS; 2013 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42744 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42751 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42752 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42753 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42754 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42755 Rescinded.
History: 1982 AACS; 2013 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42756 Rescinded.
History: 1982 AACS; 2013 AACS.

R 408.42757 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42758 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42759 Rescinded.
History: 1982 AACS; 2013 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42761 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42762 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42763 Rescinded.
History: 1982 AACS; 2015 MR 7, Eff. April 14, 2015.

R 408.42799 Rescinded.
History: 1982 AACS; 1988 AACS; 2013 AACS; 2015 MR 7, Eff. April 14, 2015.

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
Source: 2013 AACS.

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 35. CONFINED SPACE IN CONSTRUCTION

R 408.43501 Scope.
Rule 3501. (1) This standard sets forth requirements for practices and procedures to protect employees engaged in construction activities at a worksite with 1 or more confined spaces, subject to the exceptions in subrule (2) of this rule. Examples of locations where confined spaces may occur include, but are not limited to, those listed in table 1:

TABLE 1 EXAMPLES OF LOCATIONS WHERE CONFINED SPACES MAY OCCUR

Bins
Boilers
Pits, such as elevator, escalator, pump, valve or other equipment
Manholes, such as sewer, storm drain, electrical, communication, or other utility
Tanks, such as fuel, chemical, water, or other liquid, solid or gas
Incinerators
Scrubbers
Concrete pier columns
Sewers
Transformer vaults
Heating, ventilation, and air-conditioning (HVAC) ducts
Storm drains
Water mains
Precast concrete and other pre-formed manhole units
Drilled shafts
Enclosed beams
Vessels
Digesters
Lift Stations
Cesspools
Silos
Air receivers
Sludge gates
Air preheaters
Step up transformers
Turbines
Chillers
Bag houses
Mixers, such as reactors

(2) This standard does not apply to any of the following:
(a) Construction work regulated by Construction Safety Standard Part 9 “Excavation, Trenching, and Shoring.”
(b) Construction work regulated by Construction Safety Standard Part 14 “Tunnels, Shafts, Caissons, and Cofferdams.”
(c) Construction work regulated by Occupational Health Standard Part 504 “Diving Operations.”
(d) Construction work regulated by Occupational Health Standard Part 665 “Underground Construction, Caissons, Cofferdams, and Compressed Air.”
(3) When this standard applies and there is a provision that addresses a confined space hazard in another applicable standard, the employer shall comply with both that requirement and the applicable provisions of this standard.
(4) The following provisions of the occupational safety and health administration (OSHA) regulations, except as amended in these rules, are adopted by reference in these rules:
(a) 1926.1202 “Definitions.”
(b) 1926.1203 “General requirements.”
(c) 1926.1204 “Permit-required confined space program.”
(d) 1926.1205 “Permitting process.”
(e) 1926.1206 “Entry permit.”
(f) 1926.1207 “Training.”
(g) 1926.1208 “Duties of authorized entrants.”
(h) 1926.1209 “Duties of attendants.”

(i) 1926.1210 “Duties of entry supervisors.”
(j) 1926.1211 “Rescue and emergency services.”
(k) 1926.1212 “Employee participation.”
History: 2015 MR 20, Eff. Oct. 29, 2015.

R 408.43505 Provision of documents.
Rule 3505. For each document required to be retained in this standard, the retaining employer must make the document available on request to the director of the department of licensing and regulatory affairs or his or her designee.
History: 2015 MR 20, Eff. Oct. 29, 2015.

R 408.43510 Adopted and referenced standards.
Rule 3510. (1) The following federal occupational safety and health administration (OSHA) regulations, that are effective August 3, 2015, are adopted by reference in these rules:
(a) 1926.1202 “Definitions.”
(b) 1926.1203 “General requirements.”
(c) 1926.1204 “Permit-required confined space program.”
(d) 1926.1205 “Permitting process.”
(e) 1926.1206 “Entry permit.”
(f) 1926.1207 “Training.”
(g) 1926.1208 “Duties of authorized entrants.”
(h) 1926.1209 “Duties of attendants.”
(i) 1926.1210 “Duties of entry supervisors.”
(j) 1926.1211 “Rescue and emergency services.”
(k) 1926.1212 “Employee participation.”
(2) The standards adopted in 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.
(3) The standards adopted in these rules are available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 530 West Allegan Street, Lansing, Michigan, 48909-8143.
(4) The standards 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, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143, plus $20.00 for shipping and handling.
(5) 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 Regulatory Services Section, 530 West Allegan Street, 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 9 “Excavation, Trenching, and Shoring.” R 408.40901 to R 408.40953.
(b) Construction Safety Standard Part 14 “Tunnels, Shafts, Caissons, and Cofferdams.” R 408.41401 to R 408.41483.
(c) Occupational Health Standard Part 504 “Diving Operations.” R 325.50301 to R 325.50348.
(d) Occupational Health Standard Part 665 “Underground Construction, Caissons, Cofferdams, and Compressed Air.” R 325.62991 to R 325.62996.
History: 2015 MR 20, Eff. Oct. 29, 2015.

PART 42. HAZARD COMMUNICATION

R 408.44201
Source: 2014 AACS.

R 408.44202
Source: 2014 AACS.

R 408.44203
Source: 2014 AACS.

R 408.44204
Source: 2014 AACS.

PART 45. FALL PROTECTION

R 408.44501 Scope
Rule 4501. (1) The rules in this part set forth the minimum requirements and criteria for fall protection in construction workplaces, their applications, and definitions that are applicable to these rules.
(2) These rules do not apply where an employee is making an inspection, an investigation, or an assessment of workplace conditions before the actual start of construction work or after all construction work has been completed.
(3) The following provisions of the occupational safety and health administration (OSHA) regulations, except as amended in these rules, are adopted by reference in these rules:
(a) 29 C.F.R. § 1926.500 "Scope, Application, and definitions applicable to this subpart."
(b) 29 C.F.R. § 1926.501 "Duty to have fall protection."
(c) 29 C.F.R. § 1926.502 "Fall protection systems criteria and practices."
(d) 29 C.F.R. § 1926.503 "Training requirements."
(4) All of the following provisions are amendments to the OSHA regulations adopted by reference in these rules and are referenced in R 408.44502:
(a) Additional performance requirements for personal climbing equipment, lineman's body belts, safety straps, and lanyards are contained in Construction Safety Standard Part 16. "Power Transmission and Distribution."
(b) The specifications for fall protection requirements for an employee working on certain types of derricks are contained in Construction Safety Standard Part 10. "Lifting and Digging Equipment," and Construction Safety Standard Part 32. "Aerial Work Platforms."
(c) The specifications for fall protection requirements for an employee working on ladders and the performance requirements for stairways, stair rail systems, and handrails are contained in Construction Safety Standard Part 11. "Fixed and Portable Ladders" and Construction Safety Standard Part 21 "Guarding of Walking and Working Areas."
(d) The specifications for fall protection requirements for an employee working on a scaffold; performance requirements for a guardrail system; or for the performance requirements for falling object protection used on scaffolds are contained Construction Safety Standard Part 12. "Scaffolds and Scaffold Platforms."
(e) The specifications for fall protection requirements for an employee working on or in certain types of equipment used in tunneling operations are contained in Construction Safety Standard Part 14. "Tunnels, Shafts, Caissons, and Cofferdams."
(f) The specifications for fall protection requirements for an employee working from aerial lifts, on poles, towers, or similar structures while engaged in the construction of electric transmission or distribution lines or equipment are contained in Construction Safety Standard Part 32. "Aerial Work Platforms."
(g) The specifications for fall protection requirements for an employee performing steel erection work on buildings are contained in Construction Safety Standard Part 26. "Steel Erection."

History: 1996 AACS; 2015 MR 7, Eff. April 13, 2015.

R 408.44502. Adopted and referenced standards.
Rule 4502. (1) The following federal occupational safety and health administration (OSHA) regulations are adopted by reference in these rules:
(a) 29 C.F.R. § 1926.500 "Scope, Application, and definitions applicable to this subpart," effective July 10, 2014.
(b) 29 C.F.R. § 1926.501 "Duty to have fall protection," effective January 26, 1995.
(c) 29 C.F.R. § 1926.502 "Fall protection systems criteria and practices," effective January 26, 1995.
(d) 29 C.F.R. § 1926.503 "Training requirements," effective January 26, 1995.
(2) 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.
(3) The standards 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.
(4) The standards 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, P.O. Box 30643, Lansing, Michigan, 48909-8143, plus $20.00 for shipping and handling.

(5) 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 Regulatory Services 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 10. "Lifting and Digging Equipment," R 408.41001 to R 408.41099a.
(b) Construction Safety Standard Part 11. "Fixed and Portable Ladders," R 408.41101 to R 408.41140.
(c) Construction Safety Standard Part 12. "Scaffolds and Scaffold Platforms," R 408.41201 to R 408.41264.
(d) Construction Safety Standard Part 14. "Tunnels, Shafts, Caissons, and Cofferdams," R 408.41401 to R 408.41483.
(e) Construction Safety Standard Part 16. "Power Transmission and Distribution," R 408.41601 to R 408.41658.
(f) Construction Safety Standard Part 21. "Guarding of Walking and Working Areas," R 408.42101 to R 408.42160.
(g) Construction Safety Standard Part 26. "Steel Erection," R 408.42601 to R 408.42656.
(h) Construction Safety Standard Part 32. "Aerial Work Platforms," R 408.43201 to R 408.43220.

History: 1996 AACS; 2015 MR 7, Eff. April 13, 2015.

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
Source: 2014 AACS.

R 408.45502
Source: 2014 AACS.

PART 91. PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS

R 408.49101
Source: 2014 AACS.

R 408.49102
Source: 2014 AACS.

R 408.49103
Source: 2014 AACS.

DEPARTMENT OF EDUCATION

VOCATIONAL-TECHNICAL EDUCATION SERVICE

STANDARDS FOR ISSUANCE OF WORK PERMITS

R 409.1
Source: 1980 AACS.

R 409.2 Definitions.
Rule 2. (1) “Act" means the youth employment standards act, 1978 PA 90, MCL 409.101 to 409.124.
(2) A term defined in the act has the same meaning when used in these rules.
History: 1980 AACS; 2015 MR 18, Eff. Oct. 8, 2015.

R 409.3 Responsibilities of employer.
Rule 3. (1) For a minor to be employed, a prospective employer or a person authorized by
the prospective employer shall complete and sign a statement of intention to employ on a form prescribed by the department of education.
(2) An employer shall not employ a minor in an occupation regulated by the act until the employer procures from the minor, and keeps on file at the place of employment, a valid
work permit or a 10-day temporary work permit.
(3) An employer shall return the work permit to the issuing officer immediately after the termination of a minor's employment.
(4) Upon written notice of suspension or revocation, the employer of the minor shall return the work permit to the issuing officer.
History: 1980 AACS; 2015 MR 18, Eff. Oct. 8, 2015.

R 409.4 Responsibilities of minor.
Rule 4. A prospective minor employee shall personally take the completed and signed intention to employ form and present the form together with evidence of age to an issuing officer. If documentary proof of age, as described in section 5 of the act, is not obtainable, the issuing officer may accept other documentation, including, but not limited to, any of the following:
(a) A baptismal certificate.
(b) A bona fide record of the date and place of the minor's birth kept in a bible in which the record of the births of the family of the minor is preserved.
(c) A hospital record of birth.
(d) A passport.
(e) A certificate of arrival in the United States.
(f) A life insurance policy.
(g) An identification card from the Michigan department of state.
History: 1980 AACS; 2015 MR 18, Eff. Oct. 8, 2015.

R 409.5 Responsibilities of issuing officer; review of intention to employ form; refusal to issue permit; probation; suspension and revocation of permit; records.
Rule 5. (1) Before making a determination to issue a work permit, an issuing officer shall do all of the following:
(a) Review the intention to employ form to ensure its proper completion and signature by the prospective employer or by a person authorized by the prospective employer.
(b) Review the general nature of the occupation in which the employer intends to employ the minor to ensure that the occupation is in compliance with all of the following:
(i) The act.
(ii) Any rules promulgated by the department of education under section 20 of the act.
(iii) The child labor regulations of the federal fair labor standards act of 1938, as amended, 29 U.S.C. §201.
(c) Review the intention to employ form for deviations from the standards established by the department of education under section 20 of the act.
(2) Upon approval of the information prescribed in subrule (1) of this rule, the issuing officer shall sign and issue a work permit.
(3) A copy of the work permit, together with evidence of any department of education approved deviations from section 20 of the act, if applicable, shall be placed in the minor's permanent school file for as long as the minor is employed.
(4) The issuing officer may refuse to issue a work permit for any of the following reasons:
(a) The general nature of the occupation is determined to be hazardous and in violation of rules promulgated by the department of education under section 20 of the act.
(b) The information presented by a minor is incomplete.

(c) The minor's employment is in violation of federal or state law or of a regulation or rule promulgated under federal or state law.
(5) Upon written notice to the minor and the employer, the issuing officer shall place the minor on a 30-calendar-day probationary period when the minor's poor school attendance results in consistent academic performance at a level lower than that which preceded his or her employment.
(6) If, at the conclusion of the 30-calendar-day probationary period, the minor's poor school attendance continues to result in consistent academic performance at a level lower than that which preceded his or her employment, upon written notice to the minor and the employer, the issuing officer may suspend the work permit for a period of not more than 30 calendar days. The minor is suspended from work during suspension of the work permit.
(7) Upon written notification to the minor and employer, the issuing officer may revoke a work permit following suspension of the work permit as specified in subrule (6) of this rule if the deficiency that led to the suspension is not corrected.
(8) The immediate revocation of a work permit shall occur if a minor's employment is in violation of federal or state law or of a regulation or rule promulgated under federal or state law and if the issuing officer is informed of the violation by the department of education.
(9) Upon revocation of a work permit pursuant to these rules, the minor's legal employment under the authority of the permit ceases.
(10) Upon revocation of a work permit, the issuing officer shall inform the minor of the appeal process pursuant to the administrative procedures act, 1969 PA 306, MCL 24.201 to 24.328, and shall provide instructions as to the initiation of an appeal by the minor, by a parent or guardian of the minor, or by a person or agency to whom custody of the minor has been awarded. The issuing officer shall keep a record of all appeals.
(11) Records that are exempt from disclosure by statute or regulation shall not be disclosed.
History: 1980 AACS; 2015 MR 18, Eff. Oct. 8, 2015.

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 Rescinded.
History: 1991 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.2 Rescinded.
History: 1991 AACS; 2007 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.3 Rescinded.
History: 1991 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.4 Rescinded.
History: 1991 AACS; 2006 AACS; 2007 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.5 Rescinded.
History: 1991 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.6 Rescinded.
History: 1991 AACS; 2006 AACS; 2007 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.7 Rescinded.
History: 1991 AACS; 2006 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.8 Rescinded.

History: 1991 AACS; 2007 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

WORKER'S COMPENSATION BOARD OF MAGISTRATES

R 418.51 Rescinded.
History: History: 1996 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.52 Rescinded.
History: History: 1996 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.53 Rescinded.
History: History: 1996 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.54 Rescinded.
History: History: 1996 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.55 Rescinded.
History: History: 1996 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.56 Rescinded.
History: History: 1996 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.57 Rescinded.
History: History: 1996 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 418.58 Rescinded.
History: History: 1996 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

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
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PART 2. MEDICINE AND EVALUATION AND MANAGEMENT SERVICES

R 418.201
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R 418.202
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PART 3. ANESTHESIA

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PART 4. SURGERY

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PART 5. RADIOLOGY, RADIATION THERAPY, AND NUCLEAR MEDICINE

R 418.501
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PART 6. PATHOLOGY AND LABORATORY

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PART 7. DENTAL

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PART 8. AMBULANCE SERVICE

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PART 9. HOME HEALTH AGENCY

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PART 10. PHARMACY AND MEDICAL SUPPLY SERVICE

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PART 11. OCCUPATIONAL THERAPY AND PHYSICAL THERAPY

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R 418.1103
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PART 12. ORTHOTIC AND PROSTHETIC EQUIPMENT

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R 418.1202
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PART 13. HEARING SERVICE

R 418.1301
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PART 14. VISION AND PROSTHETIC OPTICAL SERVICE

R 418.1401
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R 418.1402
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PART 15. MISCELLANEOUS SUPPLIER

R 418.1501
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R 418.1502
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R 418.1503
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PART 16. FACILITY SERVICE

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PART 17. TECHNICAL AND PROFESSIONAL HEALTH CARE REVIEW

R 418.1701
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R 418.1702
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PART 18. DATA ACQUISITION FROM CARRIERS, PROVIDERS, AND FACILITIES

R 418.1801
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R 418.1802
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R 418.1803
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R 418.1804
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PART 19. PROCESS FOR RESOLVING DIFFERENCES BETWEEN CARRIER AND PROVIDER REGARDING BILL

R 418.1901
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R 418.1902
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R 418.1903

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R 418.1904
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R 418.1905
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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
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R 418.2002
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R 418.2003
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R 418.2004
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R 418.2005
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PART 21. PAYMENT

R 418.2101
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PART 22. BILLING BY PRACTITIONER OR HEALTH CARE ORGANIZATION

R 418.2201
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PART 23. FEE SCHEDULE

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