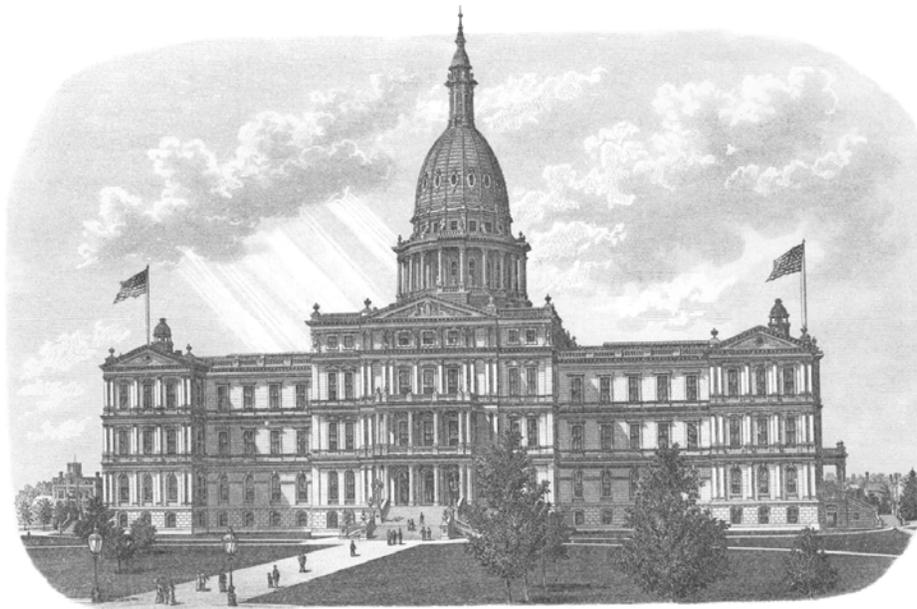


# Michigan Register

Issue No. 7– 2016 (Published May 1, 2016)



# GRAPHIC IMAGES IN THE MICHIGAN REGISTER

## COVER DRAWING

### *Michigan State Capitol:*

This image, with flags flying to indicate that both chambers of the legislature are in session, may have originated as an etching based on a drawing or a photograph. The artist is unknown. The drawing predates the placement of the statue of Austin T. Blair on the capitol grounds in 1898.

(Michigan State Archives)

## PAGE GRAPHICS

### *Capitol Dome:*

The architectural rendering of the Michigan State Capitol's dome is the work of Elijah E. Myers, the building's renowned architect. Myers inked the rendering on linen in late 1871 or early 1872. Myers' fine draftsmanship, the hallmark of his work, is clearly evident.

Because of their size, few architectural renderings of the 19<sup>th</sup> century have survived. Michigan is fortunate that many of Myers' designs for the Capitol were found in the building's attic in the 1950's. As part of the state's 1987 sesquicentennial celebration, they were conserved and deposited in the Michigan State Archives.

(Michigan State Archives)

### *East Elevation of the Michigan State Capitol:*

When Myers' drawings were discovered in the 1950's, this view of the Capitol – the one most familiar to Michigan citizens – was missing. During the building's recent restoration (1989-1992), this drawing was commissioned to recreate the architect's original rendering of the east (front) elevation.

(Michigan Capitol Committee)

# Michigan Register

Published pursuant to § 24.208 of  
The Michigan Compiled Laws



Issue No. 7— 2016

(This issue, published May 1, 2016, contains  
documents filed from April 1, 2016 to April 15, 2016)

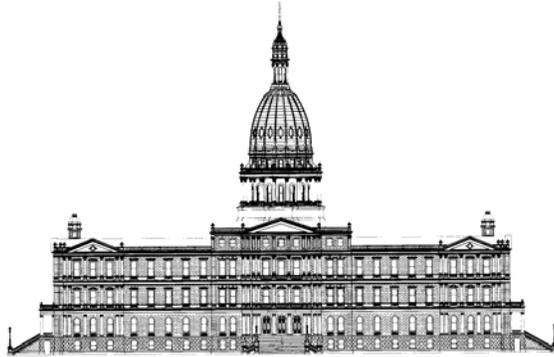
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**Mike Zimmer**, Director, Licensing and Regulatory Affairs; **Deidre O’Berry**, Administrative Rules Specialist for Operations and Publications.

**Rick Snyder, Governor**



**Brian Calley, Lieutenant Governor**

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## PREFACE

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### PUBLICATION AND CONTENTS OF THE MICHIGAN REGISTER

The Office of Regulatory Reform publishes the *Michigan Register*.

While several statutory provisions address the publication and contents of the *Michigan Register*, two are of particular importance.

**24.208 Michigan register; publication; cumulative index; contents; public subscription; fee; synopsis of proposed rule or guideline; transmitting copies to office of regulatory reform.**

Sec. 8.

(1) The office of regulatory reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

(a) Executive orders and executive reorganization orders.

(b) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills signed into law by the governor during the calendar year and the corresponding public act numbers.

(c) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills vetoed by the governor during the calendar year.

(d) Proposed administrative rules.

(e) Notices of public hearings on proposed administrative rules.

(f) Administrative rules filed with the secretary of state.

(g) Emergency rules filed with the secretary of state.

(h) Notice of proposed and adopted agency guidelines.

(i) Other official information considered necessary or appropriate by the office of regulatory reform.

(j) Attorney general opinions.

(k) All of the items listed in section 7(m) after final approval by the certificate of need commission under section 22215 of the public health code, 1978 PA 368, MCL 333.22215.

(2) The office of regulatory reform shall publish a cumulative index for the Michigan register.

(3) The Michigan register shall be available for public subscription at a fee reasonably calculated to cover publication and distribution costs.

(4) If publication of an agency's proposed rule or guideline or an item described in subsection (1)(k) would be unreasonably expensive or lengthy, the office of regulatory reform may publish a brief synopsis of the proposed rule or guideline or item described in subsection (1)(k), including information on how to obtain a complete copy of the proposed rule or guideline or item described in subsection (1)(k) from the agency at no cost.

(5) An agency shall electronically transmit a copy of the proposed rules and notice of public hearing to the office of regulatory reform for publication in the Michigan register.

**4.1203 Michigan register fund; creation; administration; expenditures; disposition of money received from sale of Michigan register and amounts paid by state agencies; use of fund; price of Michigan register; availability of text on internet; copyright or other proprietary interest; fee prohibited; definition.**

Sec. 203.

- (1) The Michigan register fund is created in the state treasury and shall be administered by the office of regulatory reform. The fund shall be expended only as provided in this section.
- (2) The money received from the sale of the Michigan register, along with those amounts paid by state agencies pursuant to section 57 of the administrative procedures act of 1969, 1969 PA 306, MCL 24.257, shall be deposited with the state treasurer and credited to the Michigan register fund.
- (3) The Michigan register fund shall be used to pay the costs of preparing, printing, and distributing the Michigan register.
- (4) The department of management and budget shall sell copies of the Michigan register at a price determined by the office of regulatory reform not to exceed the cost of preparation, printing, and distribution.
- (5) Notwithstanding section 204, beginning January 1, 2001, the office of regulatory reform shall make the text of the Michigan register available to the public on the internet.
- (6) The information described in subsection (5) that is maintained by the office of regulatory reform shall be made available in the shortest feasible time after the information is available. The information described in subsection (5) that is not maintained by the office of regulatory reform shall be made available in the shortest feasible time after it is made available to the office of regulatory reform.
- (7) Subsection (5) does not alter or relinquish any copyright or other proprietary interest or entitlement of this state relating to any of the information made available under subsection (5).
- (8) The office of regulatory reform shall not charge a fee for providing the Michigan register on the internet as provided in subsection (5).
- (9) As used in this section, "Michigan register" means that term as defined in section 5 of the administrative procedures act of 1969, 1969 PA 306, MCL 24.205.

**CITATION TO THE MICHIGAN REGISTER**

The *Michigan Register* is cited by year and issue number. For example, 2001 MR 1 refers to the year of issue (2001) and the issue number (1).

**CLOSING DATES AND PUBLICATION SCHEDULE**

The deadlines for submitting documents to the Office of Regulatory Reinvention for publication in the *Michigan Register* are the first and fifteenth days of each calendar month, unless the submission day falls on a Saturday, Sunday, or legal holiday, in which event the deadline is extended to include the next day which is not a Saturday, Sunday, or legal holiday. Documents filed or received after 5:00 p.m. on the closing date of a filing period will appear in the succeeding issue of the *Michigan Register*.

The Office of Regulatory Reinvention is not responsible for the editing and proofreading of documents submitted for publication.

Documents submitted for publication should be delivered or mailed in an electronic format to the following address: MICHIGAN REGISTER, Office of Regulatory Reinvention, Ottawa Building – Second Floor, 611 W. Ottawa Street, Lansing, MI 48909.

### **RELATIONSHIP TO THE MICHIGAN ADMINISTRATIVE CODE**

The *Michigan Administrative Code* (1979 edition), which contains all permanent administrative rules in effect as of December 1979, was, during the period 1980-83, updated each calendar quarter with the publication of a paperback supplement. An annual supplement contained those permanent rules, which had appeared in the 4 quarterly supplements covering that year.

Quarterly supplements to the Code were discontinued in January 1984, and replaced by the monthly publication of permanent rules and emergency rules in the *Michigan Register*. Annual supplements have included the full text of those permanent rules that appear in the twelve monthly issues of the *Register* during a given calendar year. Emergency rules published in an issue of the *Register* are noted in the annual supplement to the Code.

### **SUBSCRIPTIONS AND DISTRIBUTION**

The *Michigan Register*, a publication of the State of Michigan, is available for public subscription at a cost of \$400.00 per year. Submit subscription requests to: Office of Regulatory Reinvention, Ottawa Building – Second Floor, 611 W. Ottawa Street, Lansing, MI 48909. Checks Payable: State of Michigan. Any questions should be directed to the Office of Regulatory Reinvention (517) 335-8658.

### **INTERNET ACCESS**

The *Michigan Register* can be viewed free of charge on the Internet web site of the Office of Regulatory Reinvention: [www.michigan.gov/orr](http://www.michigan.gov/orr).

Issue 2000-3 and all subsequent editions of the *Michigan Register* can be viewed on the Office of Regulatory Reinvention Internet web site. The electronic version of the *Register* can be navigated using the blue highlighted links found in the Contents section. Clicking on a highlighted title will take the reader to related text, clicking on a highlighted header above the text will return the reader to the Contents section.

Mike Zimmer, Director  
Licensing and Regulatory Affairs

## 2016 PUBLICATION SCHEDULE

Issue No.	Closing Date for Filing or Submission Of Documents (5 p.m.)	Publication Date
1	January 15, 2016	February 1, 2016
2	February 1, 2016	February 15, 2016
3	February 15, 2016	March 1, 2016
4	March 1, 2016	March 15, 2016
5	March 15, 2016	April 1, 2016
6	April 1, 2016	April 15, 2016
7	April 15, 2016	May 1, 2016
8	May 1, 2016	May 15, 2016
9	May 15, 2016	June 1, 2016
10	June 1, 2016	June 15, 2016
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12	July 1, 2016	July 15, 2016
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22	December 1, 2016	December 15, 2016
23	December 15, 2016	January 1, 2017
24	January 1, 2017	January 15, 2017

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**PROPOSED ADMINISTRATIVE RULES,  
NOTICES OF PUBLIC HEARINGS**

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*MCL 24.242(3) states in part:*

*“... the agency shall submit a copy of the notice of public hearing to the Office of Regulatory Reform for publication in the Michigan register. An agency's notice shall be published in the Michigan register before the public hearing and the agency shall file a copy of the notice of public hearing with the Office of Regulatory Reform.”*

*MCL 24.208 states in part:*

*“Sec. 8. (1) The Office of Regulatory Reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:*

\*       \*       \*

*(d) Proposed administrative rules.*

*(e) Notices of public hearings on proposed administrative rules.”*

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**PROPOSED ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

GENERAL INDUSTRY SAFETY STANDARDS

Filed with the Secretary of State on

Draft January 25, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of licensing and regulatory affairs by sections 16 and 21 of 1974 PA 154, **MCL 408.1016 and 408.1021**, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030)

R 408.12101, R 408.12103, R 408.12106, R 408.12107, R 408.12108, R 408.12109, R 408.12110, R 408.12111, R 408.12132, R 408.12136, R 408.12137, R 408.12139, R 408.12143, R 408.12152, R 408.12153, R 408.12154, R 408.12155, R 408.12163, R 408.12164, R 408.12165, R 408.12171, and R 408.12176 of the Michigan Administrative Code are amended, R 408.12102 is rescinded, as follows:

**PART 21. POWERED INDUSTRIAL TRUCKS**

R 408.12101 Scope.

Rule 2101. The purpose of **these rules** ~~this part~~ is to provide, in or about places of employment, minimum safety rules for the care and use of powered industrial trucks and to provide for operator safety and specifications of equipment.

R 408.12102 **Rescinded.** ~~Rescission of OH rule 3225.~~

~~Rule 2102. OH rule 3225, which was incorporated by reference pursuant to section 14 of 1974 PA 154, MCL 408.1014, is rescinded.~~

R 408.12103 Definitions; A to C.

Rule 2103. (1) "Attachment" means a device, other than conventional forks or load backrest extension, mounted permanently or removed on the elevating mechanism of a truck for handling the load. Popular attachments are fork extensions, clamps, rotating devices, side shifters, load stabilizers, rams, and booms.

(2) "Cantilever truck" means a self-loading counter-balanced or non-counterbalanced truck equipped with cantilever load engaging means. (Appendix A. **Figure 1**) ~~A, Fig. 1.~~)

(3) "Capacity" when referring to trucks, means **the following**:

(a) The capacity of a truck equipped with a load carriage and forks, or with attachments, is the maximum weight in pounds, at a specified load center which the truck, based on the strength of its various components and applicable stability, can lift to the maximum elevation of the load engaging means. Alternate capacities may be established at the same specified load center and at less than maximum elevation of the load engaging means.

(b) The capacity of a truck equipped with a platform is the maximum weight in pounds, at a specified load center which the truck, based on the strength of its various components, can lift to the maximum elevation of the load engaging means.

(4) "Carriage" means a support structure for forks or attachment, generally roller mounted, traveling vertically within the mast of a cantilever truck.

(5) "Center-control truck" means a truck in which the operator's control position is located near the longitudinal center of the truck.

(6) "Counterbalanced truck" means a truck equipped with load engaging means wherein all the load during normal transporting is external to the polygon formed by the wheel contacts. (Appendix A, **Figure Fig. 1.**)

#### R 408.12106 Definitions; H to I.

Rule 2106. (1) "High-lift truck" means a self-loading truck equipped with an elevating mechanism designed to permit tiering. Popular types are high-lift fork trucks, high-lift ram trucks, high-lift boom trucks, high-lift clamp trucks, and high-lift platform trucks. (Appendix A, **Figure Fig. 1.**)

(2) "High-lift platform truck" means a self-loading truck equipped with a load platform, intended primarily for transporting and tiering loaded skid platforms. (Appendix A, **Figure Fig. 2.**)

(3) "Industrial crane truck" means a truck intended primarily for pick and carry use in warehousing, yarding, or industrial plant operation over improved or hard surfaced roads and yards, including maintenance within these areas.

(4) "Industrial tractor" means a truck designed primarily to draw 1 or more **non-powered nonpowered** trucks, trailers, or other mobile loads. (Appendix A, **Figure Fig. 5.**)

(5) "Internal combustion engine truck" means a truck in which the power source is a gas, LP gas, gasoline, or diesel type engine.

(6) "Issuing authority" means an employer or his **or her OR HER** designated representative who instructed and trained the operator.

#### R 408.12107 Definitions; L.

Rule 2107. (1) "Liquefied petroleum gas (LP gas)" means a fuel ~~that which~~ is composed predominantly of any of the following hydrocarbons, or mixtures of them: propane, propylene, butanes (normal butane or **iso-butane**), ~~iso-butane~~) and butylenes.

(2) "Load-axle" means the truck axle nearest the load.

(3) "Load backrest extension" means a device extending vertically from the fork carriage frame.

(4) "Load center" means the horizontal longitudinal distance from the intersection of the horizontal load-carrying surfaces and vertical load-engaging faces of the forks, or equivalent load positioning structure, to the center of gravity of the load.

(5) "Load engaging means" means a load handling device attached to a powered industrial truck for the purpose of handling a load.

(6) "Low-lift truck" means a self-loading truck equipped with an elevating mechanism designed to raise the load sufficiently to permit horizontal movement. Popular types are low-lift platform trucks and pallet trucks. (Appendix A, **Figure figure 3**).

(7) "Low-lift platform truck" means a self-loading truck equipped with a load platform intended primarily for transporting loaded skid platforms. (Appendix A, **Figure figure 3**).

R 408.12108 Definitions; M, N.

Rule 2108. (1) "Mast" means a support member providing the guideways permitting vertical movement of the carriage. It is usually constructed in the form of channels or similar sections providing the supporting pathway for the carriage rollers.

(2) "Motorized hand truck" means a truck designed to be controlled by a walking operator and used to lift, tow, carry, **stock, stock** and tier materials. (Appendix A, **Figure figure 4**).

(3) "Motorized hand or rider truck" means a dual purpose truck designed to be controlled by a walking operator or by a riding operator. (Appendix A, **Figure figure 6**).

(4) "Narrow aisle truck" means a self-loading truck primarily intended for right angle stacking in aisles narrower than those normally required by counterbalanced trucks of the same capacity. (Appendix A, **Figure figure 10**).

(5) "Non-elevating truck" means a non-counterbalanced truck designed primarily for burden-carrying and not capable of self-loading.

**R 408.12109** ~~R 408.12109~~ Definitions; O, P.

Rule 2109. (1) "Operator" means an employee who has been trained, tested, and authorized by the present employer to operate a powered industrial truck.

(2) "Order picker truck, high-lift" means a high-lift truck controlled by the operator stationed on a platform movable with the load engaging means and intended for manual stock selection. The truck may be capable of self-loading or tiering or both. (Appendix A, **Figure Fig. 9**).

(3) "Overhead guard" means a framework fitted to a truck over the head of a riding operator.

(4) "Overall lowered mast height" means the maximum vertical dimension from the ground or floor to the extreme top point of the mast with the fork carriage in the fully lowered position and unloaded.

(5) "Pallet truck" means a self-loading low-lift truck equipped with wheeled forks of dimensions to go under a single faced pallet or between the top **and bottom and bottom** boards of a double faced pallet and having wheels capable of lowering into spaces between the bottom boards so as to raise the pallet off the floor for transportation. (Appendix A, **Figure Fig 4**).

(6) "Parking brake" means a device to prevent the movement of a stationary truck.

(7) "Powered industrial truck" or "truck" means a mobile, power driven vehicle used to carry, push, pull, lift, stack, or tier material.

R 408.12110 Definitions; R to U.

Rule 2110. (1) "Reach truck" means a self-loading truck, generally high-lift, having load engaging means mounted so the means can be extended forwardly under control to permit a load to be picked up and deposited in the extended position and transported in the retracted position. (Appendix A, **Figure Fig. 7**.)

(2) "Rough terrain forklift truck" means a wheeled-type truck which is designed primarily as a fork truck that has a vertical mast or pivoted boom, or both, which has variable fixed length reach and which may be equipped with attachments and that is intended for operation on unimproved natural terrain as **well as well**as the disturbed terrain of construction sites. A

machine that is designed primarily for earth-moving, such as a loader or dozer, even though its buckets and blades are replaced with forks or a machine that is designed primarily as an over-the-road truck that has a lifting device, is not a rough terrain forklift truck.

(3) "Self-loading" means the capability of a truck to pick up, carry, set down and, in the case of high-lift types to stack or tier its load without the aid of external means.

(4) "Service brake" means a device designed to bring a moving truck to a halt.

(5) "Side loader" means a self-loading truck, generally high-lift, having load engaging means mounted in such a manner that the means can be extended laterally under control to permit a load to be picked up and deposited in the extended position and transported in the retracted position. (Appendix A, **Figure Fig- 8.**)

(6) "Straddle truck" means a general class of cantilever truck with horizontal structural wheel supported members extending forward from the main body of the truck, generally high-lift, for picking up and hauling loads between its outrigger arms. (Appendix A, **Figure Fig- 10.**)

(7) "Tire" means a tire which may be standard solid, cushion solid, pneumatic or solid pneumatic style.

(8) "Tiering" means a process of placing a load on or above another load.

(9) "Unattended truck" means a truck which is beyond the vision or more than 25 feet from the operator, whichever is less.

R 408.12111. **Adopted and referenced** ~~Adoption of standards.~~

Rule 2111. (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 **these rules.** ~~this rule.~~

(2) A powered industrial truck manufactured after January 15, 1971, but before 1993, shall be certified by the manufacturer that the truck covered by this part has been produced according to the mandatory requirements of sections 3 and 4, except subsection 421 of section 4, of the **American National Standards Institute Standard ANSI standard B56.1 B56.1-1969 "Safety Standards For Powered Industrial Trucks," 1969 edition.** Cost: \$60.00.

(3) A low lift or high lift truck manufactured after **April 26, 2000** ~~the effective date of this part~~ shall be in compliance with the requirements of the ANSI standard **B56.1 B56.1-1993 "Safety Standard For Low Lift And High Lift Trucks," 1993 edition,** except as noted in subrule (1) of this rule. Cost: \$61.00.

(4) A rough terrain fork lift truck manufactured after **April 26, 2000** ~~the effective date of this part~~ shall be in compliance with the requirements of ANSI standard **B56.1 B56.1-1993 "Rough Terrain Fork Lift Trucks," 1993 edition.** Cost: \$68.00.

(5) A industrial crane truck manufactured after **April 26, 2000** ~~the effective date of this part~~ shall be in compliance with ANSI standard **B56.7 B56.7-1987 "Safety Standard For Industrial Crane Trucks," 1987 edition.** Cost: \$60.00.

(6) A tow tractor manufactured after **April 26, 2000** ~~the effective date of this part~~ shall be in compliance with ANSI standard **B56.92 B56.9-1992 "Operator Controlled Industrial Tow Tractors," 1992 edition.** Cost: \$56.00.

(7) A manually propelled high lift industrial truck manufactured after **April 26, 2000** ~~the effective date of this part~~ shall be in compliance with ANSI standard **B56.10 B56.10-1992 "Manually Propelled High Lift Industrial Trucks," 1992 edition.** Cost: \$105.00.

**(8) National Fire Protection Agency Standard NFPA 505 “Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations,” 1996 edition. Cost: \$27.00.**

(9) The standards adopted in **these rules** ~~subrules (2) to (7) of this rule~~ are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA **Regulatory Services Standards** Section, 7150 Harris Drive, ~~P.O. Box 30643~~, Lansing, Michigan, 48909-8143.

**(10) 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.**

**(11) 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, 530 West Allegan Street, P. O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: [www.michigan.gov/mioshastandards](http://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 1 “General Provisions,” R 408.10001 to R 408.10098.**

**(b) General Industry Safety Standard Part 33 “Personal Protective Equipment” R 408.13301 to R 408.13398.**

**(c) General Industry Safety Standard Part 56 “Storage and Handling of Liquefied Petroleum Gases,” R 408.15601 to R 408.15601**

**(d) General Industry Safety Standard Part 75 “Flammable Liquids,” R 408.17501 to R 408.17502.**

**(e) General Industry Safety Standard Part 92 “Hazard Communication,” R 408.19201 to R 408.19204.**

**(f) Occupational Health Standard Part 433 “Personal Protective Equipment,” R 325.60001 to R 325.60013.**

**(g) Occupational Health Standard Part 472 “Medical Services and First Aid,” R 325.47201 to R 325.47201.**

R 408.12132 Modifications.

Rule 2132. (1) ~~An~~ ~~The~~ employer shall not install an additional counterweight without written assurance from the manufacturer of the truck that the truck will meet the stability requirements of ANSI standard B56.1 **“Safety Standard for Low Lift and High Lift Trucks” 1993 edition, as adopted in R 408.12111.** ~~–1993 “safety standard for low lift and high lift trucks.”~~

(2) An employer shall not make other modifications affecting capacity or safety without written approval of the manufacturer or an engineer **knowledgeable on** ~~knowledgeable on~~ the subject. Capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly.

(3) If the truck is equipped with front end attachments, the name plate shall be marked to show all of the following:

(a) Identification of the attachments.

(b) The approximate weight of the truck and attachment.

(c) The load capacity of the truck and attachment combination at maximum elevation of the load engaging means with load laterally centered.

R 408.12136. Operator platforms.

Rule 2136. (1) An end control, reach, narrow aisle, order picker high-lift, order picking and stacking, and motorized hand rider truck shall be equipped with a platform extended beyond the operator's position, and shall withstand a compression load equal to the weight of the loaded vehicle applied along ~~the longitudinal~~ ~~the longitudinal~~ axis of the truck with the outermost projection of the platform against a flat vertical surface. The back protective guard where provided shall permit rapid and unobstructed ingress or egress from the platform.

(2) On a double end control baggage type truck or a truck ~~that which~~ may be transported on short elevators, means shall be provided to prevent accidental folding of the operator's folding platform.

(3) All of the following apply to an order picker truck, high-lift:

(a) A removable operator platform shall be provided with a device that attaches the platform to the lifting means.

(b) The operator platform shall be equipped with side guard rails.

(c) When the platform is elevated, the horizontal travel speed of the truck shall be automatically reduced to a degree necessary to maintain stability under maximum braking load and turning.

(d) Subdivisions (a) and (c) of this subrule pertain only to a truck manufactured after the effective date of ~~this part.~~ (Note: ~~The effective date was~~ January 15, 1971. )

R 408.12137 Steering control.

Rule 2137. (1) An employer shall assure that, except on a motorized hand and motorized hand or rider truck, the steering control of a powered industrial truck is contained within the outlines of the planes of the truck, or guarded to prevent injury to the operator during movement of the controls when passing ~~an obstacle~~ ~~an obstacle~~ such as a wall, post, equipment, box, or other truck.

(2) An employer shall assure that on a motorized hand and motorized hand or rider truck, the steering handle is provided with a guard or device to protect the operator's hands from injury when passing an obstacle such as a wall, post, equipment, box, or another truck.

R 408.12139 Load handling controls; direction of motion and guards.

Rule 2139. (1) A lever or handle type control, including a toggle switch, shall be in accordance with **Table 1 “Direction of Motion.”** ~~the following table:~~

~~Figure for 408.12139~~

(2) Moving parts that represent a hazard from the operator's position shall be protected by suitable guards.

<b>TABLE 1 DIRECTION OF MOTION</b>		
<b>Function</b>	<b>Of Load Or Equipment</b>	<b>Of the Operator’s Hand When Actuating The Control Handle While Facing The Load</b>
<b>Hoist</b>	<b>up</b>	<b>rearward or up</b>
	<b>down</b>	<b>forward or down</b>
<b>Tilt</b>	<b>rearward</b>	<b>*rearward or up</b>
	<b>forward</b>	<b>forward or down</b>
<b>Reach</b>	<b>retract</b>	<b>*rearward</b>
	<b>extend</b>	<b>forward</b>
<b>Clamp</b>	<b>clamp</b>	<b>rearward or up</b>
	<b>release</b>	<b>forward or down</b>
<b>Side Shift</b>	<b>right</b>	<b>rearward or up</b>
	<b>left</b>	<b>forward or down</b>
<b>Rotate Laterally</b>	<b>clockwise</b>	<b>rearward or up</b>
	<b>counterclockwise</b>	<b>forward or down</b>
<b>Rotate Longitudinally</b>	<b>rearward</b>	<b>*rearward or up</b>
	<b>forward</b>	<b>forward or down</b>
<p><b>*The sense of rotation of the control handle is intended to be in the same direction as the desired motion of the mast or load.</b></p>		

**TABLE 1**  
Direction of Motion

Function	Of load or equipment	Of the operator's hand when actuating the control handle while facing the load
Hoist	up	rearward or up
	down	forward or down
Tilt	rearward	*rearward or up
	forward	forward or down
Reach	retract	*rearward
	extend	forward
Clamp	clamp	rearward or up
	release	forward or down
Side Shift	right	rearward or up
	left	forward or down
Rotate Laterally	clockwise	rearward or up
	counterclockwise	forward or down
Rotate Longitudinally	rearward	*rearward or up
	forward	forward or down

\*The sense of rotation of the control handle is intended to be in the same direction as the desired motion of the mast or load.

R 408.12143 Overhead guard on high-lift truck.

Rule 2143. (1) Except as provided in subrule (2) **of this rule**, a high-lift truck shall be fitted with an overhead guard. The overhead guard shall be capable of supporting a uniformly distributed static load in accordance with the following table. The overhead guard is not intended to withstand the impact of a falling capacity load.

(2) Table 2 “**Overhead Guard Test**” reads as follows:

<b>TABLE 2</b> <b>OVERHEAD GUARD TEST</b>	
<b>Truck Capacity Rating (in pounds)</b>	<b>Static Test Load as a% of Truck capacity Rating</b>
<b>Through 5,000</b>	<b>200% of truck rating</b>
<b>Over 5,000 through 10,000</b>	<b>10,000 pounds plus 100% of increment rating over 5,000 pounds</b>
<b>Over 10,000 through 20,000</b>	<b>15,000 pounds plus 50% increment rating over 10,000 pounds</b>

TABLE 2

~~Overhead Guard Test~~

~~Truck Capacity Static Test Load as Rating a % of Truck (in pounds) Capacity Rating~~

~~Through 5,000 200% of truck rating Over 5,000 through 10,000 10,000 pounds plus 100% of increment rating over 5,000 pounds Over 10,000 through 20,000 15,000 pounds plus 50% increment rating over 10,000 pounds~~

(3) An overhead guard may be omitted from a high-lift truck if the truck is never used to lift or raise material or objects more than 72 inches measured from the floor to the forks and if all of the following are complied with:

(a) The load is limited to a single rack or pallet.

(b) The truck is not operated in an area where material or objects are stacked above the operator's head.

(c) A sign with lettering not less than 1/2-inch high is securely attached in the area of the operator's controls stating, "This truck shall not be used to lift materials above the operator's head or in an area where materials are stacked above the operator's head."

(4) A low-lift rider truck which is used to lift material stacked higher than the head of the operator, and which would likely vibrate and fall back onto the operator, shall be provided with an overhead guard.

(5) The overhead guard shall be capable of withstanding the impact of a 100- pound solid hardwood cube, or equivalent, dropped a distance of 5 feet 10 times, without failure or without permanent deflection exceeding 3/4 inch.

(6) The overhead guard shall be constructed in a manner that does not interfere with visibility. Openings in the top shall not exceed 6 inches in 1 of the 2 dimensions, width or length. The guard shall be large enough to extend over the operator under all normal circumstances of truck operation, including forward tilt.

(7) A fork truck equipped with a single-tilt cylinder shall be made to avoid injury to the operator by the overhead guard resulting from failure of this cylinder or associated parts.

(8) On a truck where the operator is seated, a vertical clearance of not less than 39 inches should be maintained from the point of maximum depression of the seat under the operator to the underside of the section of the overhead guard under which the operator's head moves during normal operation.

(9) On a powered industrial truck where the operator stands on a platform, a vertical clearance of not less than 74 inches should be maintained from the platform to the underside of the section of the overhead guard under which the operator's head moves during normal operation.

(10) Where head room conditions limit the overall lowered height of the truck, a normal overhead guard height may be reduced.

(11) An overhead guard is intended to offer protection from the impact of small packages, boxes, and bagged material representative of the job application, but not to withstand the impact of a falling capacity load.

R 408.12152 Training.

Rule 2152. (1) An employer shall provide training to the employee before the employee's assignment as an operator of a powered industrial truck. Instruction shall include all of the following:

(a) Capacities of the equipment and attachments.

- (b) Purpose, use, and limitations of controls.
- (c) How to make daily checks.
- (d) Practice and operating assigned vehicles through the mechanical functions necessary to perform the required job.
- (e) **The requirements contained in R 408.12171 to R 408.2193.** ~~State safety standard rules 2171 to 2193 of Part 21 "powered industrial trucks," being R 408.12171 to R 408.12193 of the Michigan Administrative Code.~~

(f) Hazards associated with exhaust gases produced by fossil fuel powered industrial trucks **such as** ~~(e.g. carbon monoxide, or components of diesel exhaust )~~, and hazards associated with the handling of electrolyte chemicals used for battery operated trucks **such as** ~~(e.g. sulphuric acid )~~, shall be provided in accordance with **General Industry Safety Standard Part 92 "Hazard Communication," as referenced in R 408.12111.** ~~the Michigan Right To Know Law, "hazards communications" standards 29 C.F.R. §1910.1200 as adopted by R 408.19202 and R 325.77002.~~

(2) Training shall consist of a combination of formal instruction **such as** ~~(e.g. lecture, discussion, interactive computer learning, videotape, written material )~~, practical training, and testing of the operator's performance in the workplace as required in R 408.12153.

(3) **An employer shall provide refresher** ~~Refresher~~ training in relevant topics ~~shall be provided~~ to an operator under any of the following conditions:

- (a) An operator has been observed to operate the vehicle in an unsafe manner.
  - (b) An operator has been involved in an accident or a near-miss incident.
  - (c) An operator has received an evaluation that reveals that the operator is not operating the truck safely.
  - (d) An operator is assigned to a different type of truck.
  - (e) A condition in the workplace changes that could affect safe operation of the truck.
- (4) An evaluation of each operator's performance shall be conducted before renewal of a truck operator permit. An individual who is authorized by the employer and who has the knowledge, training, and experience to train and evaluate the competence of the operator shall provide training and evaluation.

#### R 408.12153 Testing.

Rule 2153. (1) An employer shall test an employee before authorizing the employee to operate a powered industrial truck, except a motorized hand truck. The test shall check the employees **on the following:**

- (a) Operating ability.
- (b) Knowledge of the equipment.
- (c) Knowledge of **the requirements contained in R 408.12171 to R 408.12193.** ~~state safety standard rules 2171 of Part 21. Powered Industrial Trucks, being R 408.12171 to R 408.12193 of the Michigan Administrative Code.~~
- (d) Knowledge of daily checks.

(2) **An employer shall provide for a** ~~A~~-performance test ~~shall be given~~ to determine whether the employee can operate the assigned powered industrial truck through the functions necessary to perform the required work.

(3) An employee who has a valid permit to operate a powered industrial truck issued by another employer may be tested as prescribed in this rule without meeting the training requirements of R 408.12152.

#### R 408.12154. Permits.

Rule 2154. (1) An employer shall provide the employee with a permit to operate a powered industrial truck only after meeting the requirements prescribed in R 408.12151, R 408.12152, and R 408.12153. A permit is optional for operators of motorized hand low lift trucks.

(2) An employee being trained is exempt from the permit requirement **of subrule (1) of this rule** for a period of not more than 30 days, provided the employee is under the supervision of an individual who is authorized by the employer and who has the knowledge, training, and experience to train operators and to evaluate their competence, and that the training period does not endanger the trainee or other employees.

(3) A permit shall be carried by the operator or be available upon request by a department representative at all times during working hours.

(4) A permit shall indicate the type of truck an operator has been trained on and is qualified to operate.

(5) A permit to operate a powered industrial truck ~~is shall be~~ valid only with the employer who issued the permit, and the permit shall be issued for a period of not more than 3 years. ~~and shall be consistent with subrule (2) of R 408.12151.~~ An employee ~~who is exempt under subrule (4) of R 408.12151~~ may continue to operate a powered industrial truck if the employee's handicaps or inabilities do not prove detrimental to his or her task.

(6) A permit shall contain **all of** the following information (see sample permit):

(a) Firm name.

(b) Operator's name.

(c) Operator I.D. number, if any.

(d) Name of issuing authority.

(e) Type of truck authorized to operate.

(f) Operator restrictions, if any. The permit shall state the nature of the restriction.

(g) Date issued.

(h) Date expiring.

(7) A sample permit is set forth as follows:

Figure for ~~408.12154~~

**SAMPLE PERMIT**

**INDUSTRIAL TRUCK OPERATOR PERMIT**

*(Insert Firm Name)*

**Operator's Name:** \_\_\_\_\_

**Operator's Number:** \_\_\_\_\_

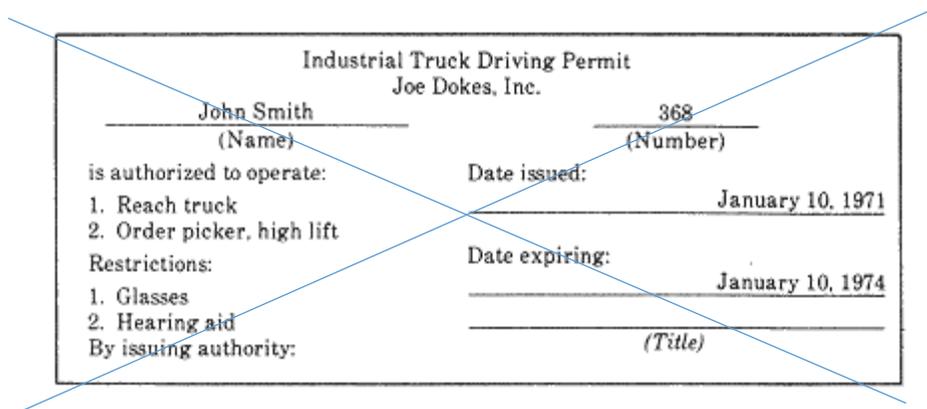
**Is Authorized To Operate:** \_\_\_\_\_  
*(Insert Type of Truck(s) Authorized)*

**Restrictions:** \_\_\_\_\_  
*(Explanation of Restrictions)*

**Date Issued:** \_\_\_\_\_  
*(Month – Day – Year)*

**Date Expiring:** \_\_\_\_\_  
*(Month – Day – Year)*

**By Issuing Authority:** \_\_\_\_\_  
*Title*



R 408.12155 Restriction of use.

Rule 2155. (4) A powered industrial truck used in an environment containing the following substances shall be equipped as prescribed in **NFPA standard 505 “Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations,” 1996 edition, as adopted in R 408.12111.** ~~the National Fire Protection Association standard, 505-1996, “Type Designations, Areas Of Use, Conversions, Maintenance, And Operation Of Powered Industrial Trucks,” incorporated herein by reference:~~

(a) Gases or vapors, such as, but not limited to, acetylene, hydrogen, oxygen, ether, gasoline, naphtha, or acetone, which may be present in quantities sufficient to produce an explosive or ignitable mixture.

(b) Combustible mixtures of dusts such as, but not limited to, metal dust, coal dust, coke dust, grain dust, flour dust, or organic dust.

(c) Ignitable fibres such as, but not limited to, baled waste, cocoa fibre, cotton, excelsior, kapok, or oakum.

~~(2) The standard is available for inspection at the Lansing office of the Department of Licensing and Regulatory Affairs. This standard may be purchased from the National Fire Protection Association, 11 Tracy Drive, Avon, Massachusetts, 02322, telephone number: 1-800-344-3555 and web site www.nfpa.org, at a cost as of the time of adoption of this rule of \$27.00, or from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.~~

R 408.12163 Fuel.

Rule 2163. (1) An employer shall provide safety fuel cans where trucks are refueled with gasoline at other than a gas pump area.

(2) An employer shall provide a special area for refueling that is not less than 25 feet from a source of open flame or spark and the area shall be posted to this effect.

(3) Use and storage of LP gas shall be as specified by ~~29 C.F.R. '1910.110, “Storage And Handling Of Liquefied Petroleum Gases,” which was adopted by reference in General Industry Safety Standard Part 56 “Storage and Handling of Liquefied Petroleum Gases,” as referenced in R 408.12111. R-408.15601 et seq.~~ This standard is available from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.

(4) Handling and storage of fuel, such as gasoline and diesel fuel, shall be as prescribed by ~~29 C.F.R. '1910.106, “Flammable And Combustible Liquids,” which was adopted by reference in General Industry Safety Standard Part 75 “Flammable and Combustible Liquids,” as referenced in R 408.12111. R-408.17501 et seq.~~ This standard is available from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.

(5) Smoking while refueling is prohibited.

(6) Fuel level shall not be checked by use of an open flame.

R 408.12164 Electric trucks.

Rule 2164. (1) Where electric trucks are used, an employer shall provide a designated area for battery changing, charging, or both, which shall be performed by a trained and authorized employee.

(2) **An employer shall ensure that provisions are** ~~Provisions shall be~~ made in a battery charging area where batteries are removed from the truck for flushing and neutralization of spillage, for fire protection, and for air movement sufficient to disperse fumes from gassing batteries.

(3) Smoking and other sources of ignition is prohibited in ~~these~~ areas.

(4) An employer shall assure that an employee ~~is shall be~~ trained to position the truck and apply the brake before changing or charging a battery and to position and secure a reinstalled battery before releasing the truck for use.

(5) Material handling equipment, such as, but not limited to, a conveyor or overhead hoist, shall be used for removing and replacing a battery. A spreader bar or an equivalent device shall be used with any overhead battery hoist so that the lifting stresses are vertical. A chain type powered battery hoist shall have a container to accumulate the excess lifting chain. When a hand hoist is used, an uncovered battery shall be covered to prevent the hand chain from shorting on cell connectors or terminals. Tools and other metallic objects shall be kept away from the terminals.

(6) When mixing electrolyte for a battery, an employer shall ensure the use of a carboy tilter or siphon for handling electrolyte. Acid concentrate shall **be poured** ~~be poured~~ into water; water shall not be poured into acid concentrate.

(7) The following apply to charging a battery:

(a) The vent cap shall be kept in place and functioning.

(b) The battery or compartment covers where provided shall be kept open to dissipate heat and gases.

(8) The electrolyte level shall not be checked with an open flame.

(9) Where there is a potential for employee exposure to injurious corrosive electrolyte solutions (e.g. sulfuric acid) associated with battery powered industrial trucks, the employer shall provide both of the following:

(a) Personal protective equipment in accordance with **General Industry Safety Standard Part 33 “Personal Protective Equipment” and Occupational Health Standard Part 433 “Personal Protective Equipment,” as referenced in R 408.12111.** ~~occupational health part 433, R 325.60001 et seq., “personal protective equipment” or general industry part 33, R 408.13301 et seq., “personal protective equipment”.~~

(b) Suitable facilities for quick drenching or flushing of eyes and body within the work area for immediate emergency use in accordance with **Occupational Health Standard Part 472 “Medical Services and First Aid,” as referenced in R 408.12111.** ~~occupational health part 440, O.H. 4401 “medical services and first aid”.~~

R 408.12165 Dockboards and plates.

Rule 2165. (1) An employer shall provide dockboards and plates designed to carry the load imposed on them. The carrying capacity shall be marked on a dockboard or plate purchased after **April 17, 1979.** ~~the effective date of this part.~~

(2) The dockboard or plate shall be secured in **position** ~~position~~, either by being anchored or equipped with a device which will prevent its slipping out of position.

(3) Hand holds, or other effective means, shall be provided to permit safe handling. Where a fork truck is used, fork loops, pockets, or lugs shall be provided for safe handling.

(4) A dockboard or plate shall have a slip-resistant surface, such ~~as, as~~ but not limited ~~to, to~~ a tread plate, designed to reduce the possibility of slipping by an employee or truck.

(5) A dockboard or plate shall be designed and maintained so the end edges will have a sufficient contact with the dock or loading platform and the carrier to prevent the dockboard or plate from rocking or sliding out of position.

(6) A portable dockboard or plate used by a powered industrial truck to bridge an opening in excess of 18 inches shall have curbs. The height of the curb on a dockboard or plate used by a powered industrial truck with solid or cushion tires shall be not less than 15% of the diameter of the largest tire of the truck, however, the maximum curb height need not exceed 3 inches.

## EMPLOYEE RESPONSIBILITIES

### R 408.12171. Daily checks.

Rule 2171. (1) At the start of each shift, the operator of a powered industrial truck or a qualified employee shall perform daily checks of the equipment as required by the employer. See **Appendix** ~~appendix~~ B for suggested inspection checklist.

(2) An employer shall ensure that any defects that would affect the safe operation of the equipment ~~are shall be~~ repaired before use.

(3) An operator shall promptly report any defect on the powered industrial truck to the employer.

### R 408.12176. Loading trucks, trailers, and railcars.

Rule 2176. (1) An employer shall ensure that a highway truck and trailer ~~are shall not be~~ boarded by a powered industrial truck before the highway truck and trailer has its brakes set and not less than 2 wheels blocked or be restrained by other mechanical means installed in a manner that will hold the trailer from movement.

(2) An employer shall ensure that wheel stops, hand brakes, or other approved positive protection to prevent railroad cars from moving during loading ~~or unloading or unloading~~ operations are provided, and before and while dockboards or bridge plates are in position.

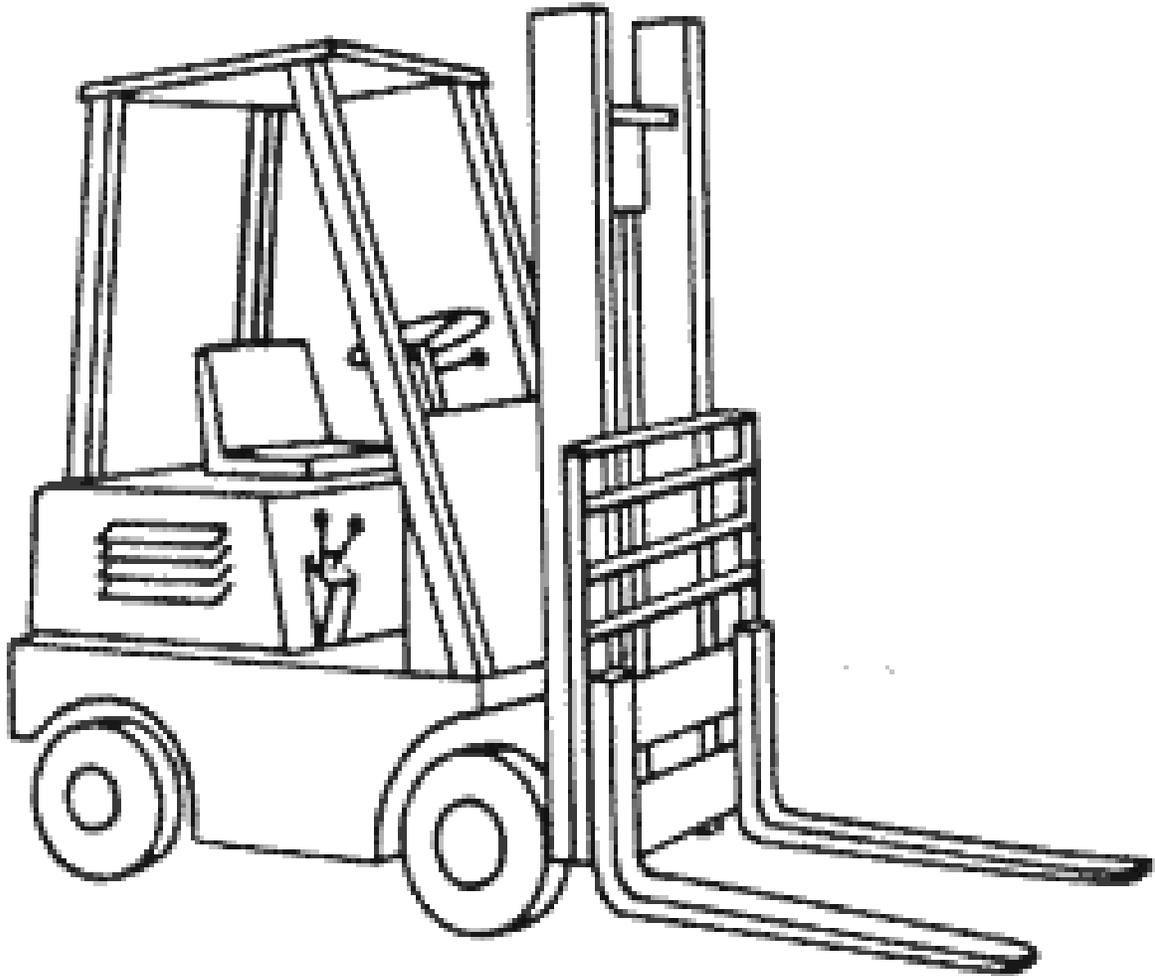
(3) **An employer shall ensure that provisions are** ~~Provisions shall be~~ made to isolate rail cars during switching operations as required by **General Industry Safety Standard Part 1** **“General Provisions,”** as referenced in R 408.12111. ~~R 408.10026, “general provisions.”~~

(4) An employer shall ensure that the landing gear of all semi-trailers are visually inspected immediately before the trailer is uncoupled from the tractor to assure ability of the landing gear to support the imposed load.

(5) A semitrailer less than 30 feet in length, when not coupled to a tractor and being loaded or unloaded with a powered industrial truck, shall be provided a support capable of sustaining the load at the front.

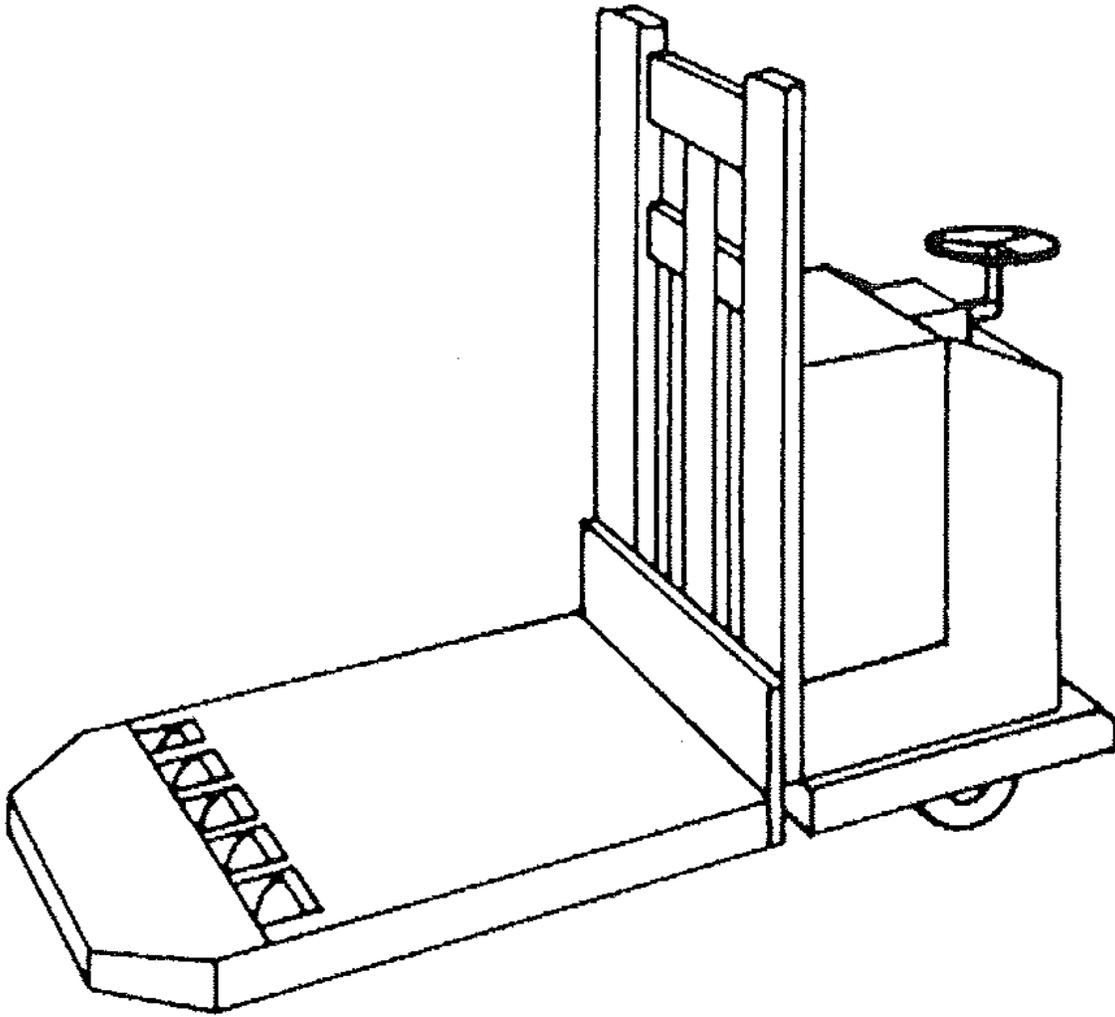
(6) An employer shall ensure that the flooring of trucks, trailers, and railroad cars are checked for breaks and weakness before they are driven onto.

**APPENDIX A  
TYPES OF TRUCKS**



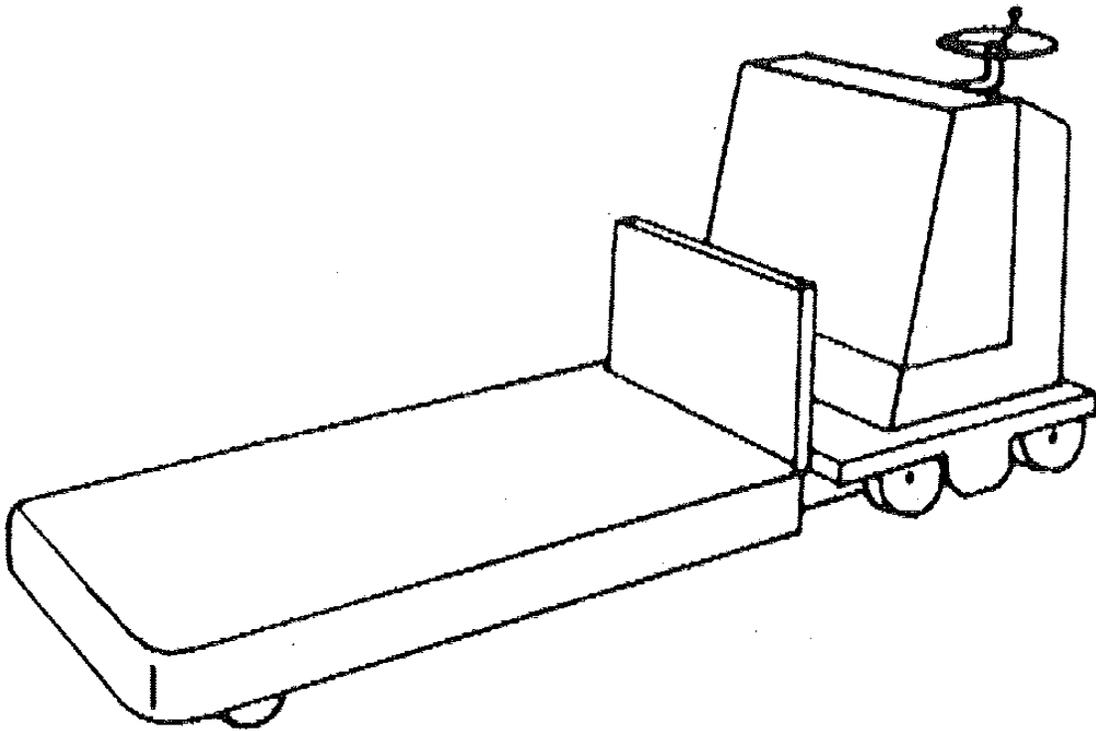
**FIGURE 1**

- **High-Lift Truck**
- **Counterbalanced Truck**
- **Cantilever Truck**
- **Rider Truck**
- **Fork Lift Truck**



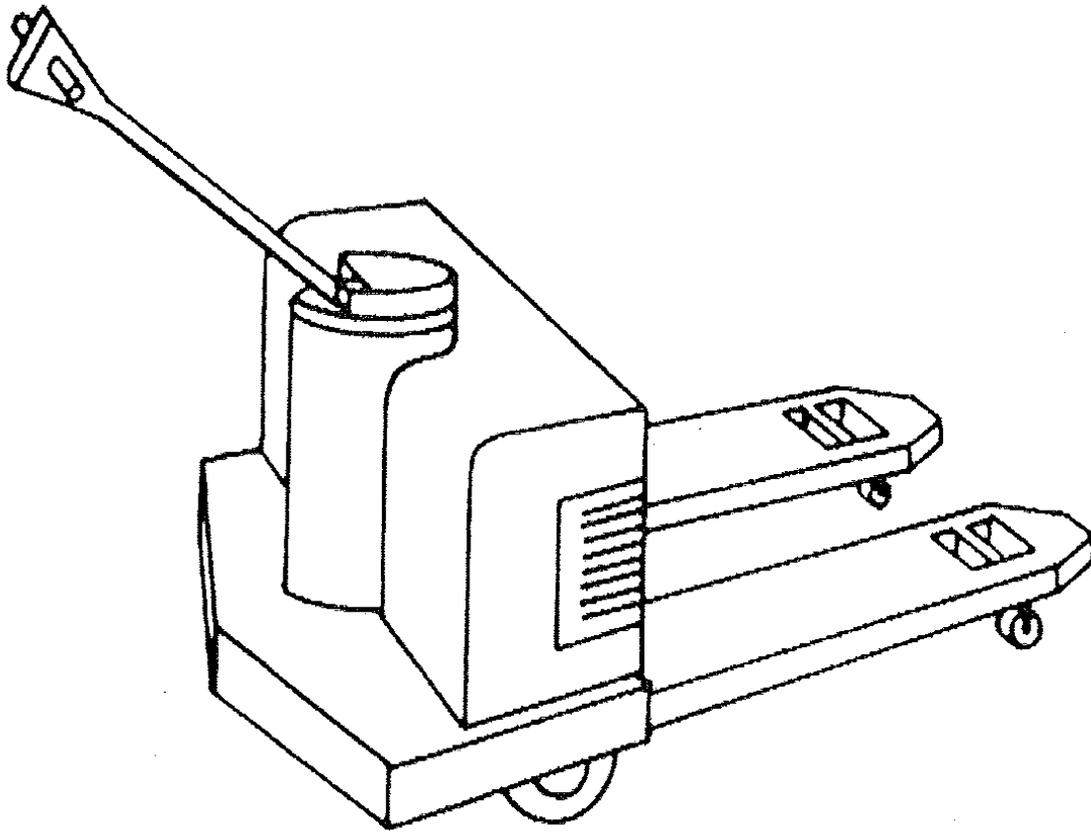
**FIGURE 2**

- **High-Lift Truck**
- **High-Lift Platform Truck**



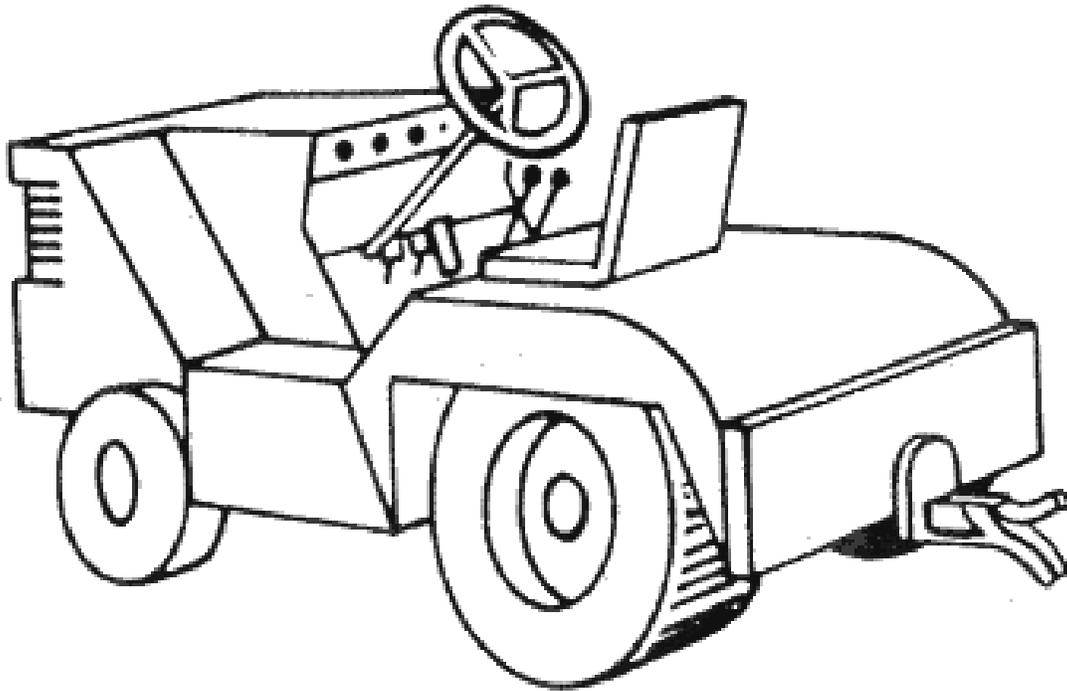
**FIGURE 3**

- Low-Lift Truck
- Low-Lift Platform Truck

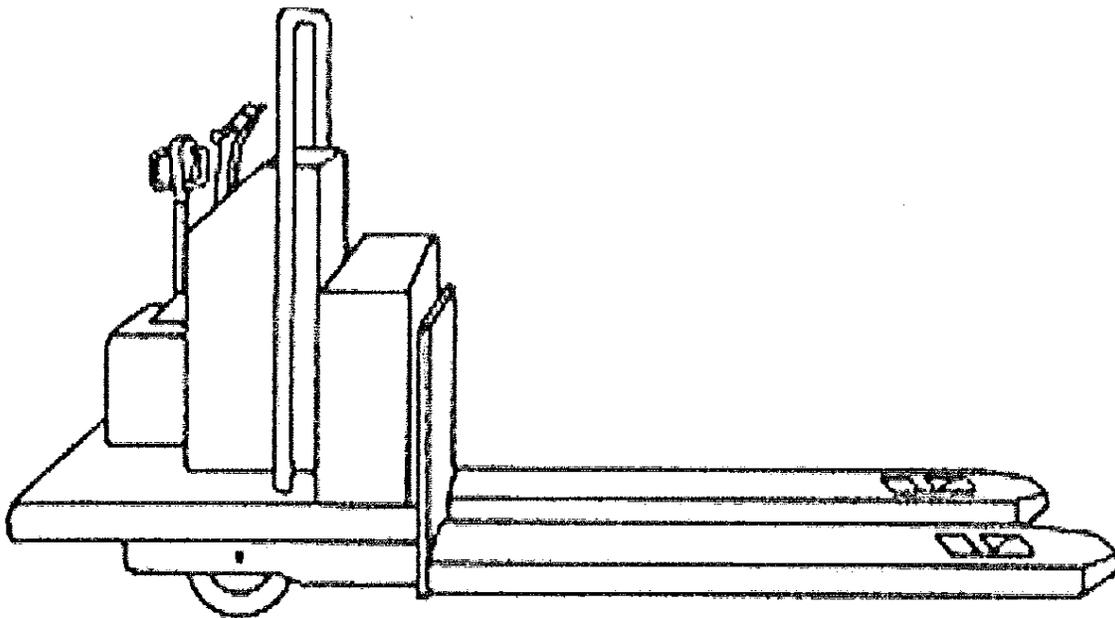


**FIGURE 4**

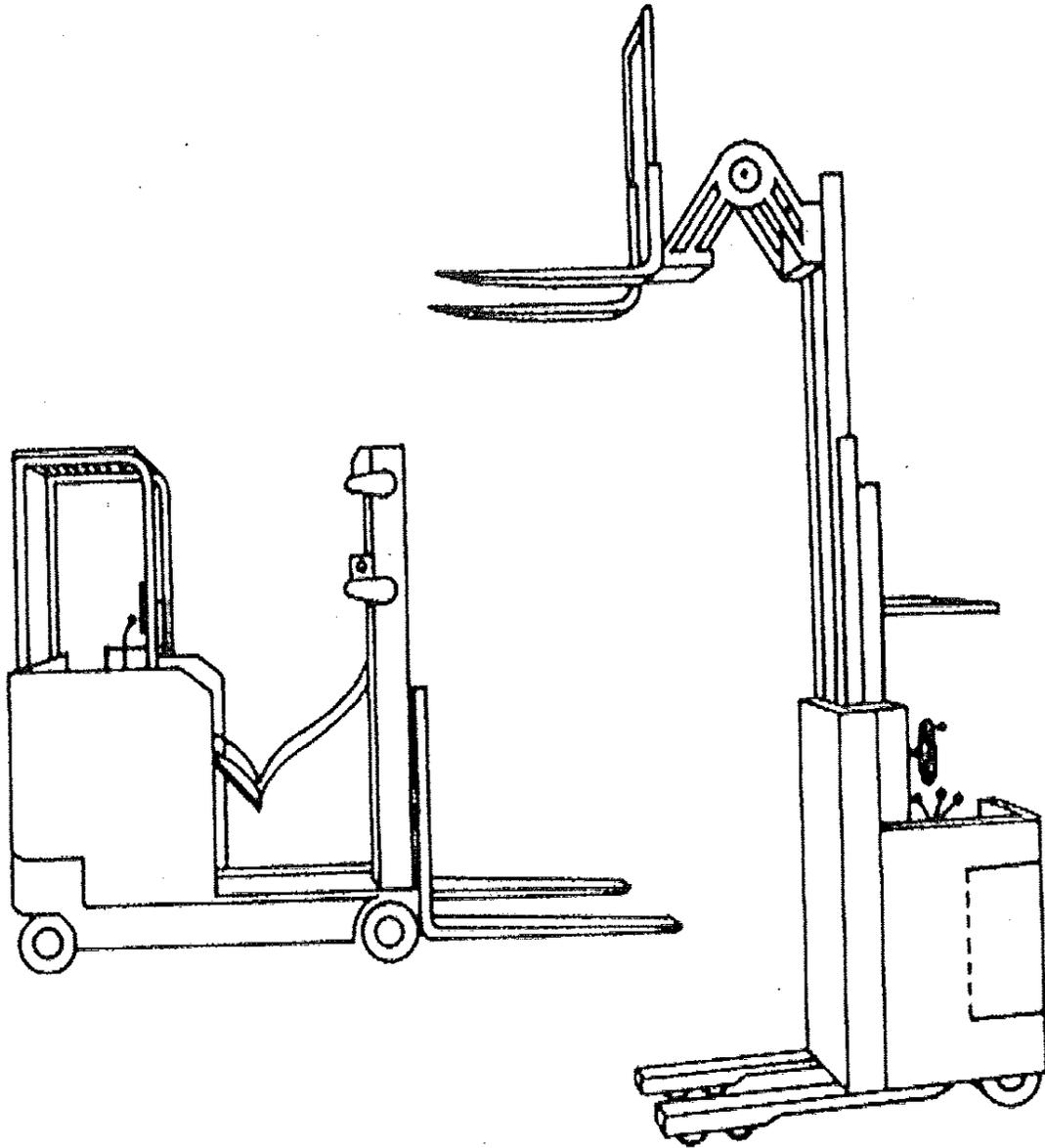
- **Motorized Hand Truck**
- **Pallet Truck**



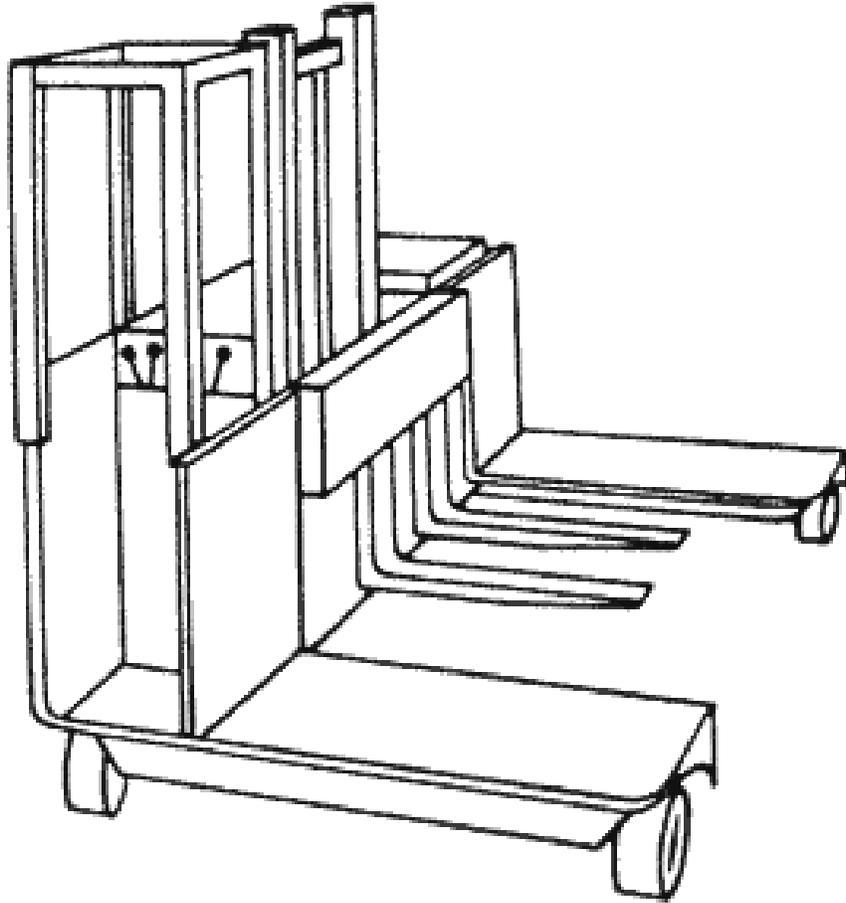
**FIGURE 5**  
• Industrial Tractor



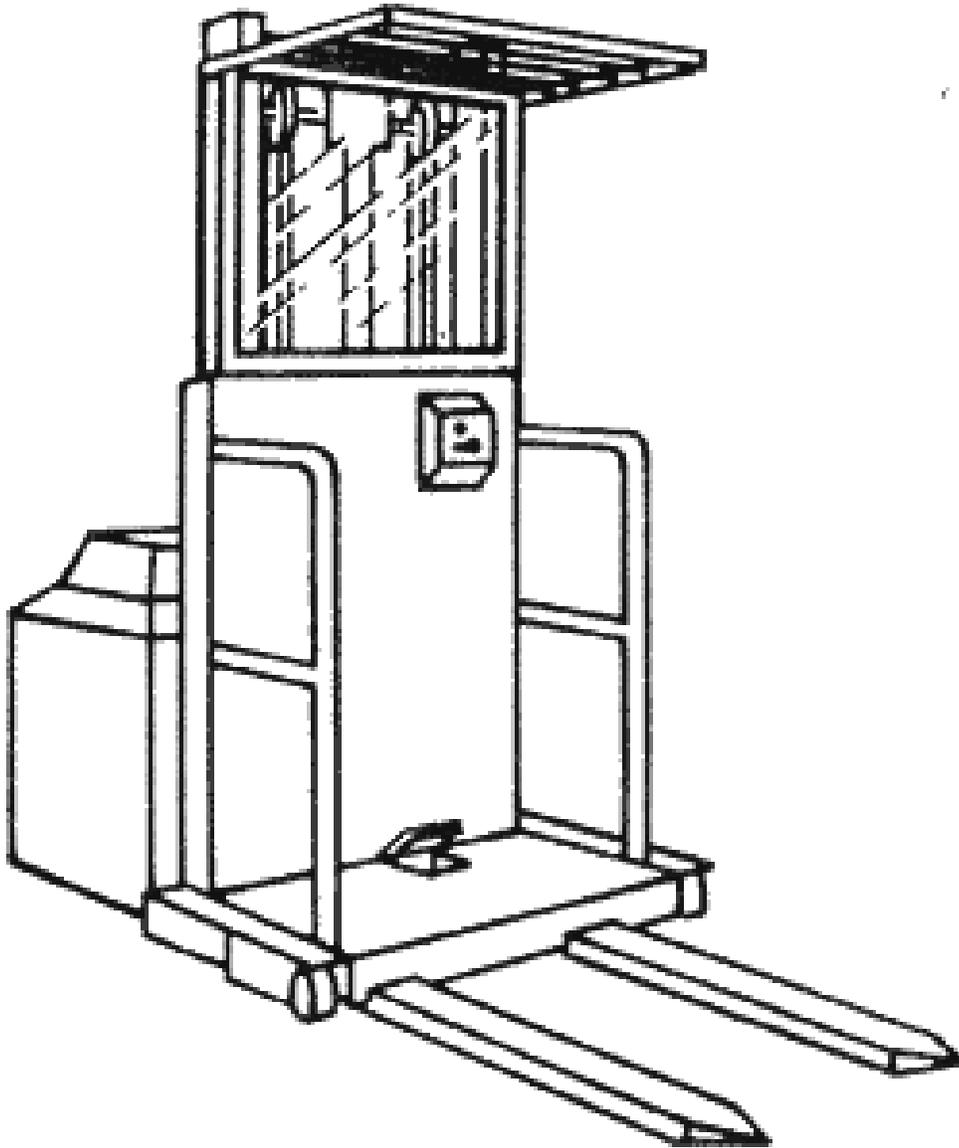
**FIGURE 6**  
• Motorized Hand/Rider Truck



**FIGURE 7**  
• Reach Truck

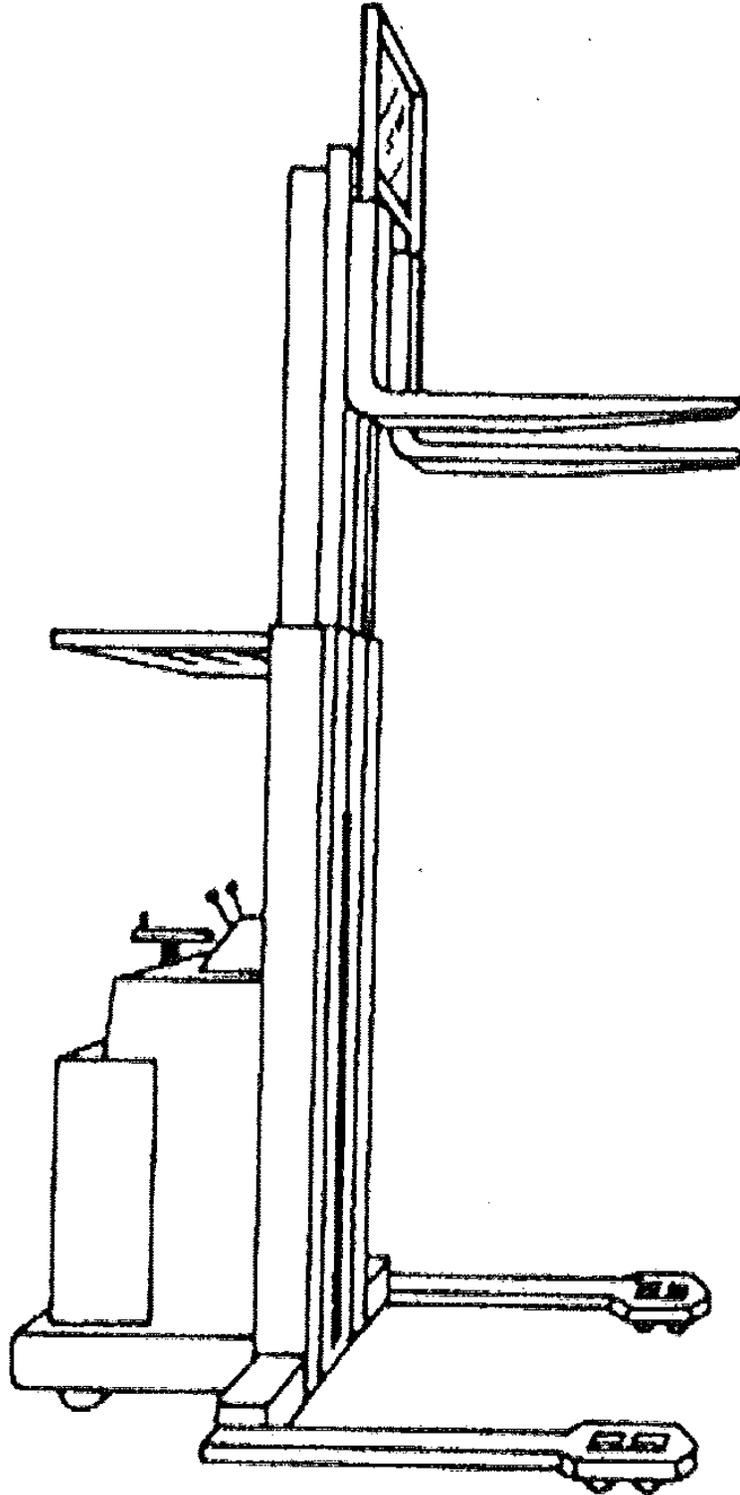


**FIGURE 8**  
• Side-Loader Truck



**FIGURE 9**

- **Order Picker Truck High Lift**



**FIGURE 10**

- **Narrow-Aisle Truck**
- **Straddle Truck**

**APPENDIX  
TYPES OF TRUCKS**

Figure for 408.12193 (1 of 5)

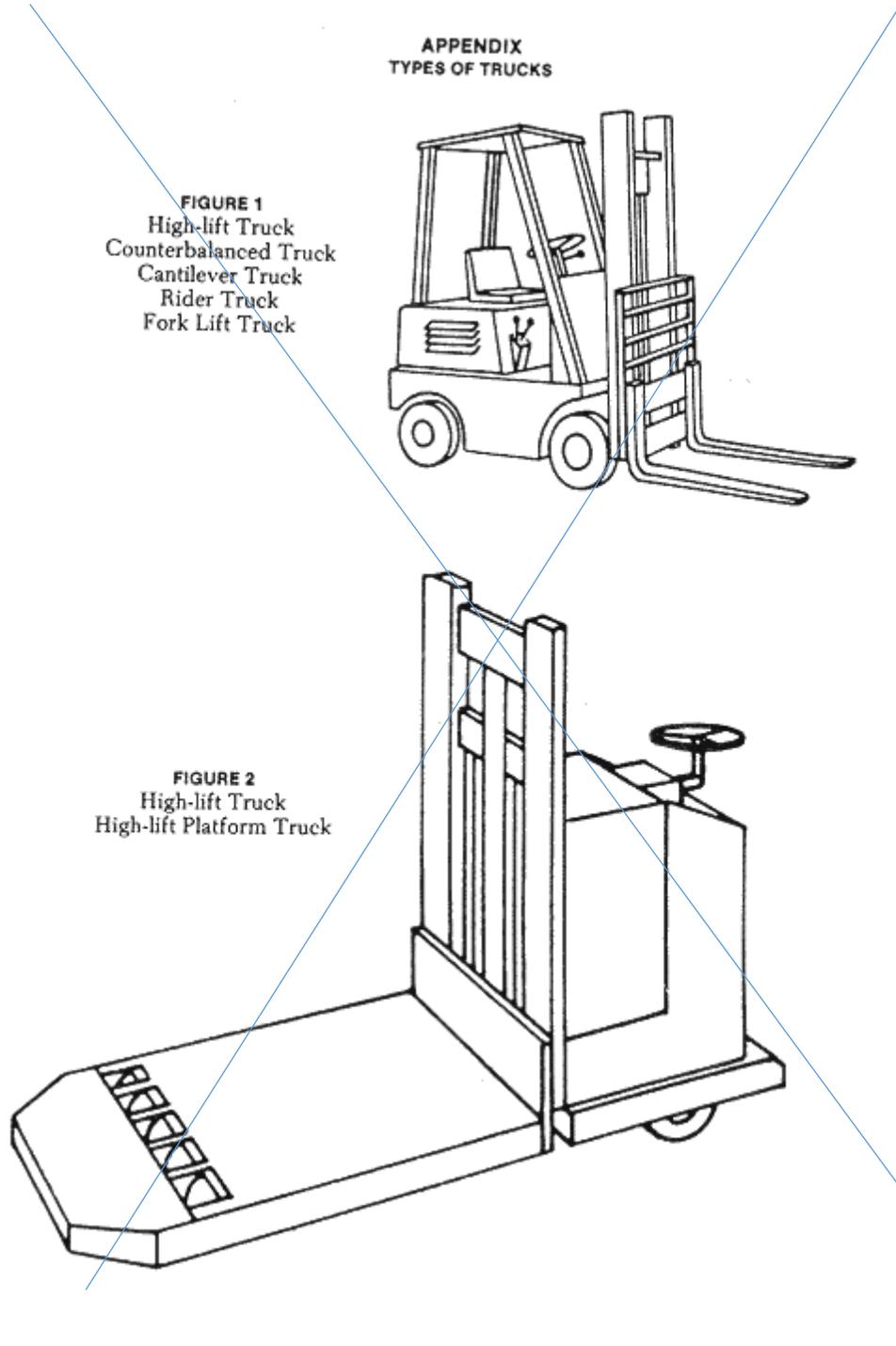
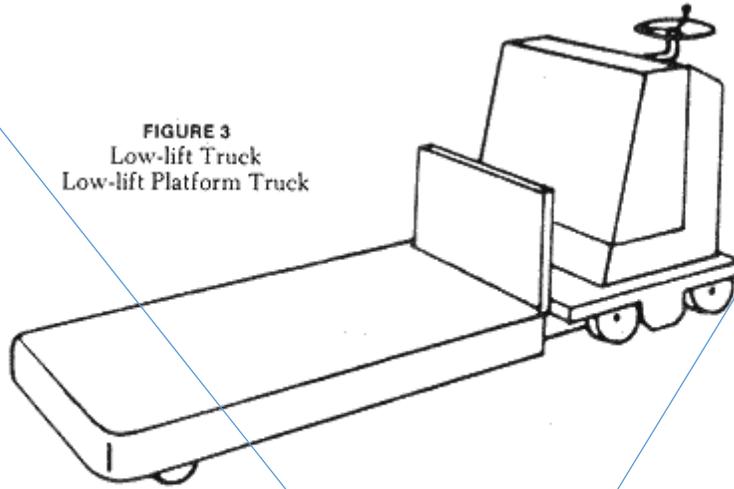
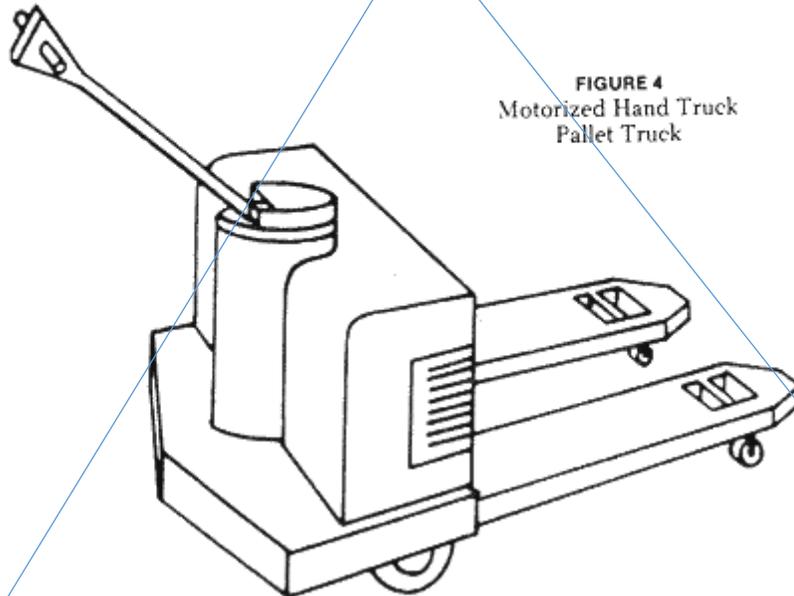


Figure for ~~408.12193 (2 of 5)~~

Figure for ~~408.12193 (3 of 5)~~



**FIGURE 3**  
Low-lift Truck  
Low-lift Platform Truck

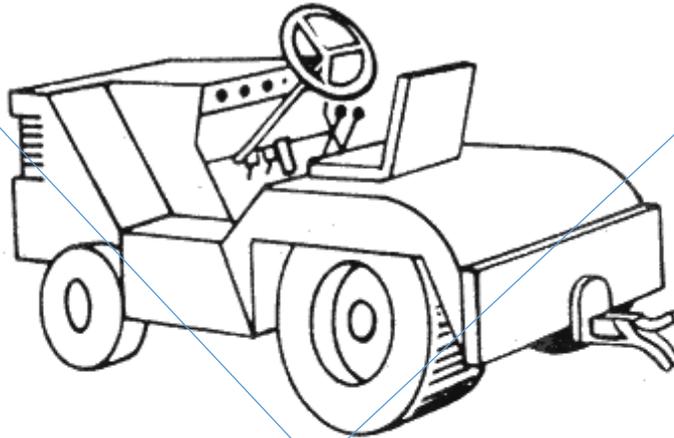


**FIGURE 4**  
Motorized Hand Truck  
Pallet Truck

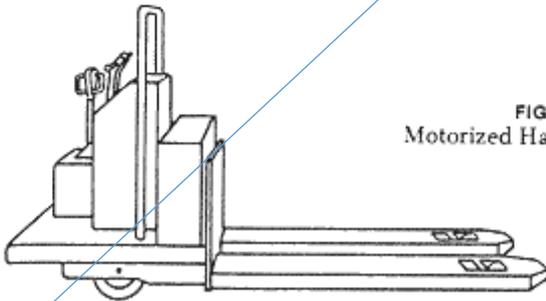
Figure for ~~408.12193 (4 of 5)~~

Figure for ~~408.12193 (5 of 5)~~

**FIGURE 5**  
Industrial Tractor



**FIGURE 6**  
Motorized Hand/Rider Truck



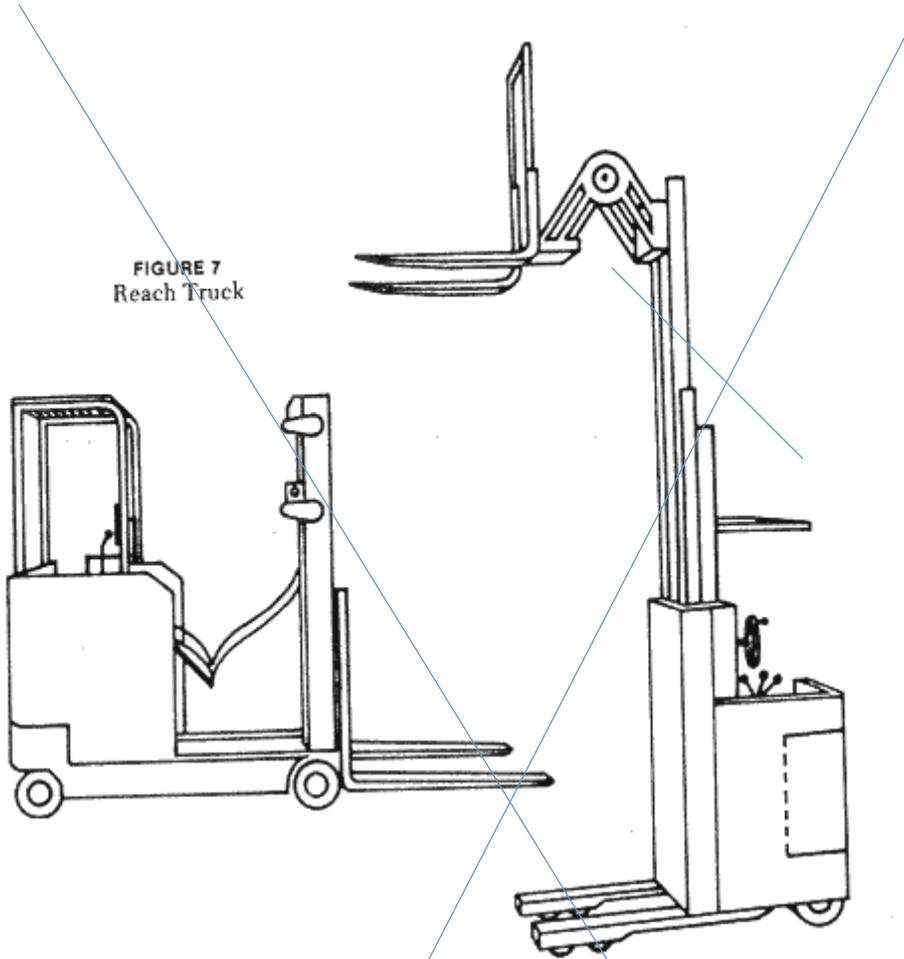


FIGURE 7  
Reach Truck

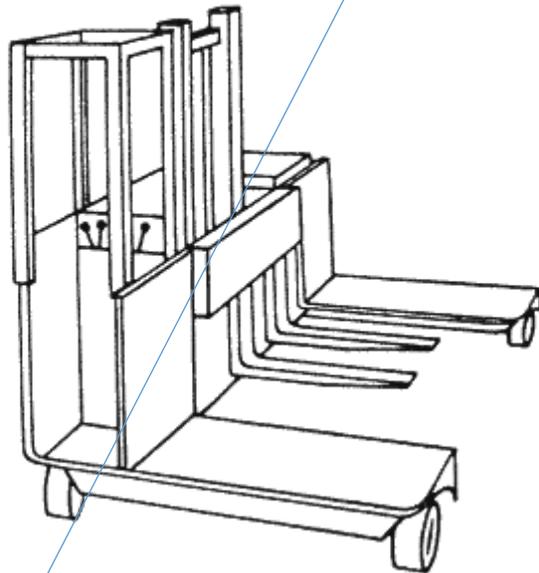
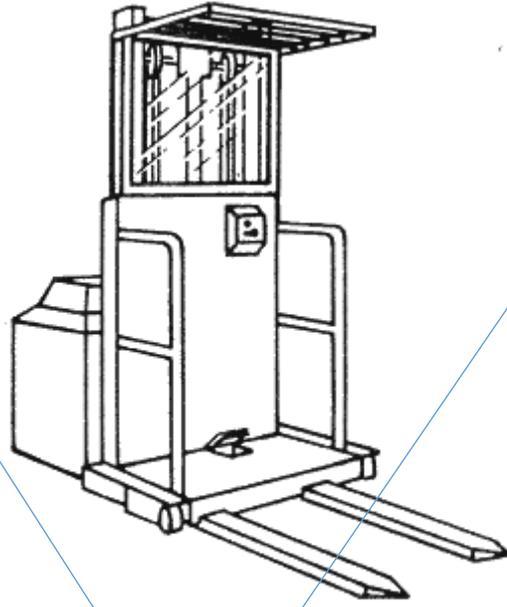
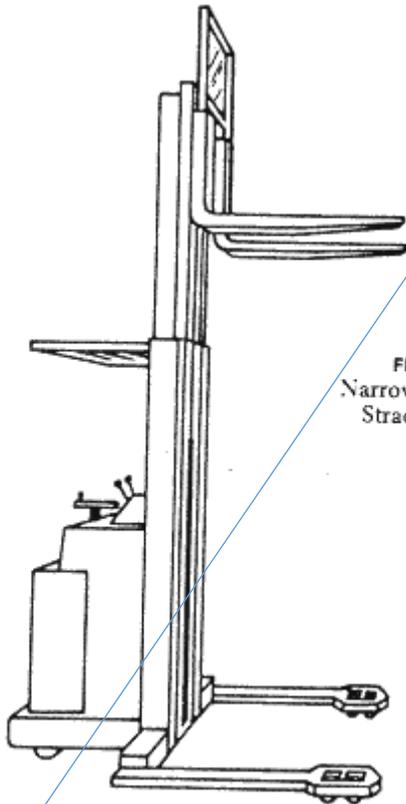


FIGURE 8  
Side-loader Truck

**FIGURE 9**  
Order Picker Truck, High Lift



**FIGURE 10**  
Narrow-aisle Truck  
Straddle Truck



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**PROPOSED ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

CONSTRUCTION SAFETY STANDARDS

Draft February 1, 2016

Filed with the Secretary of State on

These rules take effect immediately upon filing with the Secretary of State unless adopted under ~~section-sections~~ 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of licensing and regulatory affairs by sections 19 and 21 of 1974 PA 154, **MCL 408.1019 and 408.1021**, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030)

R 408.41201, R 408.41203, R 408.41204, R 408.41205, R 408.41206, R 408.41207, R 408.41208, R 408.41209, R 408.41210, R 408.41211, R 408.41212, R 408.41213, R 408.41217, R 408.41219, R 408.41223, R 408.41224, R 408.41227, R 408.41229, R 408.41232, R 408.41233, R 408.41236, R 408.41241, R 408.41243, R 408.41251, R 408.41254, R 408.41256, R 408.41256a, R 408.41256b, and R 408.41261 of the Michigan Administrative Code are amended, and R 408.41202 is added, as follows:

PART 12. SCAFFOLDS AND SCAFFOLD PLATFORMS

R 408.41201 Scope.

Rule 1201. This part pertains to scaffolds and scaffold platforms used in construction operations. The equipment may be commercially manufactured or job-built. This part does not apply to crane or derrick suspended personnel platforms as prescribed in **Construction Safety Standard Part 10 “Cranes and Derricks” and Construction Safety Standard Part 32 “Aerial Work Platforms,”** as referenced in R 408.41202. ~~R 408.41001a et seq. and R 408.43201 et seq.~~

**R 408.41202 Adoption; availability of referenced documents.**

**Rule 1202. (1) The American national standards institute standard ANSI A10.8 “Scaffolding Safety Requirements,” 1977 edition, is adopted in these rules. It is available from Global Engineering Documents, 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 \$25.00.**

**(2) The standard adopted in subrule (1) of this rule is available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section,**

**530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143.**

**(3) 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, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143, plus \$20.00 for shipping and handling.**

**(4) 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, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: [www.michigan.gov/mioshastandards](http://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 Protect Equipment,” R 408.40601 to R 408.40660.**

**(c) Construction Safety Standard Part 10 “Cranes and Derricks,” R 408.41001 to R 408.41099a.**

**(d) Construction Safety Standard Part 11 “Fixed and Portable Ladders,” R 408.41101 to R 408.41140.**

**(e) Construction Safety Standard Part 16 “Power Transmission and Distribution,” R 408.41601 to R 408.41658.**

**(f) Construction Safety Standard Part 17 “Electrical Installations,” R 408.41701 to R 408.41734.**

**(g) Construction Safety Standard Part 21 “Guarding of Walking and Working Areas,” R 408.42101 to R 408.42160.**

**(h) Construction Safety Standard Part 30 “Telecommunications,” R 408.43001 to R 408.43006.**

**(i) Construction Safety Standard Part 32 “Aerial Work Platform,” R 408.43201 to R 408.43220.**

**(j) Construction Safety Standard Part 45 “Fall Protection,” R 408.44501 to R 408.44502.**

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

R 408.41203 Definitions; A to C.

Rule 1203. (1) "Adjustable multipoint suspension scaffold" means a scaffold that has a continuous platform which is supported by bearers suspended by wire rope from overhead supports that is so arranged and operated as to permit the raising or lowering of a platform to desired working positions.

(2) "Bearer," ~~also sometimes~~ called a putlog, means a horizontal transverse scaffold member which may be supported by ledgers or runners, upon which the scaffold platform rests, and which joins scaffold uprights, posts, poles, and similar members.

(3) "Boatswain's chair" means a single-point adjustable suspension scaffold that consists of a seat or sling designed to support 1 employee in a sitting position.

(4) "Brace" means a rigid connection that holds 1 scaffold member in a fixed position with respect to another member or that holds 1 scaffold member to a building or structure.

(5) "Bricklayer's square scaffold" means a supported scaffold that is composed of framed squares that support a platform.

(6) "Carpenter's bracket scaffold" means a supported scaffold that consists of a platform supported by brackets attached to a building or structural walls.

(7) "Carriage" means an assembled steel framework which is affixed to a ~~scaffold steel tower~~ and which is used to support a work platform.

(8) "Catenary scaffold" means a suspension scaffold consisting of a platform supported by 2 essentially horizontal and parallel ropes attached to structural members of a building or other structure. Additional support may be provided by vertical pickups.

(9) "Chimney hoist" means a multipoint adjustable suspension scaffold used to provide access to work inside chimneys. ( See "multipoint suspension scaffold." )

(10) "Cleat" means a structural block used at the end of a platform to prevent the platform from slipping off its supports. Cleats are also used to provide footing on sloped surfaces such as crawling boards.

(11) "Competent person" means a person who is experienced and capable of identifying an existing or potential hazard in surroundings, or under working conditions, that are hazardous or dangerous to an employee and who has the authority and knowledge to take prompt corrective measures to eliminate the hazards.

(12) "Coupler" means a device for locking together the component parts of a tube and coupler scaffold.

(13) "Crawling board," ~~also sometimes~~ called a chicken ladder, means a plank that has cleats which are spaced and secured at equal intervals for use by an employee on roofs. A crawling board is not designed to carry any material.

#### R 408.41204 Definitions; D to I.

Rule 1204. (1) "Double pole ~~or~~ ( independent pole ) scaffold" means a supported scaffold that consists of a platform which rests on cross beams ~~or~~ ( bearers ) supported by ledgers and a double row of uprights independent of support, except for ties, guys, and braces, from any structure.

(2) "Equivalent" means alternative designs, materials, or methods to protect against a hazard that the employer can demonstrate will provide an equal or greater degree of safety for employees than the methods, materials, or designs specified in these rules.

(3) "Exposed power lines" means electrical power lines which are accessible to employees and which are not shielded from contact. Exposed power lines do not include extension cords or power tool cords.

(4) "Eye" or "eye splice" means a loop that may have a thimble at the end of a wire rope.

(5) "Fabricated decking and planking" means manufactured platforms that are made of wood, including laminated wood, and solid sawn wood planks, metal, or other materials.

(6) "Failure" means load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.

(7) "Float" or "ship scaffold" means a scaffold which is hung from an overhead support by means of ropes and which consists of a substantial platform that has diagonal bracing underneath and that rests upon, and is securely fastened to, 2 parallel plank bearers at right angles to the span.

(8) "Forklift truck (industrial)" means a self-loading truck which is equipped with a load carriage and forks and which is used for transporting and tiering loads.

(9) "Form scaffold" means a supported scaffold that consists of a platform supported by brackets attached to the formwork.

(10) "Guardrail" means a horizontal barrier that is erected along the exposed sides and ends of a

scaffold.

(11) "Heavy-duty scaffold" means a scaffold that is designed and constructed to carry a working load of not more than 75 pounds per square foot.

(12) "Hoist" means a manual or power-operated mechanical device used to raise or lower a suspended scaffold.

(13) "Horse scaffold" means a supported scaffold that consists of a platform supported by construction horses **which are the same as** ( saw horses ) . Horse scaffolds constructed of metal are sometimes known as trestle scaffolds.

(14) "Interior hung scaffold" means a suspension scaffold that consists of a platform suspended from the ceiling or roof structure by fixed length supports.

R 408.41205 Definitions; L, M.

Rule 1205. (1) "Ladder jack scaffold" means a scaffold that is supported by brackets attached to ladders.

(2) "Ladder safety device" means a device which is installed on a ladder and which, when attached to an employee as prescribed in **Construction Safety Standard Part 45 "Fall Protection," which is referenced in R 408.41202, R 408.44501 et seq.,** will prevent an accidental fall of the employee.

(3) "Landing" means a platform at the end of a flight of stairs.

(4) "Large area scaffold" means a pole scaffold, tube and coupler scaffold, systems scaffold, or fabricated frame scaffold erected over substantially the entire work area, for example, a scaffold erected over the entire floor area of a room.

(5) "Lean-to scaffold" means a supported scaffold that is kept erect by tilting it toward, and resting it against, a building or structure.

(6) "Ledger" means a horizontal member of a scaffold which extends from post to post and which supports bearers that form a tie between the posts.

(7) "Light-duty scaffold" means a scaffold that is designed and constructed to carry a working load of not more than 25 pounds per square foot.

(8) "Maximum intended load" means the maximum anticipated weight of persons, equipment, material, and scaffold.

(9) "Medium-duty scaffold" means a scaffold that is designed and constructed to carry a working load of not more than 50 pounds per square foot.

(10) "Midrail" means a rail which is located approximately midway between a guardrail and platform and which is secured to uprights erected along the exposed sides and ends of a platform.

(11) "Mobile scaffold" means a powered or unpowered portable caster or wheel-mounted supported scaffold.

(12) "Mobile scaffold tower" means a type of freestanding scaffolding that can be manually moved horizontally from ~~1 one~~ area to another.

(13) ~~"Multi-level suspension"~~ **"Multi-level suspended scaffold"** means a scaffold that is manufactured to have 2 or more work platforms which are ~~1 one~~ above another and which are connected vertically to each other by rigid metal members, all of which are suspended from overhead supports.

(14) **“Multi-point adjustable suspension scaffold” means a suspension scaffold consisting of at least 1 platform which is suspended by more than 2 ropes from overhead supports and equipped with means to raise and lower the platform to desired work levels. These scaffolds include chimney hoists.** ~~“Multipoint suspended scaffold” means a scaffold that is constructed of rigid steel or wire rope members which suspend and support a work platform. The scaffold can be stationary or the scaffold can be mobile and travel horizontally.~~

R 408.41206 Definitions; N to R.

Rule 1206. (1) "Needle beam scaffold" means a scaffold that consists of a platform supported by needle beams.

(2) "Outrigger" means the structural member of a supported scaffold used to increase the base width of a scaffold ~~in order~~ to provide support for, and increased stability of, the scaffold.

(3) "Outrigger beam, **also known as a “trustout,”** ~~(thrustout)~~" means the structural member of a suspension scaffold or outrigger scaffold that provides support for the scaffold by extending the scaffold point of attachment to a point out and away from the structure or building.

(4) "Outrigger scaffold" means a platform supported by, and fastened to, outriggers or thrustouts projecting beyond the wall or face of the building or structure, the inboard ends of which are secured inside the building or structure.

(5) "Platform" means a work surface elevated above lower levels. Platforms ~~may can~~ be constructed using individual wood planks, fabricated planks, fabricated decks, and fabricated platforms.

(6) "Power-operated hoist" means a hoist that is powered by other than human energy.

(7) "Pump-jack scaffold" means a scaffold for light-duty work that consists of vertical poles, platform planking, and movable brackets for raising or lowering the platform on the vertical poles by a manual pumping action.

(8) "Qualified person" means **a person** ~~one~~ who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his or her ability to solve or resolve problems related to the subject matter, the work, or the project.

(9) "Rated load" means the manufacturer's specified maximum load to be lifted by a hoist or to be applied to a scaffold or scaffold component.

(10) "Repair-bracket scaffold" means a supported scaffold that consists of a platform supported by brackets which are secured in place around the circumference or perimeter of a chimney, stack, tank, or other supporting structure by 1 or more wire ropes placed around the supporting structure.

(11) "Roof bracket scaffold" means a rooftop-supported scaffold that consists of a platform resting on angular-shaped supports.

(12) "Rough terrain forklift truck" means a wheeled-type truck which is designed primarily as a fork truck that has a vertical mast or pivoted boom, or both, which has variable fixed length reach and which may be equipped with attachments and that is intended for operation on unimproved natural terrain as well as the disturbed terrain of construction sites. A machine that is designed primarily for earth-moving, such as a loader or dozer, even though its buckets and blades are replaced with forks, or a machine that is designed primarily as an over-the-road truck that has a lifting device is not a rough terrain forklift truck.

(13) "Runner" ~~(~~ ledger or ribbon ~~)~~ means the lengthwise horizontal spacing or bracing member that may support the bearers.

R 408.41207 Definitions; S.

Rule 1207. (1) "Scaffold" means a temporary elevated platform which is supported or suspended, including its supporting system and points of anchorage, and which is used for supporting an employee or materials, or both.

(2) "Shore scaffold" means a supported scaffold which is placed against a building or structure and which is held in place with props.

(3) "Single-point adjustable suspension scaffold" means a manual or power-operated unit which is supported by a single rope from an overhead support and which is arranged and operated to permit the raising or lowering of the platform to desired working positions.

(4) "Single-pole scaffold" means a type of wood pole scaffold that has a platform which rests on putlogs or cross beams, the outside ends of which are supported on ledgers secured to a single row of posts or uprights and the inner ends of which are supported on or in a wall.

(5) "Stall load" means the load at which the prime mover of a power-operated hoist stalls or the power to the prime mover is automatically disconnected.

(6) "Steel tower" means a vertical assembly of tubular steel post members connected together with welded diagonal and horizontal steel bracing.

(7) "Step, platform, and trestle ladder scaffold" means a platform resting directly on the rungs of step ladders or trestle ladders.

(8) "Stiff arm brace" means a steel horizontal member used to tie a **scaffold steel tower** to a structure to prevent the scaffold from overturning.

(9) "Stilt" means a device which is attached to the leg and foot or shoe of an employee and which is used to elevate the employee from a work surface.

(10) "Supported scaffold" means 1 or more platforms supported by any of the following:

- (a) Outrigger beams.
- (b) Brackets.
- (c) Poles.
- (d) Legs.
- (e) Uprights.
- (f) Posts.
- (g) Frames.
- (h) Similar rigid support.

(11) "Suspension scaffold" means 1 or more platforms suspended from an overhead structure by ropes or other nonrigid means.

R 408.41208 Definitions; T to W.

Rule 1208. (1) "Toeboard" means a horizontal barrier that is erected along the exposed edges of an elevated surface to prevent materials, tools, or equipment from falling.

(2) "Tube and coupler scaffold" means a manufactured assembly that consists of all of the following:

- (a) Tubing that serves as posts, bearers, braces, ties, and runners.
- (b) A brace supporting the post.
- (c) Special couplers that serve to connect the uprights and to join the various members.
- (d) A work platform.

(3) "Tubular welded frame scaffold" or "fabricated frame scaffold" means a scaffold platform that is supported by a metal sectional frame that consists of posts and a horizontal bearer that has intermediate members.

(4) "Two-point suspension scaffold" or "swing stage" means a suspension scaffold that consists

of a platform which is supported by hangers, **also known as stirrups**, (~~stirrups~~) suspended by 2 ropes from overhead supports and which is equipped with means to permit the raising and lowering of the platform to desired work levels.

(5) "Unstable objects" means items whose strength, configuration, or lack of stability may allow them to become dislocated and shift and, therefore, may not properly support the loads imposed on them. Unstable objects do not constitute a safe base support for scaffolds, platforms, or employees. Examples include, but are not limited to, barrels, boxes, loose brick, and concrete blocks.

(6) "Vertical pickup" means a rope used to support the horizontal rope in catenary scaffolds.

(7) "Window jack scaffold" means a platform which extends through a window opening and which is secured to the structure and supported by braces.

(8) "Working load" means a load that is imposed by persons, materials, and equipment.

R 408.41209 Training requirements.

Rule 1209. (1) This rule supplements and clarifies the requirements of **Construction Safety Standard Part 1 "General Rules," as referenced in R 408.41202**, ~~R 408.40114(2) of construction safety standard Part 1. General Rules~~ as the rule relates to the hazards of work on scaffolds. An employer shall have each employee who performs work on a scaffold trained by a person qualified in scaffold safety. The training shall enable an employee to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize the hazards. The training shall include the following ~~areas~~, ~~areas~~ as applicable:

(a) The nature of any electrical hazards, fall hazards, and falling object hazards in the work area.

(b) The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used.

(c) The proper use of the scaffold, and the proper handling of materials on the scaffold.

(d) The maximum intended load and the load-carrying capacities of the scaffolds used.

(e) Any other pertinent requirements.

(2) An employer shall have each employee who is involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold trained by a competent person to recognize any hazards associated with the work in question. The training shall include the following topics, as applicable:

(a) The nature of scaffold hazards.

(b) The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold being used.

(c) The design criteria, maximum intended load-carrying capacity, and intended use of the scaffold.

(d) Any other pertinent requirements.

(3) If an employer has reason to believe that an employee lacks the skill or understanding needed to safely perform work that involves the erection, use, or dismantling of scaffolds, then the employer shall retrain the employee so that the requisite proficiency is regained. Retraining is required in all of the following situations:

(a) Where changes at the worksite present a hazard about which an employee has not been previously trained.

(b) Where changes in the types of scaffolds, fall protection, falling object protection, or other equipment present a hazard about which an employee has not been previously trained.

(c) Where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency for the work involved.

R 408.41210 Construction and capacity generally.

Rule 1210. (1) A scaffold shall be designed, constructed, erected, and used ~~in accordance with~~ **pursuant to** the provisions of this rule. ~~part.~~ A scaffold shall be designed by a qualified person.

(2) A scaffold shall not be erected, moved, dismantled, or altered, except under the supervision of a competent person.

(3) A scaffold and its components shall be capable of supporting, without failure, not less than 4 times the maximum intended load.

(4) A specially designed scaffold that utilizes methods of bracing other than cross bracing is acceptable if the scaffold and its components comply with the requirements of this rule.

(5) A scaffold shall not be loaded to more than the designed working load.

(6) Scaffolds and scaffold components shall be inspected for visible defects by a competent person before each work shift and after any occurrence that could affect a scaffold's structural integrity. Any scaffold, including accessories such as braces, brackets, trusses, screw legs, ladders, or platforms, that is damaged or weakened from any cause shall be immediately repaired or replaced. Any scaffold or accessories that are repaired shall have at least the original designed strength of the scaffold or accessory.

(7) An employee on a scaffold who is exposed to an overhead hazard of falling material shall be protected with overhead protection that is sufficient to prevent injury.

(8) All load-carrying wood **scaffold framing** members ~~of scaffold framing~~ shall be a minimum of 1,500 psi fiber stress value.

(9) The poles, legs, or uprights of scaffolds shall be plumb and shall be securely and rigidly braced to prevent swaying and displacement.

(10) The support for a scaffold shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Leveling jack adjusting screws, when used, shall not extend more than 18 inches below the base of the scaffold. Unstable objects, such as barrels, boxes, pallets, brick, or concrete blocks, shall not be used to support a scaffold or work platform. Scaffold poles, legs, posts, frames, and uprights shall bear on base plates, **along with** ~~and~~ mudsills or other adequate **support.** ~~firm foundation.~~

(11) Scaffold components that are not designed to be compatible shall not be intermixed.

(12) A shore or lean-to scaffold shall not be used.

(13) Makeshift devices, such as, but not limited to, ~~to, to~~ boxes and barrels, shall not be used on top of scaffold platforms to increase the working level height of employees.

(14) A ladder shall not be used on a scaffold to increase the working level height of employees, except on a large area scaffold where an employer has satisfied all of the following criteria:

(a) When the ladder is placed against a structure that is not a part of the scaffold, the scaffold shall be secured against the sideways thrust exerted by the ladder.

(b) The platform units shall be secured to the scaffold to prevent the units from moving.

(c) Either the ladder legs shall be on the same platform or another means shall be provided to stabilize the ladder against unequal platform deflection.

(d) The ladder legs shall be secured to prevent them from slipping or being pushed off the platform.

R 408.41211 Access to scaffold platforms.

Rule 1211. (1) Access to a scaffold platform shall be provided by 1 or more of the following:

(a) A ladder that conforms to **Construction Safety Standard Part 11 “Fixed and Portable Ladders,” as referenced in R 408.41202. ~~R-408.41101 et seq.~~**

(b) Hook-on or attachable metal ladders that are specifically designed for use in construction with manufactured types of scaffolds. If hook-on or attachable metal ladders are used as access to, or egress from, a work platform that is more than 35 feet above the ground or floor level, then a ladder safety device shall be installed or the ladders shall be offset with landing platforms and guardrails that are installed at not more than 35-foot intervals.

(c) Step or hook-on, stair-type accessories that are specifically designed for use with appropriate types of scaffolds.

(d) Direct access from an adjacent scaffold, the structure, or personnel hoist. The direct access to or from another surface shall be used only when the scaffold is not more than 14 inches(36 cm) horizontally and not more than 24 inches(61 cm) vertically from the other surface.

(e) A ramp, runway, or stairway that conforms to **Construction Safety Standard Part 21 “Guarding of Walking and Working Areas,” as referenced in R 408.41202. ~~R-408.42121 et seq.~~**

(2) The intermediate horizontal members of the frame of a manufactured tubular welded frame scaffold may be used instead of a ladder or stairway for access to, and egress from, the work platform, if all of the following conditions are met:

(a) All the frames and component parts are compatible in design.

(b) The intermediate horizontal members of a frame are a minimum of 11 1/2 inches in length.

(c) The horizontal members of each frame shall be uniformly spaced and shall not be more than 18 inches center to center vertically.

(d) When frames are connected vertically to one another, the distance between the bottom horizontal member of the upper end frame and the top horizontal member of the lower end frame shall be within 3 inches of the uniform spacing of the horizontal members of each frame.

(e) The elevation to the lowest horizontal member of the bottom frame shall not be more than 24 inches from the ground or floor.

(f) Each horizontal member shall be capable of supporting 300 pounds applied at its midpoint without bending or cracking.

(g) Each horizontal member shall be inspected for, and found free of, cracks, bends, or bad welds. Cracks, bends, or bad welds shall be corrected.

(h) Only 1 employee at a time shall use a horizontal member of a frame as access to, or egress from, the workstation.

(i) Cross braces shall not be used as a means of access.

(3) The guardrail system located on the side where horizontal members of the scaffold frame are used for access to, or egress from, a work platform shall be constructed as follows:

(a) The intermediate rail shall be omitted between the corner posts at the access location.

(b) The top rail shall be continuous between posts. A scaffold and its components shall be capable of supporting, without failure, not less than 4 times the maximum intended load.

(4) If horizontal members of scaffold frames are used as access to, or egress from, a work platform which is more than 35 feet above ground or floor level, a ladder safety device shall be installed and used or the horizontal members shall be offset with landing platforms and guardrails that are installed at not more than 30-foot intervals.

(5) Steps and rungs of ladder and stairway-type access shall line up vertically with each other between rest platforms.

(6) All of the following provisions apply to erecting or dismantling a scaffold:

(a) An employer shall provide a safe means of access for each employee erecting or dismantling

a scaffold if providing safe access is feasible and does not create a greater hazard. The employer shall have a competent person determine whether it is feasible or would pose a greater hazard to provide, and have employees use, a safe means of access. The determination shall be based on site conditions and the type of scaffold being erected or dismantled.

(b) Hook-on or attachable ladders shall be installed as soon as scaffold erection has progressed to a point that permits safe installation and use.

(c) When erecting or dismantling tubular welded frame scaffolds, endframes, that have horizontal members which are parallel, level, and not more than 22 inches apart vertically as climbing devices for access, the employer shall ensure that the tubular welded frame scaffolds are erected in a manner that creates a usable ladder and provides a good handhold and foot space.

(d) Cross braces on tubular welded frame scaffolds shall not be used as a means of access or egress.

R 408.41212 Accumulation of tools, material, or debris prohibited; weather conditions; slippery conditions; electrical hazards; rope protection; fall protection.

Rule 1212. (1) Excess tools, materials, and debris shall not be permitted to accumulate on a scaffold to create a hazard.

(2) Work on or from scaffolds is prohibited during storms or high winds unless a competent person has determined that it is safe for employees to be on a scaffold and that the employees are protected by a personal fall arrest system. Wind screens shall not be used unless the scaffold is secured against the anticipated wind forces imposed.

(3) A scaffold shall be kept free of slippery conditions such as those caused by ice, snow, oil, grease, or other slippery compounds.

(4) An employee shall not be allowed within 10 feet of uninsulated electrical energized lines.

(5) Before a scaffold is erected within 10 feet of **a power an electrical line all of the following requirements shall be met, as applicable:** ~~the utility or property owner shall be consulted. An electrical line or electrical apparatus shall be considered energized unless the property owner or utility indicates it is de-energized and the line or apparatus is visibly grounded. If de-energizing is impractical and the equipment is exposed to contact by an employee, the minimum clearances set forth in table 1 shall be maintained between the scaffold, employee, or material, whichever is closer.~~

~~The requirements for employees performing power transmission and distribution work, electrical work, or telecommunications work are found in construction safety standard Part 16. Power Transmission and Distribution, Part 17. Electrical Installations, and Part 30.~~

~~Telecommunications, being R 408.41601 et seq., R 408.41701 et seq., and R 408.43001 et seq., respectively, of the Michigan Administrative Code.~~

**(a) The utility or property owner is consulted.**

**(b) A power line or electrical apparatus is considered energized unless the property owner or utility indicates it is de-energized and the line or apparatus is visibly grounded. If de-energizing is impractical and the equipment is exposed to contact by an employee, the minimum clearances in table 1 shall be maintained between the scaffold, employee, or material, whichever is closer.**

**(c) The requirements for employees performing power transmission and distribution work, electrical work, or telecommunications work are found in Construction Safety Standard Part 16 “Power Transmission and Distribution,” Construction Safety Standards Part 17 “Electrical Installations,” and in Construction Safety Standards Part 30 “Telecommunications,” as referenced in R 408.41202.**

(6) Table 1 reads as follows:

<b>TABLE 1</b>		
<b>INSULATED LINES</b>		
<b>VOLTAGE</b>	<b>MINIMUM DISTANCE</b>	<b>ALTERNATIVES</b>
<b>Less than 300 volts</b>	<b>3 feet (0.9 meters)</b>	
<b>300 volts to 50 kilovolts</b>	<b>10 feet (3.1 meters)</b>	
<b>More than 50 kilovolts</b>	<b>10 feet (3.1 meters) plus 0.4 inches (1.0 centimeter) for each kilovolt over 50 kilovolts</b>	<b>2 times the length of the line insulator, but not less than 10 feet (3.1 meters)</b>
<u><b>UNINSULATED LINES</b></u>		
<u><b>VOLTAGE</b></u>	<u><b>MINIMUM DISTANCE</b></u>	<u><b>ALTERNATIVES</b></u>
<b>Less than 50 kilovolts</b>	<b>10 feet (3.1 meters)</b>	
<b>More than 50 kilovolts</b>	<b>10 feet (3.1 meters) Plus 0.4 inches (1.0 centimeter) for each kilovolt over 50 kilovolts</b>	<b>2 times the length of the line insulator, but not less than 10 feet (3.1 meters)</b>

TABLE 1

INSULATED LINES

VOLTAGE	MINIMUM DISTANCE	ALTERNATIVES
Less than 300 volts	3 feet (0.9 meters)	2 times the length of the line insulator, but not less than 10 feet (3.1 meters)
300 volts to 50 kilovolts	10 feet (3.1 meters)	
More than 50 kilovolts	10 feet (3.1 meters) plus 0.4 inches (1.0 centimeter) for each kilovolt over 50 kilovolts	

INSULATED LINES

VOLTAGE	MINIMUM DISTANCE	ALTERNATIVES
Less than 50 kilovolts	10 feet (3.1 meters)	2 times the length of the line insulator, but not less than 10 feet (3.1 meters)
More than 50 kilovolts	10 feet (3.1 meters) plus 0.4 inches (1.0 centimeter) for each kilovolt over 50 kilovolts	

(7) Welding, burning, riveting, or open flame work shall not be performed within 10 feet of fiber or synthetic rope that is used to suspend a scaffold, unless the rope is protected from sparks, flame, or hot metal. Only treated or protected fiber or synthetic ropes shall be used for or near any work that involves the use of corrosive substances or chemicals.

(8) A suspension rope, including connecting hardware, used on nonadjustable or adjustable suspension scaffolds shall be capable of supporting, without failure, not less than 6 times the maximum intended load applied or transmitted to the rope.

(9) If personal fall arrest systems are required by these rules for the protection of employees, then the arrest system equipment shall be as prescribed in **Construction Safety Standard Part 45 “Fall Protection,” as referenced in R 408.41202. R 408.44501 et seq.**

(10) To reduce the possibility of welding current arcing through the suspension wire rope when performing welding from suspended scaffolds, a welder shall take the following precautions, as applicable:

(a) An insulated thimble shall be used to attach each suspension wire rope to its hanging support, such as a cornice hook or outrigger. Excess suspension wire rope and any additional independent lines from grounding shall be insulated.

(b) The suspension wire rope shall be covered with insulating material extending not less than 4 feet (1.2 meters) above the hoist. If there is a tail line below the hoist, it shall be insulated to prevent contact with the platform. The position of the tail line that hangs free below the scaffold shall be guided or retained, or both, so that it does not become grounded.

(c) Each hoist shall be covered with insulated protective covers.

(d) In addition to a work lead attachment required by the welding process, a grounding conductor shall be connected from the scaffold to the structure. The size of the conductor shall be at least the size of the welding process work lead, and the conductor shall not be in series with

the welding process or the workpiece.

(e) If the scaffold grounding lead is disconnected, the welding machine shall be shut off.

(f) An active welding rod or uninsulated welding lead shall not be allowed to contact the scaffold or its suspension system.

R 408.41213 Guardrails; fall arrest devices.

Rule 1213. (1) A guardrail shall be installed on any open side or end of a scaffold work platform that is 10 **feet** (3.1 meters) or more ~~feet~~ above the floor or ground, except for any of the following:

(a) A boatswain's chair.

(b) A catenary scaffold.

(c) A float scaffold.

(d) A ladder jack scaffold.

(e) A needle beam scaffold.

The guardrail shall be as prescribed in R 408.42150.

(2) An employee on a boatswain's chair, catenary scaffold, float scaffold, needle beam scaffold, or ladder jack scaffold shall be protected by a personal fall arrest system. An employee on a single-point or 2- point adjustable suspension scaffold shall be protected by both a personal fall arrest system and guardrail system.

(3) A personal fall arrest device as prescribed in **Construction Safety Standard Part 45 "Fall Protection," as referenced in R 408.41202, R-408.44502** shall be worn and attached to a substantial portion of a scaffold when the work platform of an adjustable suspension scaffold **with that has** overhead protection is 10 **feet** (3.1 meters) or more ~~feet~~ above the floor, water, or ground. Separate safety lines shall be attached to a substantial portion of the structure above and to the scaffold by an approved fall prevention device ~~in a manner~~ to prevent the scaffold from falling more than 12 inches if the scaffold suspension system fails.

(4) A top rail or an intermediate rail may be eliminated if the configuration of the scaffold and the material deck provides equivalent protection **to prevent** ~~against~~ an employee falling from the platform or if a personal fall arrest device is worn.

(5) A cross brace may be used as part of the guardrail system as follows:

(a) If the pivot point occurs from 36 inches to 48 inches above the platform, then a midrail shall be added midway between the platform and the brace pivot point.

(b) If the pivot point occurs from 18 inches above the platform, then a top rail shall be added.

(c) If the pivot point occurs less than **18 ±** inches or more than 48 inches above the platform, then both a top rail and midrail shall be provided.

(6) An employer shall have a competent person determine the feasibility and safety of providing fall protection for employees erecting or dismantling supported scaffolds. An employer **shall** ~~is required to~~ provide fall protection for employees erecting or dismantling supported scaffolds where the installation and use of the protection is feasible and does not create a greater hazard.

(7) If vertical lifelines are used, then they shall be fastened to a fixed safe point of anchorage and shall be protected from sharp edges and abrasion. Safe points of anchorage include structural members of buildings, but do not include any of the following:

(a) Standpipes.

(b) Vents.

(c) Other piping systems.

(d) Electrical conduit.

- (e) Outrigger beams.
- (f) Counterweights.

(8) If horizontal lifelines are used, they shall be secured to 2 or more structural members of the scaffold or may be looped around both suspension and independent support lines equal in number to the number of points supported and equivalent in strength to the strength of the suspension ropes. Independent support lines and suspension ropes shall not be attached to the same points of anchorage

R 408.41217 Planking and scaffold platforms generally.

Rule 1217. (1) If wood planks are used for a work platform, then the planks shall be scaffold-grade lumber that has a minimum of 1,500 pounds per square inch fiber stress value. The planks shall be not less than 2 inches by 10 inches. The platform shall consist of a minimum of 2 planks laid side by side. Each platform on all working levels of scaffolds shall be fully planked or decked between uprights where practicable. Spaces between the platform and the uprights shall not be more than 9 1/2 inches. The maximum permissible spans for 2- by 10-inch or wider planks are as follows:

	Material full thickness undressed lumber				Material nominal thickness lumber			
<b>Working load (per square foot)</b>	<b>25</b>	<b>50</b>	<b>62</b>	<b>75</b>	<b>25</b>	<b>37</b>	<b>50</b>	<b>62</b>
<b>Permissible span (feet)</b>	<b>10</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>4</b>

	Material full thickness undressed lumber	Material nominal thickness Lumber
Working load(per square foot)	25 50 62 75	25 37 50 62
Permissible span(feet)	10 8 7 6	8 7 6 4

(2) Wood scaffold planks, laminated planks, manufactured work platforms, and picks that are found to be defective shall be removed from service and shall not be used.

(3) A manufactured pick shall be permanently marked or tagged to indicate the maximum working load and shall not be less than 14 inches wide when used in single width, except that a ladder jack scaffold may be used with a minimum 12-inch manufactured pick.

(4) Platform planks shall be laid with their edges together so the platform is tight and does not have spaces through which tools or fragments of materials can fall.

(5) Planking shall ~~comply~~ **comply** be in compliance with all of the following provisions:

- (a) Extend over the end bearer not less than 6 inches, but not more than 12 inches.
- (b) Be cleated or otherwise fastened to prevent shifting and be uniform in thickness, except where lapped as prescribed in subrule (8) of this rule.
- (c) Where 16-foot planks are used as prescribed in subrule (7) of this rule, tie downs are not required unless wind uplift may occur.

(6) Hook-on-type manufactured work platforms may be used if they are secured to the bearer.

(7) Where planks are lapped, each plank shall lap its bearer not less than 6 inches, which will provide a minimum overlap of 12 inches.

(8) Where a scaffold turns a corner, the planks shall be laid to prevent tipping. The planks that meet the corner bearer at an angle shall be laid first and shall extend over the diagonally placed bearer far enough to have a good bearing, but not far enough to tip. The planks that run in the different direction shall be laid so as to extend over the rest on the first layer of planks.

(9) When moving a platform to the next level, an employee shall leave the old platform undisturbed until the new platform supports have been set in place and are ready to receive the platform planks.

(10) A platform shall not deflect more than 1/60 of the span when loaded.

(11) A wood platform shall not be covered with opaque finishes, except that platform edges may be covered or marked for identification. A platform may be coated periodically with wood preservatives, fire-retardant finishes, and slip-resistant finishes; however, the coating may not obscure the top or bottom wood surfaces.

(12) The front of a platform shall be not more than 14 inches from the face of the work unless a guardrail system is erected along the front edge, or unless a personal fall arrest system is used **pursuant to Construction Safety Standard Part 45 “Fall Protection,” as referenced in R 408.41202**, ~~as set forth in R 408.44501 et seq.~~, except that the maximum distance from the face of the work for plastering and lathing operations shall be not more than 18 inches.

#### R 408.41219 Protection from falling objects.

Rule 1219. (1) In addition to wearing a hard hat, an **employer shall provide an** employee on a scaffold ~~shall be provided~~ with additional protection from falling hand tools, debris, and other small objects through the installation of toeboards, screens, or guardrail systems or through the erection of debris nets, catch platforms, or canopy structures that contain or deflect the falling objects. If the falling objects are too large or heavy to be contained or deflected by any of the measures specified in this subrule, then the employer shall place the potential falling objects away from the edge of the surface from which they could fall and shall secure the objects as necessary to prevent them from falling.

(2) If there is a danger of tools, materials, or equipment falling from a scaffold and striking employees below, then all of the following provisions apply:

(a) The area below the scaffold to which objects can fall shall be barricaded and employees shall not be permitted to enter the hazard area.

(b) A toeboard shall be erected along the edge of a platform that is more than 10 feet (3.1 meters) above lower levels. The toeboard shall span a distance sufficient to protect employees below, except on a float (ship) scaffold, where an edging of (3/4-inch by **1-1/2-inch** ~~1 1/2-inch~~ (2- by 4- centimeters) wood or equivalent may be used in place of a toeboard.

(c) If tools, materials, or equipment are piled to a height higher than the top edge of the toeboard, then paneling or screening extending from the toeboard or platform to the top of the guardrail shall be erected for a distance sufficient to protect employees below.

(d) A guardrail system shall be installed with openings small enough to prevent the passage of potential falling objects.

(e) A canopy structure, debris net, or catch platform that is strong enough to withstand the impact forces of potential falling objects shall be erected over the employees below.

(3) Canopies, when used for falling object protection, shall ~~be in compliance~~ **comply** with all of the following **criteria**, ~~criteria~~ as applicable:

- (a) A canopy shall be installed between the falling object hazard and employees.
- (b) If a canopy is used on a suspension scaffold for falling object protection, then the scaffold shall be equipped with additional independent support lines equal in number to the number of points supported and equivalent in strength to the strength of the suspension ropes.
- (c) Independent support lines and suspension ropes shall not be attached to the same points of anchorage.
- (4) If used, toeboards shall be in compliance with both of the following provisions:
  - (a) Be capable of withstanding, without failure, a force of not less than 50 pounds (222 nano) applied in any downward or horizontal direction at any point along the toeboard.
  - (b) Be not less than **3-1/2** ~~3~~<sup>3</sup>/<sub>2</sub> inches (9 centimeters) high from the top edge of the toeboard to the level of the walking/working surface. A toeboard shall be securely fastened in place at the outermost edge of the platform and have not more than 1/4 inch (0.7 centimeter) of clearance above the walking/working surface. A toeboard shall be solid or have openings of not more than 1 inch (2.5 centimeter) in the greatest dimension.

R 408.41223 Tube and coupler scaffolds.

- Rule 1223. (1) A tube and coupler scaffold shall have all posts, bearers, runners, and bracing of not less than a nominal 2-inch (1.90 inches outside dimension) steel tubing or equivalent.
- (2) The material used for couplers shall be of a structural type, such as a drop-forged steel, malleable iron, or structural grade aluminum. Dissimilar metals shall not be used.
  - (3) The posts of a tube and coupler scaffold shall not be spaced more than 6 feet apart in width and not more than 10 feet along the length for a light-duty rated scaffold, 8 feet along the length for a medium-duty rated scaffold, and 6 feet along the length for a heavy-duty rated scaffold.
  - (4) Drawings and specifications for a tube and coupler scaffold over 125 feet in height above the base plate shall be designed by a qualified engineer who is knowledgeable in scaffolding. Drawings and specifications shall be readily available at the jobsite. A scaffold that is less than 125 feet in height shall conform to the requirements of table 3.
  - (5) Runners shall be erected along the length of the scaffold and located on both the inside and the outside posts at even heights. When tube and coupler guardrails and midrails are used on outside posts, they may be used in place of outside runners. Runners shall be interlocked to form a continuous length and coupled to each post. The bottom runner shall be located as close to the base as possible. The runners shall be placed not more than 6 feet 6 inches on centers.
  - (6) A bearer shall be installed transversely between posts and shall be securely coupled either to a post bearing on a runner coupler or directly to a runner and shall be kept as close to the post as possible.
  - (7) A bearer shall be not less than 4 inches, but not more than 12 inches, longer than the post spacing or runner spacing. A bearer may be cantilevered for use as brackets to carry 2 2-inch by 10-inch planks. The bearer for a cantilevered section shall be not more than 24 inches and the section shall be limited to 25 pounds per square foot.
  - (8) Cross bracing shall be installed across the width of the scaffold at both ends and at least every third set of posts horizontally and every fourth runner vertically. The bracing shall extend diagonally from the inner and outer runners upward to the next outer and inner runners.
  - (9) Longitudinal diagonal bracing on the outer rows of poles shall be installed at a 45-degree angle from near the base of the first outer post upward to the extreme top of the scaffold. Where the longitudinal length of the scaffold permits, the bracing shall be duplicated beginning at every fifth post. In a similar manner, longitudinal diagonal bracing shall also be installed from the last post extending back and upward toward the first post. Where conditions preclude the

attachment of this bracing to the posts, it may be attached to the runners.

(10) Guys, ties, and braces shall be installed according to the scaffold manufacturer’s recommendations or at the closest horizontal member to the ~~4-to-1~~ 4-to-1 ratio height and be repeated vertically at locations of horizontal members every 20 feet (6.1 meters) or less thereafter for a scaffold 3 feet (0.91 meters) wide or less and every 26 feet (7.9 meters) or less thereafter for a scaffold more than 3 feet (0.9 meters) wide. The top guy, tie, or brace of a completed scaffold shall be placed no ~~farther~~ further than a ~~4-to-1~~ 4-to-1 ratio from the top. The top guys, ties, and braces shall be installed at each end of the scaffold and at horizontal intervals of not more than 30 feet (9.1 meters), measured from 1 end, not both, towards the other end. Outriggers, when used, may be considered a part of the base dimension. The outriggers shall be installed on both sides of the scaffold at each frame line.

(11) Table 3 reads as follows:

TABLE 3						
TUBE AND COUPLER SCAFFOLDS	LIGHT DUTY		MEDIUM		HEAVY	
Maximum uniformly distributed load	25 pounds per square foot		50 pounds per square foot		75 pounds per square foot	
Post spacing (longitudinal)	10 feet		8 feet		6 feet	
Post spacing (transverse)	6 feet		6 feet		6 feet	
Work levels	1	2	3	1	2	1
Maximum allowable additional planked levels	8	4	0	6	0	6
Maximum height (feet)	125	125	91	125	75	125

TABLE 3 TUBE AND COUPLER SCAFFOLD	LIGHT DUTY			MEDIUM		HEAVY
Maximum uniformly Distributed load	25 pounds per square foot			50 pounds per square		75 pounds load per Square
Post spacing(transverse)	6 feet			6 feet		6 feet
Work levels	1	2	3	1	2	1
Maximum allowable additional planked levels	8	4	0	6	0	6
Maximum height(feet)	125	125	91	125	75	125

R 408.41224 Tubular welded frame scaffolds **scaffold**; (~~fabricated frame scaffold~~).

Rule 1224. (1) **A tubular welded frame scaffold, also known as a fabricated frame scaffold,** ~~The scaffold~~ shall be braced by cross bracing or diagonal braces, or both, for securing vertical members together laterally. The cross braces shall be of sufficient length so that the erected scaffold is always plumb, square, and rigid. All brace connections shall be made secure.

(2) The frames shall be placed one on top of the other with coupling or stacking pins to provide proper vertical alignment of the legs.

(3) Where uplift may occur, frames shall be locked together vertically by pins or other equivalent suitable means.

(4) A guy, tie, and brace shall be installed according to the scaffold manufacturer's recommendations or at the closest horizontal member to the ~~4-to-1~~ ~~4-to-1~~ ratio height and be repeated vertically at locations of horizontal members every 20 feet (6.1 meters) or less thereafter for a scaffold 3 feet (0.91 meters) wide or less and every 26 feet (7.9 meters) or less thereafter for a scaffold more than 3 feet (0.91 meters) wide. The top guy, tie, or brace of a completed scaffold shall be placed no ~~farther~~ ~~further~~ than a 4-to-1 ratio height from the top. A guy, tie, and brace shall be installed at each end of the scaffold and at horizontal intervals of not more than 30 feet (9.1 meters) measured from one end, not both, towards the other. Outriggers, when used, may be considered as part of the base dimension when installed on each corner of the long side at intervals of not more than 20 feet.

(5) Drawings and specifications for all tubular welded frame scaffolds over 125 feet in height above the base plates shall be designed by a qualified engineer who is knowledgeable in scaffolding. The plans shall be available at the jobsite.

(6) Brackets used to support cantilevered loads shall ~~be in compliance~~ **comply** with all of the following provisions:

(a) Be seated with side brackets parallel to the frames and end brackets at 90 degrees to the frames.

(b) Not be bent or twisted from the positions specified in subdivision (a) of this subrule.

(c) Be used only to support personnel, unless the scaffold has been designed for other loads by a qualified engineer and built to withstand the tipping forces caused by the other loads being placed on the bracket-supported section of the scaffold.

R 408.41227 Pump jack scaffolds.

Rule 1227. (1) Pump jack brackets, braces, and accessories shall be fabricated from metal plates and angles. Each bracket shall have 2 positive gripping mechanisms to prevent any failure or slippage.

(2) A pole shall ~~be in compliance~~ **comply** with ~~all~~ both of the following provisions:

(a) Be secured to the structure by rigid triangular bracing, or equivalent, at the bottom, top, and other points as necessary to provide a maximum vertical spacing of not more than 10 feet between braces. Each brace shall be capable of supporting not less than 225 pounds tension or compression.

(b) Be made of 2, 2 by 4s of Douglas fir, or the equivalent, or 2 continuous lengths made of 2 by 4s spiked together, with the seam parallel to the bracket, with 10D common nails at not more than 12 inches center to center, staggered uniformly from opposite outside edges. Each 2 by 4 may be spliced to make up a pole if the splice is constructed to develop the full strength of the member.

(3) Where the bracket must pass bracing already installed, an extra brace shall be used approximately 4 feet above the one to be passed until the original brace is reinstalled.

(4) If poles are made of wood, then the pole lumber shall be straight-grained and free of shakes, large loose or dead knots, and other defects that might impair strength.

## SUSPENDED SCAFFOLDS

R 408.41229 Suspended scaffolds; tipping moment requirement; support devices; outrigger beams; counterweights tiebacks; suspension ropes; use of certain equipment on scaffolds prohibited; securing scaffolds; use of emergency escape and rescue devices.

Rule 1229. (1) Direct connections to roofs and floors, and counterweights used to balance an adjustable suspension scaffold, shall be capable of resisting not less than 4 times the tipping moment imposed by the scaffold operating at either the rated load of the hoist or not less than 1.5 times the tipping moment imposed by the scaffold operating at the stall load of the hoist, whichever is greater.

(2) A suspension scaffold support device, such as an outrigger beam, cornice hook, parapet clamp, and a similar device shall rest on a surface capable of supporting not less than 4 times the load imposed on them by the scaffold operating at the rated load of the hoist or not less than 1.5 times the load imposed on them by the scaffold at the stall capacity of the hoist, whichever is greater.

(3) A suspension scaffold outrigger beam, when used, shall be made of structural metal or equivalent strength material and shall be restrained to prevent movement.

(4) The inboard end of a suspension scaffold outrigger beam shall be stabilized by bolts or other direct connection to the floor or roof deck or shall be stabilized by counterweights, except that a multipoint adjustable suspension scaffold outrigger beam shall not be stabilized by counterweights.

(5) Before a scaffold is used, a competent person shall evaluate direct connections. The person shall confirm, based on the evaluation, that the support surfaces are capable of supporting the loads to be imposed. In addition, an engineer who is experienced in multipoint adjustable suspension scaffold design shall design the multipoint adjustable suspension scaffold connections.

(6) Counterweights shall be made of **non-flowable** ~~nonflowable~~ material. Sand, gravel, and similar materials that can be easily dislocated shall not be used as counterweights.

(7) Only items specifically designed as counterweights shall be used to counterweight scaffold systems. Construction materials, such as, but not limited to, masonry units and rolls of roofing felt, shall not be used as counterweights.

(8) Counterweights shall be secured by mechanical means to the outrigger beams to prevent accidental displacement.

(9) Counterweights shall not be removed from an outrigger beam until the scaffold is disassembled.

(10) Outrigger beams that are not stabilized by bolts or other direct connections to the floor or roof deck shall be secured by tiebacks.

(11) Tiebacks shall be equivalent in strength to the suspension ropes.

(12) An outrigger beam shall be placed perpendicular to its bearing support, usually the face of the building or structure. However, if an employer can demonstrate that it is not possible to place an outrigger beam perpendicular to the face of the building or structure because of obstructions that cannot be moved, then the outrigger beam may be placed at some other angle if opposing

angle tiebacks are used.

(13) Tiebacks shall be secured to a structurally sound anchorage on the building or structure. Sound anchorages include structural members, but do not include any of the following items:

- (a) Standpipes.
- (b) Vents.
- (c) Other piping systems.
- (d) Electrical conduit.

(14) Either tiebacks shall be installed perpendicular to the face of the building or structure or opposing angle tiebacks shall be installed. Single tiebacks installed at an angle are prohibited.

(15) A suspension scaffold outrigger beam shall ~~be in compliance~~ **comply** with all of the following provisions:

- (a) Have stop bolts or shackles at both ends.
- (b) Be securely fastened together with the flanges turned out when channel iron beams are used in place of I-beams.
- (c) Be installed with all bearing supports perpendicular to the beam center line.
- (d) Be set and maintained with the web in a vertical position.
- (e) When an outrigger beam is used, the shackle or clevis with which the rope is attached to the outrigger beam shall be placed directly over the center line of the stirrup.

(16) A suspension scaffold support device, such as a cornice hook, roof hook, roof iron, parapet clamp, or similar device shall ~~be in compliance~~ **comply** with the following provisions, as applicable:

- (a) Be made of steel, wrought iron, or materials of equivalent strength.
- (b) Be supported by bearing blocks.
- (c) Either be secured against movement by tiebacks installed at right angles to the face of the building or structure or have opposing angle tiebacks installed and secured to a structurally sound point of anchorage on the building or structure. Sound points of anchorage include structural members, but do not include any of the following items:
  - (i) Standpipes.
  - (ii) Vents.
  - (iii) Other piping systems.
  - (iv) Electrical conduit.
- (d) Tiebacks shall be equivalent in strength to the hoisting rope.

(17) A suspension rope that supports an adjustable suspension scaffold shall be of a diameter large enough to provide sufficient surface area for the functioning of brake and hoist mechanisms.

(18) Repaired wire rope shall not be used as suspension rope.

(19) Wire suspension ropes shall not be joined together, except through the use of eye splice thimbles connected with shackles or cover plates and bolts.

(20) Swaged attachments or spliced eyes on wire suspension ropes shall not be used unless the attachments or eyes are made by the wire rope manufacturer or a qualified person.

(21) The load end of a wire suspension rope shall be equipped with proper size thimble and shall be secured by eye splicing or an equivalent means.

(22) Gasoline-powered equipment and hoists shall not be used on suspension scaffolds.

(23) A suspension scaffold shall be tied or otherwise secured to prevent it from swaying. A competent person shall evaluate the scaffold and determine if it needs to be tied or otherwise secured. Window cleaner's anchors shall not be used to tie or otherwise secure a suspension scaffold.

(24) A device that functions solely to provide emergency escape and rescue shall not be used as a working platform. This subrule does not preclude the use of a system that is designed to function both as a suspension scaffold and an emergency system.

### SUSPENDED SCAFFOLDS

R 408.41232 Multipoint suspended scaffold.

Rule 1232. (1) A multipoint suspended scaffold shall be suspended from structural components that are capable of supporting 4 times the maximum intended load.

(2) A multipoint suspended scaffold shall be light- or medium-duty scaffold only.

(3) If wire rope is used for the suspension of a multipoint suspended scaffold, a minimum of 2 wraps around the supporting structural members and around put logs shall be used and secured with the proper number of wire rope clips or fist **grips**. ~~grips as prescribed in table 5 of R 408.41261(5).~~

(4) Softeners shall be used to prevent damage to wire rope that is used for suspension.

R 408.41233 Two-point adjustable suspension ~~scaffolds scaffold~~; (swing stage scaffold).

Rule 1233. (1) A **2-point adjustable suspension scaffold, also known as a** swing stage scaffold platform, shall not be less than 20 inches nor more than 36 inches wide overall. The platform shall be securely fastened to the stirrups by U-bolts or by other equivalent means.

(2) The stirrups shall be designed with a support for a guardrail, intermediate rails, and toeboard.

(3) Rope and blocks that are used to support a 2-point adjustable scaffold shall have all of the following:

(a) Supporting ropes of 3/4-inch, first-quality manila rope or a synthetic rope of equivalent strength used with at least one 6-inch single and one 6-inch double block.

(b) Blocks that have sheaves which fit the size of the rope the blocks carry.

(c) Live ropes made fast to the scaffold in a manner to prevent displacement.

(d) The dead-end of the supporting rope connected to the block at the stirrup by means of an eye splice incorporating a thimble.

(4) A swing stage scaffold shall be limited to the following number of employees:

(a) For a scaffold designed for a working load of 500 pounds, not more than 2 employees shall be permitted to work at ~~1 one~~ time.

(b) For a scaffold designed for a working load of 750 pounds, not more than 3 employees shall be permitted to work at ~~1 one~~ time.

(5) Two or more scaffolds shall not be combined by bridging with planks or similar connecting links.

(6) Rollers or fenders shall be provided to prevent striking the building and to facilitate raising and lowering.

(7) The platform of a swing stage scaffold shall be 1 of the following types:

(a) Ladder-type platforms - The ladder-type platform shall be constructed to meet ANSI standard A10.8 **“Scaffolding Safety Requirements,”** ~~1977 entitled “Scaffolding,”~~ **1977 edition, as adopted in R 408.41202.** ~~which is adopted in these rules by reference and which may be inspected at the Lansing office of the department of licensing and regulatory affairs. The standard may be purchased at a cost as of the time of adoption of these rules of \$20.00 from the American National Standards Institute, 1430 Broadway, New York, New York 10018, or from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section,~~

~~7150 Harris Drive, Box 30643, Lansing, Michigan 48909.~~

(b) Plank-type platform - The plank-type platform shall be composed of not less than two 2 by 10-inch unspliced planks which are laid straight and which are cleated together on the underside, with the cleats starting 6 inches from each end and spaced at 12-inch intervals.

(c) Beam-type platform - The beam platform shall have side stringers made of lumber that is not less than 2 by 6 inches set on edge. The span between hangers shall not be more than 12 feet. The flooring shall be supported on 2 by 6-inch crossbeams which are laid flat, which are set into the upper edge of the stringers with a snug fit at intervals of not more than 4 feet center to center, and which are securely nailed in place. The flooring shall be 1 by 6-inch lumber or 3/4-inch plywood and shall be securely nailed. Floorboards shall not be spaced more than 1/2 of an inch apart.

(d) Manufactured picks - When used, a manufactured pick shall conform to the requirements of R 408.41217(2) and (3).

R 408.41236 Needle beam scaffolds.

Rule 1236. (1) A needle beam scaffold shall not be altered or moved while in use.

(2) The scaffold planking shall be secured against displacement. Cleats are not an adequate means of attachment.

(3) **Ropes or hangers shall be used for supports, except that 1** ~~One~~ end of a needle beam scaffold may be supported by and secured to a permanent structural member.

## MOBILE SCAFFOLDS

R 408.41241 Mobile scaffolds.

Rule 1241. (1) When a freestanding mobile scaffold is used, the height shall not be more than 4 times the minimum base dimension.

(2) Outriggers, when used, may be considered as part of the base dimension. The outriggers shall be installed on both sides of the scaffold at each frame line.

(3) Locking devices shall be used to secure the casters to the frame or adjusting screw. The adjusting screw shall not extend more than 12 inches. The casters shall be provided with a positive locking device to prevent movement of the scaffold. The device shall be used when the scaffold is in use, except where the work platform is 4 feet or less from the floor.

(4) Vertical members of the scaffold shall be braced by cross bracing and diagonal bracing. Not less than 2 horizontal diagonal braces shall be installed, 1 as close to the casters as possible, at intervals of not more than 4 times the least-based dimension. The horizontal diagonal brace may be omitted on a scaffold that is specifically designed to absorb racking.

(5) A scaffold platform shall cover the full width of the scaffold, except for a necessary entrance opening. A platform shall be secured in place. A platform shall not extend outward beyond the base supports of the scaffold unless outrigger frames or equivalent devices are used to ensure stability.

(6) A ladder or stairway that is provided on a manually propelled mobile scaffold shall be affixed or built into the scaffold and shall be so located that, when in use, the ladder or stairway does not have a tendency to tip the scaffold. A landing platform shall be provided at intervals of not more than 30 feet.

(7) In place of a ladder or stairway, the requirements of R 408.41211(2) may be complied with.

(8) Only manual force shall be used to move a scaffold covered by this rule. The force shall be applied near or as close to the base as practical, except for a scaffold with a work platform that is

4 feet or less from the floor.

(9) When being used, a mobile scaffold shall rest upon a suitable footing and shall stand plumb. Where leveling of the scaffold is necessary, screw jacks or an equivalent means shall be used.

(10) An employer shall not allow an employee to ride on a mobile scaffold, unless all of the following conditions exist:

(a) The floor or surface is within 3 degrees of level and is free from pits, holes, or obstructions.

(b) The minimum base dimension of the scaffold when ready for rolling is not less than  $1/2$   $\frac{1}{2}$  of the height.

(c) The casters are equipped with rubber or similar resilient tires.

(d) All tools and materials are secured or removed from the platform before the mobile scaffold is moved.

(e) The scaffold is equipped with guardrails on all sides.

(f) Before a scaffold is moved, each employee on the scaffold ~~is shall~~ be made aware of the move.

(11) A mobile scaffold shall be in compliance with the applicable provisions of R 408.41217, R 408.41218, R 408.41223, and R 408.41224.

(12) A power system used to propel a mobile scaffold shall be designed to propel a mobile scaffold. A forklift, truck, similar motor vehicle, or add-on motor shall not be used to propel a scaffold unless the scaffold is designed to be propelled by a forklift, truck, similar motor vehicle, or add-on motor.

(13) If a power system is used to propel a scaffold, then the propelling force shall be applied directly to the wheel and shall not produce a speed of more than 1 foot per second (.3 meters per second).

(14) An employee shall not be on any part of a powered mobile scaffold that extends outward beyond the wheels, casters, or other supports.

(15) A powered mobile scaffold shall be stabilized to prevent tipping during movement.

R 408.41243 Rough terrain forklift truck scaffolds; equipment requirements; employee safety requirements.

Rule 1243. (1) The scaffold platform shall be attached to the forks by enclosed sleeves and shall be secured against the back of the forks with a mechanical device so that the platform cannot tip or slip.

(2) A work platform shall be in compliance with all of the following requirements:

(a) Except for the guardrail system as specified in **Construction Safety Standard Part 21 “Guarding of Walking and Working Areas,” as referenced in R 408.41202**, ~~construction safety standard Part 21. Guarding of Walking and Working Areas, R 408.42101 et seq. of the Michigan Administrative Code~~, be of welded mild steel construction that has a minimum safety factor of 4 times the maximum intended load.

(b) Have a continuous guardrail system constructed as follows:

(i) Have a top rail which is located not less than 36 inches, nor more than 42 inches, above the platform floor and which is constructed to withstand a minimum of 200 pounds of force in any direction.

(ii) Have a midrail which is installed at mid-height between the top rail and platform floor and which is constructed to withstand a 200-pound side thrust.

(iii) Have a toeboard which is not less than 4 inches in nominal height and which is installed not more than  $1/4$  of an inch above the floor around the periphery of the work platform. If the platform has a gate, then the toeboard shall be installed on the gate.

(c) Have a wood planking, steel plate, or a steel grating bolted or welded to the bottom of the platform and be maintained free of slip or trip hazards.

(d) Have a permanently affixed sign on the platform that specifies the maximum number of passengers allowed, the work platform identification number, and the maximum rated load.

(e) Be easily identifiable by high-visibility color or marking.

(3) The work platform shall be level when in use.

(4) If an employee is elevated in a platform on a variable reach lift truck, a personal fall arrest system, including the anchorage required in **Construction Safety Standard Part 45 “Fall Protection,”** and **Construction Safety Standard Part 6 “Personal Protective Equipment,”** as referenced in **R 408.41202**, ~~Part 45. Fall Protection, R 408.44501 et seq., of the Michigan Administrative Code and Part 6. Personal Protective Equipment, R408.40601 et seq., of the Michigan Administrative Code,~~ is required and shall be worn when an employee is elevated.

(5)(10) The rough terrain fork truck or the lift truck shall rest on firm footing. Leveling devices and outriggers shall be used where provided on equipment.

(6) A trained operator shall remain at the operator station of a lift truck to control the lift truck while an employee is elevated. The lift truck control or controls shall be in neutral and the parking brake set. The operator of the lift truck scaffold platform shall be able to see the elevated platform at all times.

(7) A lift truck platform shall be returned to the ground before a lift truck is repositioned. The forklift shall be moved as close to the work area as possible for final positioning. An employee shall exit the landed platform and reboard the platform only after the lift truck repositioning is completed.

(8) The combined mass weight of the platform, load, and the employee shall not be more than 1/3 of the rated capacity of the rough terrain forklift truck on which the platform is used.

(9) An employee shall maintain firm footing on the platform floor. Railings, planks, ladders, or other materials shall not be used on the platform to achieve reach or height.

(10) The guardrail system of the platform shall not be used to support any of the following:

(a) Materials.

(b) Other work platforms.

(c) Employees.

(11) The platform shall be lowered to ground level for an employee to enter or exit, except where elevated work areas are inaccessible or hazardous to reach. An employee may exit the platform with the knowledge and consent of the employer. When exiting to unguarded work areas, fall protection shall be provided and used as required in **Construction Safety Standard Part 45 “Fall Protection,”** as referenced in **R 408.41202**. ~~construction safety standard, Part 45. Fall Protection, being R 408.44501 et seq. of the Michigan Administrative Code.~~ An employee shall not climb on any part of a lift truck when attempting to enter or exit the platform.

(12) A platform shall not be modified if the modification is detrimental to its safe use.

(13) Floor dimensions parallel to the truck longitudinal centerline shall not be more than 2 times the load center distance listed on the rough terrain forklift truck nameplate. The floor dimension width shall not be more than the overall width of the truck measured across the load-bearing tires plus 10 inches (250 mm) on either side. The minimum space for each employee on the platform shall be not less than 18 inches (450 mm) in either direction.

(14) A wood pallet shall not be used as a platform for lift truck scaffolds.

(15) If arc welding is performed by an employee on the platform, then the electrode holders shall be protected from contact with the metal components of the work platform.

(16) A work platform shall not be used during high winds, electrical storms, snow, ice, sleet, or

other adverse weather conditions that could affect the safety of the employees on the work platform or the operator of the truck.

**AUXILIARY SUPPORTED SCAFFOLDS**

R 408.41251 Outrigger scaffolds.

Rule 1251. (1) The inboard end of an outrigger beam measured from the fulcrum point to anchorage point shall be not less than 1 1/2 times the outboard end in length. The beams shall rest on edge, the sides shall be plumb, and the edges shall be horizontal. The fulcrum point of the beam shall rest on a secure bearing not less than 6 inches in each horizontal dimension. The beam shall be secured in place against movement and shall be securely braced at the fulcrum point against tipping.

(2) The inboard end of an outrigger beam shall be securely anchored either by means of struts bearing against sills in contact with the overhead beams or ceiling or by means of tension members secured to the floor joists underfoot, or by both if necessary. The inboard end of an outrigger beam shall be secured against tipping, and the entire supporting structure shall be securely braced in both directions to prevent any horizontal movement.

(3) An outrigger scaffold shall be constructed as prescribed in table 4.

(4) Planking shall be laid tight and shall extend to within 3 inches of the building wall. Planking shall be secured to the outriggers.

(5) A scaffold and scaffold components shall be designed by a qualified person who is knowledgeable in scaffolding and shall be constructed and loaded ~~in accordance with~~ **pursuant to** the design.

(6) Table 4 reads as follows:

<b>TABLE 4 SPACING AND LENGTH OF OUTRIGGER SCAFFOLDS</b>		
<b>Maximum Scaffold Load</b>	<b>Light Duty 25 p.s.f.</b>	<b>Medium Duty 50 p.s.f.</b>
<b>Outrigger size</b>	<b>2 inches by 10 inches</b>	<b>3 inches by 10 inches</b>
<b>Maximum outrigger spacing</b>	<b>8 feet</b>	<b>6 feet</b>
<b>Maximum outrigger length</b>	<b>6 feet</b>	<b>6 feet</b>

**TABLE 4  
SPACING AND LENGTH OF OUTRIGGER SCAFFOLDS**

Maximum Scaffold Load	Light Duty	Medium Duty
	25 psf	50 psf
Outrigger size	2 by 10 feet	3 by 10 feet
Maximum outrigger spacing	8 feet	6 feet Maximum
Maximum outrigger length	6 feet	6 feet

R 408.41254 Carpenter’s bracket scaffold.

Rule 1254. (1) Each bracket, except those for wooden bracket-form scaffolds, shall be attached to the supporting formwork or structure by means of 1 or more of the following:

- (a) Nails.
- (b) A metal stud attachment device.
- (c) Welding, hooking over a secured structural supporting member, with the form wales either bolted to the form or secured by snap ties or tie bolts extending through the form and securely anchored.
- (d) For carpenters' bracket scaffolds only, by a bolt extending through to the opposite side of the structure's wall.

(2) The supporting brackets shall be fastened to the structure by 1 of the following:

- (a) **Three-eighths-inch** ~~Three-eighths-inch~~ diameter bolts extending through the studs at the top of the bracket and projecting 3/4 inch beyond the nut and washer when in place.
- (b) Welding to a metal tank.
- (c) Hooked over a secured supporting member of the structure.

R 408.41256 Ladder jack scaffolds.

Rule 1256. (1) A ladder jack scaffold shall be used only for light duty on type I manufactured ladders at heights not more than 20 feet from the ground or floor level. The ladder shall be used as prescribed in **Construction Safety Standard Part 11 “Fixed and Portable Ladders,” as referenced in R 408.41202.** ~~Part 11. Fixed and Portable Ladders, R 408.41101 et seq. of the Michigan Administrative Code.~~

(2) All bearing points of a ladder jack shall be designed to bear on the side rails and the rungs, but if bearing on the rungs only, the bearing area shall be not less than 10 lineal inches per rung.

R 408.41256a Step, platform, and trestle ladder scaffolds.

Rule 1256a. (1) A scaffold platform shall not be placed higher than the second highest rung or step of the ladder supporting the platform.

(2) A ladder used in conjunction with a step, platform, and trestle ladder scaffold shall ~~be in compliance~~ **comply** with the pertinent requirements of **Construction Safety Standard Part 11 “Fixed and Portable Ladders,” as referenced in R 408.41202,** ~~construction safety standard Part 11. Fixed and Portable Ladders, being R 408.41101 et seq. of the Michigan Administrative Code,~~ except that job- made ladders shall not be used to support a step, platform, or trestle scaffold.

(3) A ladder used to support a step, platform, and trestle ladder scaffold shall be placed, fastened, or equipped with a device to prevent slipping.

(4) A scaffold shall not be bridged to another scaffold.

R 408.41256b Repair bracket scaffolds.

Rule 1256b. (1) Brackets shall be secured in place by at least 1 wire rope that is at least  $1/2 \frac{1}{2}$  of an inch (1.27 centimeter) in diameter.

(2) Each bracket shall be attached to the securing wire rope or ropes by either a positive locking device capable of preventing the unintentional detachment of the bracket from the rope or by equivalent means.

(3) Each bracket, at the contact point between the supporting structure and the bottom of the bracket, shall have a shoe (heel block or foot) capable of preventing the lateral movement of the bracket.

(4) A platform shall be secured to the brackets in a manner that will prevent the separation of the platform from the brackets and the movement of the platform or the brackets on a completed scaffold.

(5) If a wire rope is placed around the structure to provide a safe anchorage for personal fall arrest systems used by employees erecting or dismantling scaffolds, then the wire rope shall ~~be in compliance~~ **comply** with the requirements of **Construction Safety Standard part 45 “Fall Protection,” as referenced in R 408.41202**, ~~construction safety standard Part 45. Fall Protection, being R 408.44501 et seq. of the Michigan Administrative Code, or this standard,~~ **part**, but shall be at least 5/16 of an inch (0.8 centimeter) in diameter.

(6) A wire rope used for securing brackets in place or as an anchorage for personal fall arrest systems shall be protected from damage due to contact with edges, corners, protrusions, or other discontinuities of the supporting structure or scaffold components.

(7) The tensioning of a wire rope used for securing brackets in place or as an anchorage for personal fall arrest systems shall be accomplished either by means of a turnbuckle at least 1 inch (2.54 centimeter) in diameter or by equivalent means.

(8) A turnbuckle shall be connected to the other end of its rope using an eye splice thimble of a size appropriate to the turnbuckle to which it is attached.

(9) U-bolt wire rope clips shall not be used on any wire rope used to secure brackets or to serve as an anchor for personal fall arrest systems.

(10) An employer shall ensure that materials ~~are shall not be~~ dropped to the outside of the supporting structure.

(11) Scaffold erection shall progress in only 1 direction around any structure.

## WIRE, FIBER, AND SYNTHETIC ROPE

R 408.41261 Wire rope.

Rule 1261. (1) A wire rope shall be inspected for defects by a competent person before each work shift and after every occurrence **that** could affect a rope’s integrity. A rope shall be replaced if any of the following conditions exist:

(a) Physical damage that impairs the function and strength of the rope.

(b) Kinks that might impair the tracking or wrapping of rope around the drum or sheaves.

(c) Six randomly distributed broken wires in 1 rope lay or 3 broken wires in 1 strand in 1 rope lay.

(d) Abrasion, corrosion, scrubbing, flattening, or peening that has caused the loss of more than

1/3 of the original diameter of the outside wires.

(e) Heat damage caused by a torch or any damage caused by contact with electrical wires.

(f) Evidence that the secondary brake has been activated during an overspeed condition and has engaged the suspension rope.

(2) Wire rope that is bent to form an eye over a bolt or rod which has a diameter of less than 4 times the rope diameter shall be equipped with a metal thimble.

(3) Swaged attachments or spliced eyes on wire suspension ropes shall not be used unless they are made by the wire rope manufacturer or a qualified person.

(4) If wire rope clips are used on suspension scaffolds, then all of the following provisions apply:

(a) Clips shall be installed according to the manufacturer's recommendations.

(b) Clips shall be retightened to the manufacturer's recommendations after the initial loading.

(c) Clips shall be inspected and retightened to the manufacturer's recommendations at the start of each work shift.

(d) U-bolt clips shall not be used at the point of suspension for any scaffold hoist.

(e) If U-bolt clips are used, then the U-bolt shall be placed over the dead end of the rope and the saddle shall be placed over the live end of the rope.

(5) Wire rope shall not come in contact with sharp edges.

#### ~~Non-mandatory Appendix A~~

~~This Appendix provides non-mandatory guidelines to assist employers in complying with the requirements of MIOSHA Construction Safety Standard Part 12. Scaffolds and Scaffold Platforms. An employer may use these guidelines and tables as a starting point for designing scaffold systems. However, the guidelines do not provide all the information necessary to build a complete system, and the employer is still responsible for designing and assembling these components in such a way that the completed system will meet the requirements of R 408.41210(3), except as provided in R 408.41213(1) and (2), R 408.41214(4), R 408.41229(1), and R 408.41229(17). Scaffold components which are not selected and loaded in accordance with this Appendix, and components for which no specific guidelines or tables are given in this Appendix (e.g., joints, ties, components for wood pole scaffolds more than 60 feet in height, components for heavy-duty horse scaffolds, components made with other materials, and components with other dimensions, etc.) must be designed and constructed in accordance with the capacity requirements of R 408.41210(3), except as provided in R 408.41213(1) and (2), R 408.41214(4), R 408.41229(1), and R 408.41229(17), and loaded in accordance with R 408.41229(2).~~

#### ~~Index to Appendix A for Subpart L~~

~~1. General guidelines and tables.~~

~~2. Specific guidelines and tables.~~

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- ~~(e) Bricklayers' square scaffolds.~~
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- ~~(y) Stilts.~~
- ~~(z) Tank builders' scaffolds.~~

1. General Guidelines and Tables

~~(a) The following tables, and the tables in Part 2 — Specific guidelines and tables, assume that all load-carrying timber members(except planks) of the scaffold are a minimum of 1,500 lb-f/in(2)(stress grade) construction grade lumber. All dimensions are nominal sizes as provided in the American Softwood Lumber Standards, dated January 1970, except that, where rough sizes are noted, only rough or undressed lumber of the size specified will satisfy minimum requirements.~~

~~(b) Solid sawn wood used as scaffold planks shall be selected for such use following the grading rules established by a recognized lumber grading association or by an independent lumber grading inspection agency. Such planks shall be identified by the grade stamp of such association or agency. The association or agency and the grading rules under which the wood is graded shall be certified by the Board of Review, American Lumber Standard Committee, as set forth in the American Softwood Lumber Standard of the U.S. Department of Commerce.~~

~~(i) Allowable spans shall be determined in compliance with the National Design Specification for Wood Construction published by the National Forest Products Association; paragraph 5 of ANSI A10.8-1988 Scaffolding Safety Requirements published by the American National Standards Institute; or for 2 x 10-inch(nominal) or 2 x 9-inch(rough) solid sawn wood planks, as shown in the following table:~~

<del>Maximum intended nominal load(lb/ft(2))</del>	<del>Maximum permissible span using full thickness undressed</del>	<del>Maximum permissible span using nominal thickness</del>
--	--	---

	lumber(ft)	lumber(ft)
25	10	8
50	8	6

(ii) The maximum permissible span for 1 1/4 x 9 inch or wider wood plank of full thickness with a maximum intended load of 50 lb/ft. (2) shall be 4 feet.

(c) Fabricated planks and platforms may be used in lieu of solid sawn wood planks. Maximum spans for such units shall be as recommended by the manufacturer based on the maximum intended load being calculated as follows:

Rated load capacity	Intended load
Light duty	* 25 pounds per square foot applied uniformly over the entire span area.
Medium duty	* 50 pounds per square foot applied uniformly over the entire span area.
Heavy duty	* 75 pounds per square foot applied uniformly over the entire span area.
One person	* 250 pounds placed at the center of the span (total 250 pounds).
Two person	* 250 pounds placed 18 inches to the left and right of the center of the span (total 500 pounds).
Three person	* 250 pounds placed at the center of the span and 250 pounds placed 18 inches to the left and right of the center of the span (total 750 pounds).

Note: Platform units used to make scaffold platforms intended for light duty use shall be capable of supporting at least 25 pounds per square foot applied uniformly over the entire unit span area, or a 250 pound point load placed on the unit at the center of the span, whichever load produces the greater shear force.

(d) Guardrails shall be as follows:

(i) Toprails shall be equivalent in strength to 2 inch by 4 inch lumber; or 1 1/4 inch x 1/8 inch structural angle iron; or 1 inch x .070 inch wall steel tubing; or 1.990 inch x .058 inch wall aluminum tubing.

(ii) Midrails shall be equivalent in strength to 1 inch by 6 inch lumber; or 1 1/4 inch x 1 1/4 inch x 1/8 inch structural angle iron; or 1 inch x .070 inch wall steel tubing; or 1.990 inch x .058 inch wall aluminum tubing.

(iii) Toeboards shall be equivalent in strength to 1 inch by 4 inch lumber; or 1 1/4 inch x 1 1/4 inch structural angle iron; or 1 inch x .070 inch wall steel tubing; or 1.990 inch x .058 inch wall aluminum tubing.

(iv) Posts shall be equivalent in strength to 2 inch by 4 inch lumber; or 1 1/4 inch x 1 1/4 inch x 1/8 inch structural angle iron; or 1 inch x .070 inch wall steel tubing; or 1.990 inch x .058 inch wall aluminum tubing.

(v) Distance between posts shall not exceed 8 feet.

(e) Overhead protection shall consist of 2-inch nominal planking laid tight, or 3/4-inch plywood.

(f) Screen installed between toeboards and midrails or top rails shall consist of No. 18 gauge U.S. Standard wire one inch mesh.

2. Specific guidelines and tables:

(a) Pole Scaffolds:

Single Pole Wood Pole Scaffolds

	Light duty up to 20 feet high	Light duty up to 60 feet high	Medium duty up to 60 feet high	Heavy duty up to 60 feet high
Maximum intended load (lbs/ft <sup>2</sup> )	25	25	50	75
Poles or uprights	2x4 in.	4x4 in.	4x4 in.	4x6 in.
Maximum pole spacing(longitudinal )	6 feet	10 feet	8 feet	6 feet
Maximum pole spacing(transverse)	5 feet	5 feet	5 feet	5 feet
Runners	1x4 in.	1 ¼ x 9 in.	2x10 in.	2x10 in.
Bearers and maximum spacing of bearers:				
3 feet	2x4 in.	2x4 in.	2x10 in. or 3x4 in.	2x10 in. or 3x5 in.
5 feet	2x6 in. or 3x4 in.	2x6 in. or 3x4 in.(rough)	2x10 in. or 3x4 in.	2x10 in. or 3x5 in.
6 feet			2x10 in. or 3x4 in.	2x10 in. or 3x5 in.
8 feet			2x10 in. or 3x4 in.	
Planking	1 ¼ x 9 in.	2x10 in.	2x10 in.	2x10 in.
Maximum vertical spacing of horizontal members	7 feet	9 feet	7 feet	6 ft. 6 in.
Bracing horizontal	1x4 in.	1x4 in.	1x6 in. or 1 ¼ x 4 in.	2x4 in.
Bracing diagonal	1x4 in.	1x4 in.	1x4 in.	2x4 in.
Tie ins	1x4 in.	1x4 in.	1x4 in.	1x4 in.

Note: All members except planking are used on edge. All wood bearers shall be reinforced with 3/16 x 2-inch steel strip, or the equivalent, secured to the lower edges for the entire length of the bearer.

Independent Wood Pole Scaffolds

	Light duty up to 20 feet high	Light duty up to 60 feet high	Medium duty up to 60 feet high	Heavy duty up to 60 feet high
Maximum intended load	25 lbs/ft <sup>2</sup>	25 lbs/ft <sup>2</sup>	50 lbs/ft <sup>2</sup>	75 lbs/ft <sup>2</sup>
Poles or uprights	2x4 in.	4x4 in.	4x4 in.	4x4 in.
Maximum pole spacing(longitudinal)	6 feet	10 feet	8 feet	6 feet
Maximum(transverse )	6 feet	10 feet	8 feet	8 feet
Runners	1 ¼ x4 in.	1 ¼ x 9 in.	2x10 in.	2x10 in.
Bearers and maximum spacing or bearers:				
3 feet	2x4 in.	2x4 in.	2x10 in.	2x10 in.(rough).
6 feet	2x6 in. or 3x4 in.	2x10 in.(rough) or 3x8 in.	2x10 in.	2x10 in.(rough).
8 feet	2x6 in. or 3x4 in.	2x10 in.(rough) or 3x8 in.	2x10 in. or 3x4 in.	
10 feet	2x6 in. or 3x4 in.	2x10 in.(rough) or 3x3 in.		
Planking	1 ¼ x 9 in.	2x10 in.	2x10 in.	2x10 in.
Maximum vertical spacing of horizontal members	7 feet	7 feet	6 feet	6 feet
Bracing horizontal	1x4 in.	1x4 in.	1x6 in. or 1 ¼ x 4 in.	2x4 in.
Bracing diagonal	1x4 in.	1x4 in.	1x4 in.	2x4 in.
Tie ins	1x4 in.	1x4 in.	1x4 in.	1x4 in.

Note: All members except planking are used on edge. All wood bearers shall be reinforced with 3/16 x 2-inch steel strip, or the equivalent, secured to the lower edges for the entire length of the bearer.

(b) Tube and coupler scaffolds.

Minimum Size of Members

	Light Duty	Medium Duty	Heavy Duty
Maximum intended load	25 lbs/ft <sup>2</sup>	50 lbs/ft <sup>2</sup>	75 lbs/ft <sup>2</sup>
Posts, runners and braces	Nominal 2 in. (1.90 inches) OD steel tube or pipe	Nominal 2 in. (1.90 inches) OD steel tube or pipe.	Nominal 2 in. (1.90 inches) OD steel tube or pipe.
Bearers	Nominal 2 in. (1.90 inches) OD steel tube	Nominal 2 in. (1.90 inches) OD steel tube	Nominal 2 ½ in.(2.375 in.) OD steel

	or pipe and a maximum post spacing of 4 ft.x10 ft.	or pipe and a maximum post spacing of 4 ft.x7 ft. or, Nominal 2 ½ in.(2.375 in.) OD steel tube or pipe and a maximum post spacing of 6 ft.x8 ft.*	tube or pipe and a maximum post spacing of 6 ft.x6 ft.
Maximum runner spacing vertically	6 ft. 6 in.	6 ft. 6 in.	6 ft. 6 in.

\*Bearers shall be installed in the direction of the shorter dimension.

Note: Longitudinal diagonal bracing shall be installed at an angle of 45 deg.(+/- 5 deg.).

**Maximum Number of Planked Levels**

Number of working levels:	Maximum number of additional planked levels			Maximum height of scaffold(in feet)
	Light duty	Medium duty	Heavy duty	
1	16	11	6	125
2	11	1	0	125
3	6	0	0	125
4	1	0	0	125

(c) "Fabricated frame scaffolds." Because of their prefabricated nature, no additional guidelines or tables for these scaffolds are being adopted in this Appendix.

(d) "Plasterers', decorators', and large area scaffolds." The guidelines for pole scaffolds or tube and coupler scaffolds(Appendix A(a) and(b)) may be applied.

(e) "Bricklayers' square scaffolds."  
 Maximum intended load: 50 lb/ft.(2)(\*)  
 Maximum width: 5 ft.  
 Maximum height: 5 ft.  
 Gussets: 1 x 6 in.  
 Braces: 1 x 8 in.  
 Legs: 2 x 6 in.  
 Bearers(horizontal members): 2 x 6 in.

Footnote(\*) The squares shall be set not more than 8 feet apart for light duty scaffolds and not more than 5 feet apart for medium duty scaffolds.

(f) Horse scaffolds.  
 Maximum intended load(light duty): 25 lb/ft.(2)(\*\*)  
 Maximum intended load(medium duty): 50 lb/ft.(2)(\*\*)

Footnote(\*\*) ~~Horses shall be spaced not more than 8 feet apart for light duty loads, and not more than 5 feet apart for medium duty loads.~~

~~Horizontal members or bearers:~~

~~Light duty: 2 x 4 in.~~

~~Medium duty: 3 x 4 in.~~

~~Legs: 2 x 4 in.~~

~~Longitudinal brace between legs: 1 x 6 in.~~

~~Gusset brace at top of legs: 1 x 8 in.~~

~~Half diagonal braces: 2 x 4 in.~~

~~(g) "Form scaffolds and carpenters' bracket scaffolds."~~

~~(1) Brackets shall consist of a triangular-shaped frame made of wood with a cross-section not less than 2 inches by 3 inches, or of 1 1/4 inch x 1 1/4 inch x 1/8 inch structural angle iron.~~

~~(2) Bolts used to attach brackets to structures shall not be less than 5/8 inches in diameter.~~

~~(3) Maximum bracket spacing shall be 8 feet on centers.~~

~~(4) No more than two employees shall occupy any given 8 feet of a bracket or form scaffold at any one time. Tools and materials shall not exceed 75 pounds in addition to the occupancy.~~

~~(5) Wooden figure-four scaffolds:~~

~~Maximum intended load: 25 lb/ft.(2)~~

~~Uprights: 2 x 4 in. or 2 x 6 in.~~

~~Bearers(two): 1 x 6 in.~~

~~Braces: 1 x 6 in.~~

~~Maximum length of bearers(unsupported): 3 ft. 6 in.~~

~~(i) Outrigger bearers shall consist of 2 pieces of 1 x 6 inch lumber nailed on opposite sides of the vertical support.~~

~~(ii) Bearers for wood figure-four brackets shall project not more than 3 feet 6 inches from the outside of the form support, and shall be braced and secured to prevent tipping or turning. The knee or angle brace shall intersect the bearer at least 3 feet from the form at an angle of approximately 45 degrees, and the lower end shall be nailed to a vertical support.~~

~~(6) Metal bracket scaffolds:~~

~~Maximum intended load: 25 lb/ft.(2)~~

~~Uprights: 2 x 4 inch~~

~~Bearers: As designed.~~

~~Braces: As designed.~~

~~(7) Wood bracket scaffolds:~~

~~Maximum intended load: 25 lb/ft.(2)~~

~~Uprights: 2 x 4 in or 2 x 6 in~~

~~Bearers: 2 x 6 in~~

~~Maximum scaffold width: 3 ft 6 in~~

~~Braces: 1 x 6 in~~

~~(h) "Roof bracket scaffolds." No specific guidelines or tables are given.~~

~~(i) "Outrigger scaffolds(single level)." No specific guidelines tables are given.~~

~~(j) "Pump jack scaffolds." Wood poles shall not exceed 30 feet in height. Maximum intended load — 500 lbs between poles; applied at the center of the span. Not more than 2 employees shall be on a pump jack scaffold at one time between any two supports. When 2 x 4's are spliced~~

together to make a 4 x 4 inch wood pole, they shall be spliced with "10 penny" common nails no more than 12 inches center to center, staggered uniformly from the opposite outside edges.

(k) "Ladder jack scaffolds." Maximum intended load — 25 lb/ft(2). However, not more than 2 employees shall occupy any platform at any one time. Maximum span between supports shall be 8 feet.

(l) "Window jack scaffolds." Not more than 1 employee shall occupy a window jack scaffold at any one time.

(m) "Crawling boards(chicken ladders)." Crawling boards shall be not less than 10 inches wide and 1 inch thick, with cleats having a minimum 1 x 1 ½ inch cross-sectional area. The cleats shall be equal in length to the width of the board and spaced at equal intervals not to exceed 24 inches.

(n) "Step, platform, and trestle ladder scaffolds." No additional guidelines or tables are given.

(o) "Single point adjustable suspension scaffolds." Maximum intended load — 250 lbs. Wood seats for boatswains' chairs shall be not less than 1 inch thick if made of non-laminated wood, or 5/8 inches thick if made of marine quality plywood.

(p) "Two point adjustable suspension scaffolds."(1) In addition to direct connections to buildings(except window cleaners' anchors) acceptable ways to prevent scaffold sway include angulated roping and static lines. Angulated roping is a system of platform suspension in which the upper wire rope sheaves or suspension points are closer to the plane of the building face than the corresponding attachment points on the platform, thus causing the platform to press against the face of the building. Static lines are separate ropes secured at their top and bottom ends closer to the plane of the building face than the outermost edge of the platform. By drawing the static line taut, the platform is drawn against the face of the building.

(2) On suspension scaffolds designed for a working load of 500 pounds, no more than 2 employees shall be permitted on the scaffold at one time. On suspension scaffolds with a working load of 750 pounds, no more than 3 employees shall be permitted on the scaffold at one time.

(3) Ladder-type platforms. The side stringer shall be of clear straight-grained spruce. The rungs shall be of straight-grained oak, ash, or hickory, at least 1 1/8 inches in diameter, with 7/8 inch tenons mortised into the side stringers at least 7/8 inch. The stringers shall be tied together with tie rods not less than 1/4 inch in diameter, passing through the stringers and riveted up tight against washers on both ends. The flooring strips shall be spaced not more than 5/8 inch apart, except at the side rails where the space may be 1 inch. Ladder-type platforms shall be constructed in accordance with the following table:

Schedule for Ladder Type Platforms

Length of Platform	12 feet	14 & 16 feet	18 & 20 feet
Side stringers, minimum cross section(finished sizes):			
At ends	1 ¾ x 2 ¾ in.	1 ¾ x 2 ¾ in.	1 ¾ x 3 in.
At middle	1 ¾ x 3 ¾ in.	1 ¾ x 3 ¾ in.	1 ¾ x 4 in.

Reinforcing strip(minimum)	A 1/8 x 7/8 inch steel reinforcing strip shall be attached to the side or underside, full length.		
Rungs	Rungs shall be 1 1/8 inch minimum diameter with at least 7/8-inch diameter tenons, and the maximum spacing shall be 12 inches to center.		
Tie rods:			
Number(minimum)	3	4	4
Diameter(minimum)	1/4 inch	1/4 inch	1/4 inch
Flooring, minimum finished size	1/2 x 2 3/4 in.	1/2 x 2 3/4 in.	1/2 x 2 3/4 in.

Schedule for Ladder Type Platforms

Length of Platform	22 & 24 feet	28 & 30 feet
Side stringers, minimum cross section(finished sizes):		
At ends	1 3/4 x 3 in.	1 3/4 x 3 1/2 in.
At middle	1 3/4 x 4 1/4 in.	1 3/4 x 5 in.
Reinforcing strip(minimum)	A 1/8 x 7/8 inch steel reinforcing strip shall be attached to the side or underside, full length.	
Rungs	Rungs shall be 1 1/8 inch minimum diameter with at least 7/8 inch diameter tenons, and the maximum spacing shall be 12 inches to center.	
Tie rods:		
Number(minimum)	5	6
Diameter(minimum)	1/4 inch	1/4 inch
Flooring, minimum finished size	1/2 x 2 3/4 in.	1/2 x 2 3/4 in.

(4) Plank Type Platforms. Plank type platforms shall be composed of not less than nominal 2-x 8-inch unsplined planks, connected together on the underside with cleats at intervals not exceeding 4 feet, starting 6 inches from each end. A bar or other effective means shall be securely fastened to the platform at each end to prevent the platform from slipping off the hanger. The span between hangers for plank type platforms shall not exceed 10 feet.

(5) Beam Type Platforms. Beam platforms shall have side stringers of lumber not less than 2-x 6-inches set on edge. The span between hangers shall not exceed 12 feet when beam platforms are used. The flooring shall be supported on 2-x 6-inch cross beams, laid flat and set into the upper edge of the stringers with a snug fit, at intervals of not more than 4 feet, securely nailed to the cross beams. Floor boards shall not be spaced more than 1/2 inch apart.

(q)(1) "Multi-point adjustable suspension scaffolds and stonemasons' multi-point adjustable suspension scaffolds." No specific guidelines or tables are given for these scaffolds.

(q)(2) "Masons' multi-point adjustable suspension scaffolds." Maximum intended load—50 lb/ft(2). Each outrigger beam shall be at least a standard 7-inch, 15.3-pound steel I-beam, at least 15 feet long. Such beams shall not project more than 6 feet 6 inches beyond the bearing point. Where the overhang exceeds 6 feet 6 inches, outrigger beams shall be composed of stronger beams or multiple beams.

(r) "Catenary scaffolds."

- (1) Maximum intended load — 500 lbs.
- (2) Not more than 2 employees shall be permitted on the scaffold at one time.
- (3) Maximum capacity of come-along shall be 2,000 lbs.
- (4) Vertical pickups shall be spaced not more than 50 feet apart.
- (5) Ropes shall be equivalent in strength to at least 1/2 inch(1.3 cm) diameter improved plow steel wire rope.

(s) "Float(ship) scaffolds."

- (1) Maximum intended load — 750 lbs.
- (2) Platforms shall be made of 3/4 inch plywood, equivalent in rating to American Plywood Association Grade B-B, Group I, Exterior.
- (3) Bearers shall be made from 2 x 4 inch, or 1 x 10 inch rough lumber. They shall be free of knots and other flaws.
- (4) Ropes shall be equivalent in strength to at least 1 inch(2.5 cm) diameter first grade manila rope.

(t) Interior hung scaffolds.

- Bearers(use on edge): 2 x 10 in.  
Maximum intended load: Maximum span  
25 lb/ft.(2): 10 ft.  
50 lb/ft.(2): 10 ft.  
75 lb/ft.(2): 7 ft.

(u) "Needle beam scaffolds."

- Maximum intended load: 25 lb/ft.(2)  
Beams: 4 x 6 in.  
Maximum platform span: 8 ft.  
Maximum beam span: 10 ft.
- (1) Ropes shall be attached to the needle beams by a scaffold hitch or an eye splice. The loose end of the rope shall be tied by a bowline knot or by a round turn and a half hitch.
  - (2) Ropes shall be equivalent in strength to at least 1 inch(2.5 cm) diameter first grade manila rope.

(v) "Multi-level suspension scaffolds." No additional guidelines or tables are being given for these scaffolds.

(w) "Mobile Scaffolds." Stability test as described in the ANSI A92 series documents, as appropriate for the type of scaffold, can be used to establish stability for the purpose of 1926.452(w)(6).

(x) "Repair bracket scaffolds." No additional guidelines or tables are being given for these scaffolds.

(y) "Stilts." No specific guidelines or tables are given.

(z) "Tank builder's scaffold."

- (1) The maximum distance between brackets to which scaffolding and guardrail supports are attached shall be no more than 10 feet 6 inches.
- (2) Not more than 3 employees shall occupy a 10-foot 6-inch span of scaffold planking at any time.
- (3) A taut wire or synthetic rope supported on the scaffold brackets shall be installed at the scaffold plank level between the innermost edge of the scaffold platform and the curved plate

~~structure of the tank shell to serve as a safety line in lieu of an inner guardrail assembly where the space between the scaffold platform and the tank exceeds 12 inches(30.48 cm). In the event the open space on either side of the rope exceeds 12 inches(30.48 cm), a second wire or synthetic rope appropriately placed, or guardrails in accordance with 1926.451(e)(4), shall be installed in order to reduce that open space to less than 12 inches(30.48 cm).~~

~~(4) Scaffold planks of rough full dimensioned 2-inch(5.1 cm) x 12-inch(30.5 cm) Douglas Fir or Southern Yellow Pine of Select Structural Grade shall be used. Douglas Fir planks shall have a fiber stress of at least 1900 lb/in(2)(130,929 n/cm(2)) and a modulus of elasticity of at least 1,900,000 lb/in(2)(130,929,000 n/cm(2)), while Yellow Pine planks shall have a fiber stress of at least 2500 lb/in(2)(172,275 n/cm(2)) and a modulus of elasticity of at least 2,000,000 lb/in(2)(137,820,000 n/cm(2)).~~

~~(5) Guardrails shall be constructed of a taut wire or synthetic rope, and shall be supported by angle irons attached to brackets welded to the steel plates. These guardrails shall comply with 1926.451(e)(4). Guardrail supports shall be located at no greater than 10-foot 6-inch intervals.~~

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**PROPOSED ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

CONSTRUCTION SAFETY STANDARDS

Draft January 4, 2016

Filed with the Secretary of State on

These rules become effective immediately upon filing with the Secretary of State unless adopted under **section sections** 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of licensing and regulatory affairs by sections 19 and 21 of 1974 PA 154, **MCL 408.1019 and 408.1021**, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030)

R 408.42501, R 408.42502, R 408.42503, R 408.42517, R 408.42518, R 408.42520, R 408.42523, and R 408.42533 of the Michigan Administrative Code are amended, as follows:

PART 25. CONCRETE CONSTRUCTION

R 408.42501 Scope.

Rule 2501. This **standard part** pertains to all of the following:

- (a) The reinforcing, pouring, stressing, lifting, and floating of concrete.
- (b) The construction of forms and shoring used in connection with concrete construction.
- (c) Prestressed and poststressed operations.
- (d) Precast, tilt-up, and lift-slab operations.

R 408.42502 Adoption of standards.

Rule 2502.(1) The following standards are adopted 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.ihc.com](http://www.global.ihc.com), at a cost as of the time of adoption of these rules, as stated in this rule:

(a) American National Standard Institute standard ANSI A10.9, "Concrete Construction and Masonry Work," 1983 edition. Cost: \$20.00.

(b) American Welding Society standard AWS D1.1/D1.1M, "Structural Welding Code Steel," 2002 edition. Cost: \$468.00.

(2) The following standard is adopted by reference in these rules, American Welding Society standard AWS B1.10, "Guide for the Nondestructive Examination of Welds," 1999 edition. This standard is available from The AWS Store Customer Service, 13301 NW 47 Avenue,

Opa-Locka, Florida 33054 USA; telephone number: 305-826-6192; or via the internet at website: [www.aws.org](http://www.aws.org); at a cost as of the time of adoption of these rules of \$104.00.

(3) The standards adopted in **these rules** ~~subrules(1) and(2) of this rule~~ are also available for inspection at the Michigan Department of Licensing And Regulatory Affairs, MIOSHA **Regulatory Services Standards Section, 7150 Harris Drive 530 West Allegan Street, P.O. Box 30643**, Lansing, Michigan 48909-8143.

(4) Copies of these **standards** ~~standards, adopted in this rule,~~ may be obtained from the publisher or may ~~also~~ be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA **Regulatory Services Standards Section, 7150 Harris Drive 530 West Allegan Street**, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus \$20.00 for shipping and handling.

R 408.42503 Reference of standards.

Rule 2503. 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, Standards Division, 7150 Harris Drive 530 West Allegan Street**, P.O. Box 30643, Lansing, Michigan, 48908-8143, or via the internet at website: [www.michigan.gov/mioshastandards](http://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 12 “Scaffolds and Scaffold Platforms,” R 408.41201 to R 408.41264.

(b) Construction Safety Standard Part 21 “Guarding of Walking and Working Areas,” R 408.42101 to R 408.42160.

(c) Construction Safety Standard Part 45 “Fall Protection,” R 408.44501 to R 408.44502.

R 408.42517 Construction equipment and material requirements; adoption by reference.

Rule 2517. (1) Equipment and material used in concrete construction and masonry work shall meet the applicable requirements prescribed in American national standard institute standard ANSI A10.9, “**Concrete Construction and Masonry Work**,” ~~concrete construction and masonry work~~, 1983 edition, ~~as which is adopted in R 408.42502. by reference.~~

(2) The minimum safety factors of formwork accessories shall be as prescribed in table 1, as follows:

<b>TABLE 1</b>		
<b>MINIMUM SAFETY FACTORS OF FORMWORK ACCESSORIES*</b>		
<b>Accessory</b>	<b>Safety Factor</b>	<b>Type of Construction</b>
<b>Form Tie</b>	<b>1.5</b>	<b>Light formwork, 8 feet or less in height with no hazard to life.</b>
	<b>2.0</b>	<b>All formwork over 8 feet in height or hazardous to life. Formwork for architectural concrete.</b>
<b>Form Anchor</b>	<b>2.0</b>	<b>Formwork supporting form weight and concrete pressures only.</b>
	<b>3.0</b>	<b>Formwork supporting weight of forms, concrete, construction live loads, and impact.</b>
<b>Form Hangers</b>	<b>2.0</b>	<b>All applications.</b>
<b>Anchoring inserts used as form ties.</b>	<b>2.0</b>	<b>Precast concrete panels when used as formwork.</b>
<b>*Safety factors are based on ultimate strength of accessory.</b>		

Table 1  
~~MINIMUM SAFETY FACTORS OF FORMWORK ACCESSORIES\*~~

<del>Accessory</del>	<del>Safety Factor</del>	<del>Type of Construction</del>
<del>Form Tie</del>	<del>1.5</del>	<del>Light formwork, 8 feet or less in height with no hazard to life.</del>
	<del>2.0</del>	<del>All formwork over 8 feet in height or hazardous to life. Formwork for architectural concrete.</del>
<del>Form Anchor</del>	<del>2.0</del>	<del>Formwork supporting form weight and concrete pressures only.</del>
	<del>3.0</del>	<del>Formwork supporting weight of forms, concrete, construction live loads, and impact.</del>
<del>Form Hangers</del>	<del>2.0</del>	<del>All applications.</del>
<del>Anchoring inserts used as form ties.</del>	<del>2.0</del>	<del>Precast concrete panels when used as formwork.</del>

~~\*Safety factors are based on ultimate strength of accessory.~~

R 408.42518 Reinforcing steel.

Rule 2518. (1) A route designated as a means of access or egress across reinforcing steel for general traffic shall be provided with a walkway.

(2) **All protruding reinforcing steel, onto and into which employees could fall, shall be guarded to eliminate the hazard of impalement.** ~~An employee shall not be permitted to work above vertically protruding reinforcing steel unless the steel has been protected to eliminate the hazard of impalement of the employee.~~

(3) Reinforcing steel or walls, piers, columns, and other similar vertical structures shall be guyed, braced, or otherwise supported to prevent collapse.

(4) Reinforcing steel shall not be used as a scaffolding hook or stirrup or as a load-bearing member in a lifting device.

(5) Reinforcing steel shall not be welded and used as a load-bearing member.

(6) Roll wire mesh shall be secured at each end to prevent dangerous recoiling action.

R 408.42520 Concrete mixing, pouring, and floating.

Rule 2520. (1) A concrete mixer that is equipped with a 1-yard or larger loading skip shall be equipped with a mechanical device to clear the skip of material.

(2) A guardrail that is capable of withstanding a 200-pound side thrust shall be provided on each side of a skip on a mixer that has a capacity of 1 or more yards.

(3) The handle on a bull float that is used where it may contact an energized electrical conductor shall be constructed of nonconductive material or shall be insulated with a nonconductive sheath that has electrical and mechanical characteristics which provide the equivalent protection of a handle constructed of nonconductive material.

(4) A powered and rotating-type concrete troweling machine that is manually guided shall be equipped with a control switch that will automatically shut off the power when the **operator removes his or her** hands ~~of the operator are removed~~ from the equipment handles or switch.

(5) The handles of a concrete buggy shall not extend horizontally beyond the wheels on either side of the buggy.

(6) A concrete bucket that is equipped with a hydraulically or pneumatically operated gate shall have a positive safety latch or a similar safety device installed to prevent premature or accidental dumping. The bucket shall be designed to prevent aggregate and loose material from accumulating on the top and sides of the bucket.

(7) An employee shall not be permitted to ride a bucket or walk or work under a bucket that is suspended from a crane or cableway.

(8) A concrete bucket that is positioned by a crane or cableway shall be suspended from an approved swivel safety-type hook.

(9) A pumpcrete or similar system using discharge pipe shall have pipe supports that are designed for a 100% overload. Compression air hoses in the system shall be provided with positive fail-safe joint connectors to prevent the separation of sections when pressurized.

(10) A runway, ramp, or **scaffold scaffold**, shall be provided for placement of concrete in areas such as walls, piers, columns, and beams, as prescribed in Construction Safety Standards **Part 12 Part 12.** “Scaffolds and Scaffold Platforms,” Part 21 **“Guarding** ~~Guarding~~ of Walking and Working ~~Areas,~~ **Areas,**” and Part 45 “Fall Protection,” as referenced in R 408.42503.

(11) A concrete mixer, or other equipment, such as a compressor, screen, or pumps used for concrete construction activities, where inadvertent operation of the equipment may occur and cause **injury, injury** shall be locked out when an employee is performing maintenance or repair. An employee who is inside a concrete mixer performing maintenance or repair shall have the only key to the lock.

(12) Sections of tremies and similar concrete conveyances shall be secured with wire rope, or equivalent materials, in addition to the regular couplings or connections.

R 408.42523 Vertical slip forms.

Rule 2523. (1) Field operations for vertical slip forms shall be under the supervision of a qualified person. The qualified person shall be present on the deck during slipping operations.

(2) A lift shall proceed steadily and uniformly and shall not exceed the predetermined rate of lift.

(3) The steel rods or pipe on which the jacks climb or by which the forms are lifted shall be specifically designed for such climbing or lifting. Such rods shall be adequately braced if they are not encased in concrete.

(4) Jacks and vertical supports shall be positioned so that the vertical loads are distributed equally and do not exceed the capacity of the jacks.

(5) The jacks or other lifting devices shall be provided with mechanical dogs or other automatic holding devices to prevent slippage due to the failure of the power supply of the lifting mechanism.

(6) Vertical lift forms shall be provided with scaffolding or work platforms that completely encircle the area of placement. The scaffolds shall be as prescribed in **Construction Safety Standard Part 12 “Scaffolds and Scaffold Platforms,” as referenced in R 408.42503.**

~~Scaffolds and Scaffold Platforms, Part 12., R 408.41201 et seq.~~

(7) Lateral and diagonal bracing of vertical slip forms shall be provided to prevent excessive distortion of the structure during the jacking operation.

(8) During a jacking operation, **a qualified person shall maintain** the form structure ~~shall be maintained~~ in line and plumb.

R 408.42533 Lift-slab operations.

Rule 2533. (1) A registered professional engineer who is qualified in lift-slab operations shall design and plan lift-slab operations. An employer shall implement the plans and designs and shall include detailed instructions and sketches that indicate the prescribed method of erection. The plans and designs shall also include provisions for ensuring lateral stability of the building or structure during construction.

(2) An employer shall ensure that jacks are marked to indicate the rated capacity established by the manufacturer.

(3) An employer shall ensure that jacks are not loaded beyond the rated capacity established by the manufacturer.

(4) An employer shall ensure that jacking equipment is not overloaded and the threaded rods and other members that transmit loads to the jacks are capable of supporting not less than 2 1/2 times the load to be applied. Jacking equipment shall include all of the following:

(a) Jacks and other lifting units.

(b) Lifting angles.

(c) Lifting nuts.

(d) Hook-up collars.

(e) T-caps.

(f) Shearheads.

(g) Columns and footings.

(5) An employer shall ensure that a jack is designed and installed so that it will not lift or continue to lift when it is loaded in excess of its rated capacity.

(6) An employer shall ensure that a jack has a safety device installed that will cause the jack to support the load in any position if the jack malfunctions or loses its lifting ability.

(7) An employer shall ensure that jacking operations are synchronized to ensure even and uniform lifting of the slab. An employer shall ensure, that during lifting, all points of the slab support are kept within 1/2 of an inch of that needed to maintain the slab in a level position.

(8) If leveling is automatically controlled, then an employer shall ensure that a device is installed which will stop the operation when the 1/2-inch tolerance specified in subrule (7) of this rule is exceeded or when there is a malfunction in the jacking system.

(9) An employer shall ensure that the maximum number of manually controlled jacks on 1 slab is limited to a number, which shall not be more than 14, that will permit the operator to maintain the slab level within specified tolerances. The controls shall be located near a qualified person.

(10) An employer shall ensure that an employee, except for an employee who is essential to the jacking operation, is not permitted in the building while any jacking operation is taking place. For the purpose of this subrule, a jacking operation begins when a slab or group of slabs is lifted and ends when the slabs are secured with either temporary connections or permanent connections.

(11) An employer shall ensure that an employee is not permitted under a slab during jacking operations.

(12) An employer shall ensure that all welding on temporary and permanent connections is performed in accordance with the requirements of the American welding society standards AWS D1.1/D1.1M, 2002 edition, Structural **“Structural Welding Code Steel, Steel,” 2002 edition,** and AWS B1.10, 1999 edition, Guide **“Guide for the Nondestructive Examination of Welds: Welds,” 1999 edition.** These standards are adopted by reference in R 408.42503. An employer shall ensure that the welders are familiar with the welding requirements specified in the lift-slab plan and specifications.

(13) An employer shall ensure that load transfer from jacks to building columns is not executed until the welds on the column shear plates are cooled to air temperature.

(14) An employer shall ensure that jack-lifting units are positively secured to building columns so that they do not become dislodged or dislocated.

(15) An employer shall ensure that equipment is designed and installed so that the lifting rods cannot slip out of position or the employer shall initiate other measures, such as the use of locking or blocking devices, that will provide attachments and prevent components from disengaging during lifting operations.

(16) Lifting devices, other than jacks covered by **subrule (4) subrule(4)** of this rule, shall be of sufficient strength and design to provide a safety factor not less than 5 times the working load.

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**PROPOSED ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS ~~ENERGY, LABOR,  
AND ECONOMIC GROWTH~~

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

Draft January 7, 2016

Filed with the Secretary of State on

These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of **licensing and regulatory affairs** ~~energy, labor, and economic growth~~ by sections 14 and 24 of 1974 PA 154, **MCL 408.1014 and MCL 408.1024**, and Executive Reorganization Orders Nos. **1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030**) ~~1996-1, 1996-2, 2003-1, and 2008-4, MCL 408.1014, 408.1024, 330.3101, 445.2001, 445.2011, and 445.2025)~~

R 325.51995, R 325.51996, and R 325.51997 of the Michigan Administrative Code are amended as follows:

PART 604. Chromium (VI) in Construction

R 325.51995 Scope and application.

Rule 1. (1) **This standard applies** ~~These rules apply~~ to all occupational exposures to **chromium (VI) in all forms and compounds in construction, except for any of the following: Chromium (VI), except as provided in subrule (2) of this rule.**

(a) **Exposures that occur in the application of pesticides regulated by the environmental protection agency or another federal or state government agency, such as the treatment of wood with preservatives.**

(b) **Exposures to portland cement.**

(c) **Where the employer has objective data demonstrating that a material containing chromium or a specific process, operation, or activity involving chromium cannot release dusts, fumes, or mists of chromium (VI) in concentrations at or above 0.5 µg/m<sup>3</sup> as an 8-hour time-weighted average (TWA) under any expected conditions of use.**

(2) **This standard does** ~~These rules do~~ not apply to general industry work as defined by 1974 PA 154 as amended, MCL 408.1001 to MCL 408.1094. Exposure to **chromium-Chromium (VI)** in general industry work is covered by **Occupational Health Standard Part 315 “Chromium (VI) in General Industry” as referenced in R 325.51997.** ~~Occupational health standard Part 315 Chromium (VI) in General Industry, R 325.50141 to R 325.50143.~~

R 325.51996 Adoption by reference of federal standard.

Rule 2. (1) **The federal occupational safety and health administration (OSHA) regulation 29 C.F.R. §1926.1126 “Chromium (VI),” amended March 26, 2012 is adopted by reference in these rules.** ~~The provisions of federal occupational safety and health administration regulations on the Occupational Exposure to Hexavalent Chromium promulgated by the United States department of labor and codified at 29 C.F.R. §1926.1126, Chromium (VI), February 28, 2006 and appearing in the Federal Register Volume 71, Number 39 on pp. 10382 to 10385 and amended March 17, 2010 and appearing in the Federal Register Volume 75, Number 51 on pp. 12681 to 12686, are adopted by reference in these rules as of the effective date of these rules. As used in these rules:~~

~~(a) “Assistant Secretary,” as used in 29 C.F.R. §1926.1126(b), means director of the department of energy, labor, and economic growth.~~

~~(b) “§1910.134,” referenced in 29 C.F.R. §1910.1126(f)(2), means occupational health standard part 451 respiratory protection, R 325.60051 and R 325.60052.~~

~~(c) “§1910.1200,” referenced in 29 C.F.R. §1910.1026(g)(2)(iv) and §1910.1026(j)(1), mean occupational health standard part 430 hazard communication, R 325.77001 to R 325.77003.~~

~~(d) “§1910.1020,” referenced in 29 C.F.R. §1910.1126(k)(1)(iii); §1910.1126(k)(2)(ii)(E); §1910.1126(k)(3)(iii); and §1910.1126(k)(4)(iii), mean occupational health standard part 470 employee medical records and trade secrets, R 325.3451 to R 325.3476.~~

~~(2) As used in these rules, “Assistant secretary,” means the director of the department of licensing and regulatory affairs or his or her designated representative. The adopted federal regulations shall have the same force and effect as a rule promulgated under 1974 PA 154, MCL 408.1001 to MCL 408.1094.~~

~~(3) As used in these rules, “§1910.134” means Occupational Health Standard Part 451 “Respiratory Protection.”~~

~~(4) As used in these rules, “§1910.1200,” means Occupational Health Standard Part 430 “Hazard Communication.”~~

~~(5) As used in these rules, “§1910.1020,” means Occupational Health Standard Part 470 “Employee Medical Records and Trade Secrets.”~~

~~(6) The federal regulation adopted in this rule has the same force and effect as a rule promulgated pursuant to the provisions of the Michigan Occupational Safety and Health Act (MIOSHA) 1974 PA 154, MCL 408.1001 to 408.1094.~~

R 325.51997 Adopted and referenced standards. Availability of documents.

Rule 3. (1) **The OSHA standard 29 C.F.R. §1926.1126 “Chromium (VI),” amended March 26, 2012 is available from the United States Department of Labor, Occupational Safety and Health Administration website: [www.osha.gov](http://www.osha.gov), at no charge, as of the time of adoption of these rules.** ~~federal regulation adopted by reference in these rules is available without cost as of the time of adoption of these rules from the United States Department of Labor, OSHA, 315 West Allegan, Room 315, Lansing, Michigan 48933, or via the internet at website: [www.osha.gov](http://www.osha.gov), or from the Michigan Department of Energy, Labor, and Economic Growth, MIOSHA Standards Section, P.O. Box 30643, Lansing, Michigan 48909.~~

~~(2) The standard adopted in these rules is available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143. following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Energy, Labor, and~~

Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: [www.michigan.gov/mioshastandards](http://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 430 hazard communication, R 325.77001 to R 325.77003.~~

~~(b) Occupational health standard part 451 respiratory protection, R 325.60051 and R 325.60052.~~

~~(c) Occupational health standard part 470 employee medical records and trade secrets, R 325.3451 to R 325.3476.~~

**(3) 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, 530 West Allegan Street, 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 administrative (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, P.O. Box 30643, Lansing, Michigan, 48909-8143; or via the internet at website: [www.michigan.gov/mioshastandards](http://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 315 “Chromium (VI) in General Industry,” R 325.50141 to R 325.50143.**

**(b) Occupational Health Standard Part 430 “Hazard Communication,” R 325.77001 to R 325.77003.**

**(c) Occupational Health Standard Part 451 “Respiratory Protection,” R 325.60051 and R 325.60052.**

**(d) Occupational Health Standard Part 470 “Employee Medical Records and Trade Secrets,” R 325.3451 to R 325.3476.**

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**PROPOSED ADMINISTRATIVE RULES**

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DEPARTMENT OF **LICENSING AND REGULATORY AFFAIRS** ~~ENERGY, LABOR,  
AND ECONOMIC GROWTH~~

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

Draft January 5, 2016

Filed with the Secretary of State on

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of **licensing and regulatory affairs** ~~energy, labor, and economic growth~~ by sections 14 and 24 of 1974 PA 154, **MCL 408.1014 and MCL 408.1024**, and Executive Reorganization Orders Nos. **1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030**) ~~1996-1, 1996-2, 2003-1, and 2008-4, MCL 408.1014, 408.1024, 330.3101, 445.2001, 445.2011, and 445.2025~~)

R 325.50141, R 325.50142, and R 325.50143 of the Michigan Administrative Code are amended as follows:

PART 315. Chromium (VI) in General Industry

R 325.50141 Scope and application.

Rule 1. (1) **This standard applies** ~~These rules apply~~ to all occupational exposures to **chromium (VI) in all forms and compounds in general industry, except for any of the following:** ~~Chromium (VI) except as provided in subrule (2) of this rule.~~

(a) **Exposures that occur in the application of pesticides regulated by the environmental protection agency or another federal or state government agency, such as the treatment of wood with preservatives.**

(b) **Exposures to portland cement.**

(c) **Where the employer has objective data demonstrating that a material containing chromium or a specific process, operation, or activity involving chromium cannot release dusts, fumes, or mists of chromium (VI) in concentrations at or above 0.5 µg/m<sup>3</sup> as an 8-hour time-weighted average (TWA) under any expected conditions of use.**

(2) **This standard does** ~~These rules do~~ not apply to construction work as defined by 1974 PA 154 **as amended**, MCL 408.1001 to MCL 408.1094. Exposure to ~~chromium~~ **chromium (VI) in construction work is covered by Occupational Health Standard Part 604 “Chromium (VI) in Construction,” as referenced in R 325.50143.**

R 325.50142 Adoption ~~by reference~~ of federal standard.

**Rule 2. (1) The federal Occupational Safety And Health Administration (OSHA) regulation 29 C.F.R. §1910.1026 “Chromium (VI),” amended March 26, 2012, is adopted by reference in these rules. The provisions of federal occupational safety and health administration regulations on the Occupational Exposure to Hexavalent Chromium promulgated by the United States department of labor and codified at 29 C.F.R. §1910.1026, Chromium (VI), February 28, 2006 and appearing in the Federal Register Volume 71, Number 39 on pp. 10374 to 10377 and amended March 17, 2010 and appearing in the Federal Register Volume 75, Number 51 on pp. 12681 to 12686, are adopted by reference in these rules as of the effective date of these rules. As used in these rules:**

**(a) "Assistant Secretary," as used in 29 C.F.R. §1910.1026(b), means director of the department of energy, labor, and economic growth.**

**(b) "§1910.134," referenced in 29 C.F.R. §1910.1026(g)(2), means occupational health standard part 451 respiratory protection, R 325.60051 and R 325.60052.**

**(c) "§1910.1200," referenced in 29 C.F.R. §1910.1026(h)(2)(iv); §1910.1026(j)(3)(ii); §1910.1026(l)(1); and §1910.1026(m), means occupational health standard part 430 hazard communication, R 325.77001 to R 325.77003.**

**(d) "§1910.141," referenced in 29 C.F.R. §1910.1026(i)(1), means occupational health standard part 474 sanitation, Rules 4201 and 4202.**

**(2) As used in these rules, "Assistant Secretary," means the director of the department of licensing and regulatory affairs or his or her designated representative. The adopted federal regulations shall have the same force and effect as a rule promulgated under 1974 PA 154, MCL 408.1001 to MCL 408.1094.**

**(3) As used in these rules, "§1910.134" means Occupational Health Standard Part 451 “Respiratory Protection.”**

**(4) As used in these rules, "§1910.1200," means Occupational Health Standard Part 430 “Hazard Communication.”**

**(5) As used in these rules, "§1910.141," means Occupational Health Standard Part 474 “Sanitation.”**

**(6) The federal regulation adopted in this rule has the same force and effect as a rule promulgated pursuant to the provisions of the Michigan Occupational Safety and Health Act (MIOSHA) 1974 PA 154, MCL 408.1001 to 408.1094.**

**R 325.50143 Adopted and referenced standards. Availability of documents.**

**Rule 3. (1) The OSHA standard 29 C.F.R. §1910.1026 “Chromium (VI),” amended March 26, 2012, is available from the United States Department of Labor, Occupational Safety and Health Administration website: [www.osha.gov](http://www.osha.gov), at no charge, as of the time of adoption of these rules. federal regulation adopted by reference in these rules is available without cost as of the time of adoption of these rules from the United States Department of Labor, OSHA, 315 West Allegan, Room 315, Lansing, Michigan 48933, or via the internet at website: [www.osha.gov](http://www.osha.gov), or from the Michigan Department of Energy, Labor, and Economic Growth, MIOSHA Standards Section, P.O. Box 30643, Lansing, Michigan 48909.**

**(2) The standard adopted in these rules is available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143. following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Energy, Labor, and Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing,**

Michigan, 48909-8143 or via the internet at website: [www.michigan.gov/mioshastandards](http://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 430 hazard communication, R 325.77001 to R 325.77003.~~

~~(b) Occupational health standard part 451 respiratory protection, R 325.60051 and R 325.60052.~~

~~(c) Occupational Health Standard part 474 sanitation, Rules 4201 and 4202.~~

**(3) 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, 530 West Allegan Street, 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 administrative (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, P.O. Box 30643, Lansing, Michigan, 48909-8143; or via the internet at website: [www.michigan.gov/mioshastandards](http://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 430 “Hazard Communication,” R 325.77001 to R 325.77003.**

**(b) Occupational Health Standard Part 451 “Respiratory Protection,” R 325.60051 and R 325.60052.**

**(c) Occupational Health Standard Part 474 “Sanitation,” R 325.47401 to R 325.47425.**

**(d) Occupational Health Standard Part 604 “Chromium (VI) in Construction,” R 325.51995 to R 325.51997.**

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**PROPOSED ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

GENERAL INDUSTRY SAFETY STANDARDS

Draft March 30, 2016

Filed with the Secretary of State on

These rules take effect immediately upon filing with the Secretary of State unless adopted under **section sections** 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of licensing and regulatory affairs by sections 16 and 21 of 1974 PA 154, **MCL 408.1016 and 408.1021**, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030)

R 408.10501, R 408.10502, R 408.10509, R 408.10511, R 408.10512, R 408.10513, R 408.10521, R 408.10522, R 408.10523, R 408.10524, R 408.10525, R 408.10526, R 408.10528, R 408.10529, R 408.10532, R 408.10542, R 408.10544, R 408.10546, R 408.10548, R 408.10561, R 408.10564, R 408.10565, R 408.10567, R 408.10568, R 408.10569, R 408.10572, R 408.10575, R 408.10576, R 408.10577, R 408.10578, R 408.10579, R 408.10580, R 408.10582, R 408.10583, R 408.10584, R 408.10585, R 408.10589, R 408.10591, and R 408.10592 of the Michigan Administrative Code are amended, and R 408.10568a, R 408.10568b, R 408.10568c, R 408.10568d, R 408.10568e, R 408.10568f, R 408.10568g, R 408.10575a, R 408.10575b, R 408.10575c, R 408.10575d, R 408.10575e, R 408.10575f, R 408.10575g, and R 408.10575h are added, as follow:

**PART 5. SCAFFOLDING SCAFFOLDINGGENERAL PROVISIONS**

**GENERAL PROVISIONS**

R 408.10501 Scope.

Rule 501. (1) This **standard part** applies to scaffolds and the use of material and equipment in conjunction with scaffolding around or about places of employment.

(2) Powered and manual mobile elevating platforms and self-propelled vehicle mounted elevating and rotating platforms are not included in these rules but are provided for in **General Industry Safety Standard Part 58 "Aerial Work Platforms," as referenced in R 408.10509.** ~~general industry safety standard Part 58. "Aerial Work Platforms," R 408.15801 to R 408.15842.~~

R 408.10502. Applicability for powered platforms.

Rule 502. (1) These rules apply to all new permanent installations for powered platforms and modifications to existing buildings that affect the structural integrity of the building exterior, tie-in guides and attachments, and the supporting structure for the powered platforms.

(2) Employers shall ensure compliance with these rules for any powered platform that is powered by a source other than electricity except for those rules that govern the electrical power source. The alternative power source shall be outfitted with protective devices that are equivalent to the protection that is provided by rules pertaining to an electrical power source.

(3) Scaffolds that are not covered by this ~~standard part~~ shall be as safe or safer for employees as scaffolds that are regulated by these rules.

(4) Permanent installations shall be in compliance with the provisions of **Appendix D “Existing Installations – Mandatory.”** ~~29 C.F.R. §1910.66 “Powered Platforms Manlifts and Vehicle Mounted Work Platforms—Appendix D—Existing Installations (Mandatory). The following standards that are referenced in cited in 29 C.F.R. §1910.66 appendix Appendix D are as follows and adopted by reference in R 408.40509.~~

(a) ~~ANSI A120.1 –1970 edition entitled “Safety Requirements for Powered Platforms for Exterior Building Maintenance” 1970 edition. Maintenance.”~~

(b) ~~Subpart S S, referenced in 29 C.F.R. §1910.66(e)(22)(i) means General Industry Safety Standard Part 39 “Design Safety Standards for Electrical Systems.” general industry safety standard Part 39 ‘Design Safety Standards for Electrical Systems’ R 408.13901 to R 408.13902.~~

(c) ~~ANSI A12.1 –1967 edition entitled “Safety Requirements for Floor and Wall Openings, Openings Railings and Toeboard” 1967 edition. Toeboard.”~~

R 408.10509. **Adopted and referenced standards.** ~~Adoption of standards by reference; access to other MIOSHA rules.~~

Rule 509. (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](http://www.global.ihs.com), at a cost of the time of adoption of these rules, as stated in this subrule:** ~~The standards specified in this rule, except for the standards specified in subrule (2) of this rule, are adopted in these rules by reference.~~

(a) **American National Society Institute (ANSI) Standard ANSI A120.1 ‘Safety Requirement for Powered Platforms for Exterior Building Maintenance,’ 1970 edition, also known as American Society of Mechanical Engineers (ASME) Standard ASME A120.1 ‘Safety Requirements Powered Platforms and Traveling Ladders and Gantries for Building Maintenance,’ 1970 edition. Cost \$20.00.** ~~The following standards are available from IHS/Global Engineering Documents, 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:~~

(i) ~~American National Society Institute Standard ANSI A120.1 ‘Safety Requirement for Powered Platforms for Exterior Building Maintenance,’ 1970 edition, also known as American Society of Mechanical Engineers Standard ASME A120.1 ‘Safety Requirements Powered Platforms and Traveling Ladders and Gantries for Building Maintenance,’ 1970 edition. Cost \$20.00~~

(ii) ~~American National Society Institute Standard ANSI A12.1 ‘Safety Requirements for Floor and Wall Openings, Railings and Toeboard,’ 1967 edition. Cost \$20.00.~~

(b) **ANSI A12.1 ‘Safety Requirements for Floor and Wall Openings, Railings and Toeboard,’ 1967 edition. Cost \$20.00.** ~~The federal occupational safety and health administration’s 29 C.F.R. §1910.66 “Powered Platforms, Manlifts, and Vehicle Mounted Work~~

Platforms,” Appendix D “Existing Installations (Mandatory)” promulgated by the United States department of labor, is adopted by reference in this rule and is available from the United States Department of Labor, Occupational Safety and Health Administration, 315 West Allegan, room 315, Lansing, Michigan, 48917, or via the internet at website [www.osha.gov](http://www.osha.gov), at no charge as of the time of adoption of these rules.

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

(d) Copies of the standards adopted in subrule (1)(a) and (b) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in subrule (1)(a) and (b), of this rule, plus \$20 for shipping and handling.

**(2) 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, P.O. Box 30643, Lansing, Michigan, 48909-8143. The following Michigan Occupational Safety and Health Standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at web site: [www.michigan.gov/mioshastandards](http://www.michigan.gov/mioshastandards). For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.**

~~(a) General Industry Safety Standard Part 2. Floor and Wall Openings, Stairways and Skylights, R 408.10201 to R 408.10241.~~

~~(b) General Industry Safety Standard Part 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 7. Guards for Power Transmission, R 408.10701 to R 408.10765.~~

~~(e) General Industry Safety Standard Part 8. Portable Fire Extinguishers, R 408.10801 to R 408.10839.~~

~~(f) General Industry Safety Standard Part 21. Powered Industrial Trucks, R 408.12101 to R 408.12193.~~

~~(g) General Industry Safety Standard Part 33. Personal Protective Equipment, R 408.13301 to R 408.13398.~~

~~(h) General Industry Safety Standard Part 39. Design Safety Standards for Electrical Systems, R 408.13901 to R 408.13902.~~

~~(i) General Industry Safety Standard Part 58. Aerial Work Platforms, R 408.15801 to R 408.15842.~~

**(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, 530 West Allegan Street, 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, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: [www.michigan.gov/mioshastandards](http://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 7 “Guards for Power Transmission,” R 408.10701 to R 408.10765.**

(e) **General Industry Safety Standard Part 8 “Portable Fire Extinguishers,” R 408.10801 to R 408.10839.**

(f) **General Industry Safety Standard Part 21 “Powered Industrial Trucks,” R 408.12101 to R 408.12193.**

(g) **General Industry Safety Standard Part 33 “Personal Protective Equipment,” R 408.13301 to R 408.13398.**

(h) **General Industry Safety Standard Part 39 “Design Safety Standards for Electrical Systems,” R 408.13901 to R 408.13902.**

(i) **General Industry Safety Standard Part 58 “Aerial Work Platforms,” R 408.15801 to R 408.15842.**

R 408.10511 General requirements.

Rule 511. (1) When required by this part, a safety **harness, belt,** lanyard, and lifeline shall be provided to employees and used as prescribed in **General Industry Safety Standard Part 33 “Personal Protective Equipment,” as referenced in R 408.10509.** ~~General Industry Safety Standard Part 33. “Personal Protective Equipment,” R 408.13301 to R 408.13398.~~

(2) Except where a ladder, as prescribed in **General Industry Safety Standard Part 4 “Portable Ladders,” as referenced in R 408.10509,** ~~General Industry Safety Standard Part 4. “Portable Ladders,” R 408.10401 to R 408.10456,~~ or a self-propelled vehicle mounted elevating platform is furnished, an employee engaged in work that cannot be done safely from the ground or from solid construction shall be provided a scaffold from which to work or shall wear a safety harness and lifeline.

(3) A scaffold, part, or material used in scaffolding shall not be furnished or used if it has a defect, ~~that which~~ would create a hazard to an employee. A scaffold damaged or weakened from any cause shall be repaired before use.

(4) A scaffold shall not be loaded to more than the designed working load.

(5) Materials being hoisted to a scaffold shall have a tag line when necessary to control the load.

(6) Tools, materials, and debris shall not be permitted to accumulate in a quantity to cause a hazard.

(7) Precautions shall be taken to protect scaffold members, including suspension ropes, when using a heat producing process.

(8) A lifeline and safety **harness belt** shall be used where an employee is required to crawl out on a thrust out or projecting beam.

(9) An employer shall not permit an employee to work on a scaffold outdoors during a storm or high wind, or on a scaffold covered with ice or snow, except when performing emergency service. When performing emergency service, safeguards such as, but not limited to, lanyards and safety **harnesses belts** shall be used by the employee.

(10) Scaffolding endangered by a truck or other moving equipment shall be protected by a warning device, or barrier, or both.

(11) A scaffold shall not be altered or moved horizontally while it is in use or is being occupied unless the scaffold is specifically designed for occupied horizontal travel.

(12) Fiber rope used for or near any work involving the use of corrosive substances or chemicals shall be treated or protected against deterioration.

R 408.10512 Planking.

Rule 512. (1) Planking shall be scaffold grade and capable of supporting the intended load. The maximum span for a 2- by 10-inch or wider plank shall be as prescribed in table 1.

(2) Planking shall comply with all of the following:

(a) Extend over the end bearer not less than 6 inches, but not more than 12 inches.

(b) Be cleated or otherwise fastened to prevent shifting and be uniform in thickness, except where lapped as prescribed in subrule (3) of this rule.

(c) Consist of not less than 2 2- by 10-inch wide boards.

(3) Where planks are lapped, each plank shall lap its bearer not less than 6 inches, ~~inches~~ which will provide minimum overlap of 12 inches.

(4) Where the ends abut each other, the butt joint shall be at the center line of a pole and rest on separate bearers.

(5) A manufactured plank, or pick, shall be used as prescribed in the manufacturer's instructions.

(6) Planks shall be laid with their edges close together so as to prevent material and tools from falling.

(7) Where a scaffold turns a corner, the planks shall be laid to prevent tipping. The planks that meet the corner bearer at an angle shall be laid first, extending over the diagonally placed bearer far enough to have a good bearing, but not far enough to tip. The planks running in the different direction shall be laid so as to extend over and rest on the first layer of planks.

(8) Table 1 reads as follows:

TABLE 1					
Planking span Table	Material				
	Full thickness Undressed lumber			Nominal thickness lumber	
Working load (p.s.f.)	20	50	75	25	50
Permissible span (ft.)	10	8	<del>7</del> 6	8	7

R 408.10513 Construction.

Rule 513. (1) A scaffold and its components shall have a designed safety factor of not less than 4 with the load figure including the total weight of materials, men, and scaffold. Load-carrying

timber members for scaffold framing shall be not less than 1500 fiber, stress grade, construction grade lumber.

(2) A scaffold, except a ladder scaffold, boatswain's chair, or needle beam scaffold, 10 feet or more above floor or ground level, shall have a standard barrier and toeboard pursuant to **General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.10509.** ~~rules R 408.10231 and R 408.10233 of General Industry Safety Standard Part 2. "Floor and Wall Openings, Stairways, and Skylights."~~ A life line and safety harness belt shall be used where a railing is required but not practical.

(3) A scaffold over a walk, aisle, or work area shall have the sides screened from toeboard to the top rail where an employee is required to work or pass under the scaffold.

(4) When work is being performed above a scaffold, overhead protection consisting of 2 inch planks laid tight, or equivalent material, shall be installed not more than 9 feet above the scaffold floor.

(5) Where access is not available directly from a structure, a wood scaffolding shall have a stair to the platform or portable ladder pursuant to **General Industry Safety Standard Part 4 "Portable Ladders,"** ~~General Industry Safety Standards Part 4. "Portable ladders," R 408.10401 to R 408.10456~~ or a fixed ladder pursuant to **General Industry Safety Standard Part 3 "Fixed Ladders,"** and as referenced in **R 408.10509,** ~~Part 3. "Fixed Ladders," R 408.10301 to R 408.10456,~~ except that a cage is not mandatory for the fixed ladder. Use of a stair or fixed ladder shall not have a tendency to tip the scaffold.

(6) Manufactured scaffolding shall be equipped with a stair or a fixed ladder, mounted by a portable ladder, except that a cage is not mandatory for a fixed ladder. On manufactured scaffolding purchased after November 16, 1974, and equipped with a built-in fixed ladder or an attached scaffold ladder, the ladder shall be constructed of rungs not less than 12 inches long, uniformly spaced not less than 12 inches nor more than 16 1/2 inches from the center of 1 rung to another and the rung and component parts shall support a minimum of 300 pounds.

(7) Instead of the requirements for a stair, fixed ladder, or portable ladder, the intermediate horizontal members of a frame of a manufactured tubular welded frame scaffold may be used for access to, and egress from, the work platform if all of the following conditions are met:

- (a) All frames and component parts are compatible in design.
- (b) The intermediate horizontal members of a frame are a minimum of 16 inches in length.
- (c) The horizontal members of each frame ~~are shall be~~ uniformly spaced and ~~do shall~~ not exceed 17 inches center to center vertically.
- (d) When frames are connected vertically to one another, the distance between the bottom horizontal member of the upper end frame and the top horizontal member of the lower end frame ~~is shall be~~ within 3 inches of the uniform spacing of the horizontal members of each frame.
- (e) The elevation to the lowest horizontal member of the bottom frame ~~does shall~~ not exceed 21 inches from ground or floor.
- (f) Each horizontal member ~~is shall be~~ capable of supporting 300 pounds applied at the member's midpoint without bending or cracking.
- (g) Each horizontal member ~~is shall be~~ inspected for, and found free of cracks, bends, or bad welds.
- (h) The guardrail system located on the side where horizontal members of the scaffold frame are used for access to or egress from, a work platform ~~is shall be~~ constructed as follows:
  - (i) The intermediate rail shall be omitted between the corner posts at access location.
  - (ii) The top rail shall be continuous between posts.

(iii) Only 1 employee at a time shall use a horizontal member of a frame as access to, or egress from, the workstation.

(8) Footing for a scaffold ~~is shall be~~ sound, rigid, and capable of supporting the maximum intended load without settling or displacement. Objects such as barrels, boxes, loose brick, or concrete blocks shall not be used.

(9) Poles, legs, or uprights of a scaffold ~~is shall be~~ plumb and ~~shall be~~ secured or braced to prevent swaying or displacement.

(10) Load-carrying timber members of a scaffold ~~are shall be~~ a minimum of 1500 fiber, stress grade, construction grade lumber.

(11) Construction and attachment of a scaffold ~~is shall be~~ such that there is no direct pull on the fasteners.

### BUILT-UP SCAFFOLDS

R 408.10521 Wood pole scaffolds generally.

Rule 521. (1) When a wood pole is spliced, the ends shall be square and flat. Not less than 2 wood splice plates shall be secured to adjacent sides and shall be not less than 4 feet in length by 1 inch thick by the same width as the pole and have equal overlap to the joint. More than 1 consecutive splice per general level shall not be made(see figure 1).

(2) A pole scaffold shall be guyed or tied to the building or structure. Where the height or length is more than 25 feet, the scaffold shall be secured at intervals not more than 25 feet vertically and horizontally.

(3) Ledgers shall overlap the poles at each end by not less than 4 inches, be level, and be nailed to the inside of the poles. A ledger shall not be nailed less than 1 inch to the top edge.

(4) Two ledgers meeting at a pole shall be nailed to each other, and 2 ledgers meeting at a corner shall have 1 cut flush to the pole and the other nailed on the outside and overlap.

(5) A ledger shall not be spliced between poles. A spliced ledger shall be reinforced by a bearing block secured to the side of the pole to form a support for the ledger.

(6) A bearer shall be set with its greater dimension vertical and shall project 3 inches beyond the ledger and the inner and outer pole.

(7) Successive lengths of planking shall not abut on a single bearer and, where planks abut, 2 bearers shall be placed not more than 8 inches apart.

(8) When moving a work platform to a new level, the old platform shall remain in place until the new bearers are in place to receive the platform.

(9) A wood pole scaffold less than 60 feet in height shall use materials prescribed in tables 2 to 7. A scaffold more than 60 feet in height shall be designed by an engineer knowledgeable in scaffolds and erected as prescribed in the blueprints. A copy of the blueprint shall be on the jobsite. A wood pole scaffold shall not be erected beyond the reach of local fire fighting apparatus.

(10) Diagonal bracing shall be provided to prevent the poles moving in a direction parallel with the wall or from buckling. Full diagonal face bracing shall be erected across the entire face of pole scaffolds in both directions. Brace splices shall be at the poles.

(11) The free ends of a pole scaffold shall be cross braced.

(12) A wood pole scaffold shall not be erected beyond the reach of fire fighting equipment.

(13) Figure 1 reads as follows:

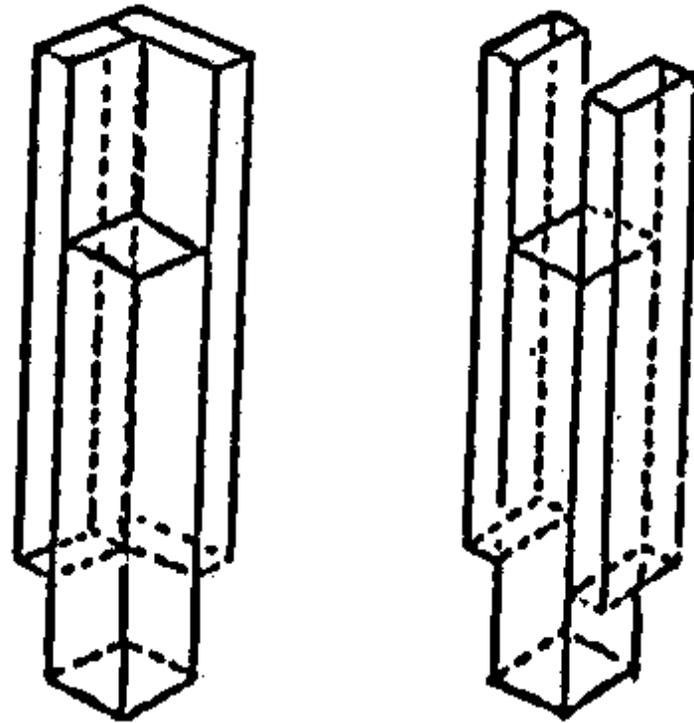


FIGURE 1



Right



Wrong

(14) Table 2 reads as follows:

<b>TABLE 2</b>		
<b>Minimum Nominal Size and Maximum Spacing of Members of Single Pole Scaffolds Light Duty</b>		
	<b>Maximum height of scaffold</b>	
	<b>20 ft.</b>	<b>60 ft.</b>
<b>Uniformly distributed load</b>	<b>Not to exceed 25 p.s.f.</b>	
<b>Poles or uprights</b>	<b>2 x 4 in.</b>	<b>4 x 4 in.</b>
<b>Pole spacing (longitudal)</b>	<b>6 ft. 0 in.</b>	<b>10 ft. 0 in</b>
<b>Maximum width of scaffold</b>	<b>5 ft. 0 in.</b>	<b>5 ft. 0 in.</b>
<b>Bearers of putlogs to 3 ft. 0 in. width</b>	<b>2 x 4 in.</b>	<b>2 x 4 in.</b>
<b>Bearers of putlogs to 5 ft. 0 in. width</b>	<b>2 x 6 in. or 3 x 4 in.</b>	<b>2 x 6 in. or 3 x 4 in. (rough)</b>
<b>Ledgers</b>	<b>1 x 4 in.</b>	<b>1 1/4 x 9 in. (rough)</b>
<b>Planking</b>	<b>2 x 10 in. (rough)</b>	<b>2 x 10 in.</b>
<b>Vertical spacing of horizontal members</b>	<b>7 ft. 0 in.</b>	<b>7 ft. 0 in.</b>
<b>Bracing, horizontal and diagonal</b>	<b>1 x 4 in.</b>	<b>1 x 4 in.</b>
<b>Tie-ins</b>	<b>1 x 4 in.</b>	<b>1 x 4 in.</b>
<b>Toeboards</b>	<b>4 in. high (min.)</b>	<b>4 in. high (min.)</b>
<b>Guardrail</b>	<b>2 x 4 in.</b>	<b>2 x 4 in.</b>
<b>All members except planking are used on edge.</b>		

(15) Table 3 reads as follows:

<b>TABLE 3</b> <b>Minimum Nominal Size and Maximum Spacing of</b> <b>Members of Single Pole Scaffolds Medium Duty</b>	
<b>Uniformly distributed load</b>	<b>Not to exceed 50 p.s.f.</b>
<b>Maximum height of scaffold</b>	<b>60 ft.</b>
<b>Poles or uprights</b>	<b>4 x 4 in.</b>
<b>Pole spacing (longitudal)</b>	<b>8 ft. 0 in.</b>
<b>Maximum width of scaffold</b>	<b>5 ft. 0 in.</b>
<b>Bearers or putlogs</b>	<b>2 x 10 in. or 3 x 4 in.</b>
<b>Spacing of bearers or putlogs</b>	<b>8 ft. 0 in.</b>
<b>Ledgers</b>	<b>2 x 10 in.</b>
<b>Vertical spacing of horizontal members</b>	<b>9 ft. 0 in.</b>
<b>Bracing, horizontal</b>	<b>1 x 6 in or 1 1/4 x 4 in.</b>
<b>Bracing, diagonal</b>	<b>1 x 4 in.</b>
<b>Tie-ins</b>	<b>1 x 4 in</b>
<b>Planking</b>	<b>2 x 9 in.</b>
<b>Toeboards</b>	<b>4 in. high (minimum)</b>
<b>Guardrail</b>	<b>2 x 4 in.</b>
<b>All members except planking are used on edge.</b>	

(16) Table 4 reads as follows:

<b>TABLE 4</b> <b>Minimum Nominal Size and Maximum Spacing of</b> <b>Members of Single Pole Scaffolds Heavy Duty</b>	
<b>Uniformly distributed load</b>	<b>Not to exceed 75 p.s.f.</b>
<b>Maximum height of scaffold</b>	<b>60 ft.</b>
<b>Poles or uprights</b>	<b>4 x 4 in.</b>
<b>Pole spacing (longitudal)</b>	<b>6 ft. 0 in.</b>
<b>Maximum width of scaffold</b>	<b>5 ft. 0 in.</b>
<b>Bearers or putlogs</b>	<b>2 x 10 in. or 3 x 5 in. (rough)</b>
<b>Spacing of bearers or putlog</b>	<b>6 ft. 0 in.</b>
<b>Ledgers</b>	<b>2 x 10 in.</b>
<b>Vertical spacing of horizontal members</b>	<b>6 ft. 6 in.</b>
<b>Bracing, horizontal and diagonal</b>	<b>2 x 4 in.</b>
<b>Tie-ins</b>	<b>1 x 4 in.</b>
<b>Planking</b>	<b>2 x 10 in.</b>
<b>Toeboards</b>	<b>4 in. high (minimum)</b>
<b>Guardrail</b>	<b>2 x 4 in.</b>
<b>All members except planking are used on edge.</b>	

(17) Table 5 reads as follows:

<b>TABLE 5</b>		
<b>Minimum Nominal Size and Maximum Spacing of Members of Independent Pole Scaffolds Light Duty</b>		
	<b>Maximum height of scaffold</b>	
	<b>20 ft.</b>	<b>60 ft.</b>
<b>Uniformly distributed load</b>	<b>Not to exceed 25 p.s.f.</b>	
<b>Poles or uprights</b>	<b>2 x 4 in.</b>	<b>4 x 4 in.</b>
<b>Pole spacing (longitudal)</b>	<b>6 ft. 0 in.</b>	<b>10 ft. 0 in.</b>
<b>Pole spacing (transverse)</b>	<b>6 ft. 0 in.</b>	<b>10 ft. 0 in.</b>
<b>Ledgers</b>	<b>1 1/4 x 4 in.</b>	<b>1 1/4 x 9 in.</b>
<b>Bearers to 3 ft. 0 in. span</b>	<b>2 x 4 in.</b>	<b>2 x 4 in.</b>
<b>Bearers to 10 ft. 0 in. span</b>	<b>2 x 6 in. or 3 x 4 in.</b>	<b>2 x 9 (rough) or 3 x 8 in.</b>
<b>Planking</b>	<b>1 1/4 x 9 in. (rough)</b>	<b>2 x 10 in.</b>
<b>Vertical spacing of horizontal members</b>	<b>7 ft. 0 in.</b>	<b>7 ft. 0 in.</b>
<b>Bracing horizontal and diagonal</b>	<b>1 x 4 in.</b>	<b>1 x 4 in.</b>
<b>Tie-ins</b>	<b>1 x 4 in.</b>	<b>1 x 4 in.</b>
<b>Toeboards</b>	<b>4 in. high</b>	<b>4 in. high (min.)</b>
<b>Guardrail</b>	<b>2 x 4 in.</b>	<b>2 x 4 in.</b>
<b>All members except planking are used on edge</b>		

(18) Table 6 reads as follows:

<b>TABLE 6</b> <b>Minimum Nominal Size and Maximum Spacing of</b> <b>Members of Independent Pole Scaffolds Medium Duty</b>	
<b>Uniformly distributed load</b>	<b>Not to exceed 50 p.s.f.</b>
<b>Maximum height of scaffold</b>	<b>60 ft.</b>
<b>Poles or uprights</b>	<b>4 x 4 in.</b>
<b>Pole spacing (longitudinal)</b>	<b>8 ft. 0 in.</b>
<b>Pole spacing (transverse)</b>	<b>8 ft. 0 in.</b>
<b>Ledgers</b>	<b>2 x 10 in.</b>
<b>Vertical spacing of horizontal members</b>	<b>6 ft. 0 in.</b>
<b>Spacing of bearers</b>	<b>8 ft. 0 in.</b>
<b>Bearers</b>	<b>2 x 10 in. (rough) or 2 x 10 in.</b>
<b>Bracing, horizontal</b>	<b>1 x 6 in. or 1 1/4 x 4 in.</b>
<b>Bracing, diagonal</b>	<b>1 x 4 in.</b>
<b>Tie-ins</b>	<b>1 x 4 in.</b>
<b>Planking</b>	<b>2 x 10 in.</b>
<b>Toeboards</b>	<b>4 in. high (min.)</b>
<b>Guardrail</b>	<b>2 x 4 in.</b>
<b>All members except planking are used on edge</b>	

(19) Table 7 reads as follows:

<b>TABLE 7</b> <b>Minimum Nominal Size and Maximum Spacing of</b> <b>Members of Independent Pole Scaffolds Heavy Duty</b>	
<b>Uniformly distributed load</b>	<b>Not to exceed 75 p.s.f.</b>
<b>Maximum height of scaffold</b>	<b>60 ft.</b>
<b>Poles or uprights</b>	<b>4 x 4 in.</b>
<b>Pole spacing (longitudinal)</b>	<b>6 ft. 0 in.</b>
<b>Pole spacing (transverse)</b>	<b>8 ft. 0 in.</b>
<b>Ledgers</b>	<b>2 x 10 in.</b>
<b>Vertical spacing of horizontal members</b>	<b>4 ft. 6 in.</b>
<b>Bearers</b>	<b>2 x 10 in. (rough)</b>
<b>Bracing, horizontal and diagonal</b>	<b>2 x 4 in.</b>
<b>Tie-ins</b>	<b>1 x 4 in.</b>
<b>Planking</b>	<b>2 x 10 in.</b>
<b>Toeboards</b>	<b>4 in. high (min.)</b>
<b>Guardrail</b>	<b>2 x 4 in.</b>
<b>All members except planking are used on edge</b>	

Figure for R 408.10521(1 of 4)

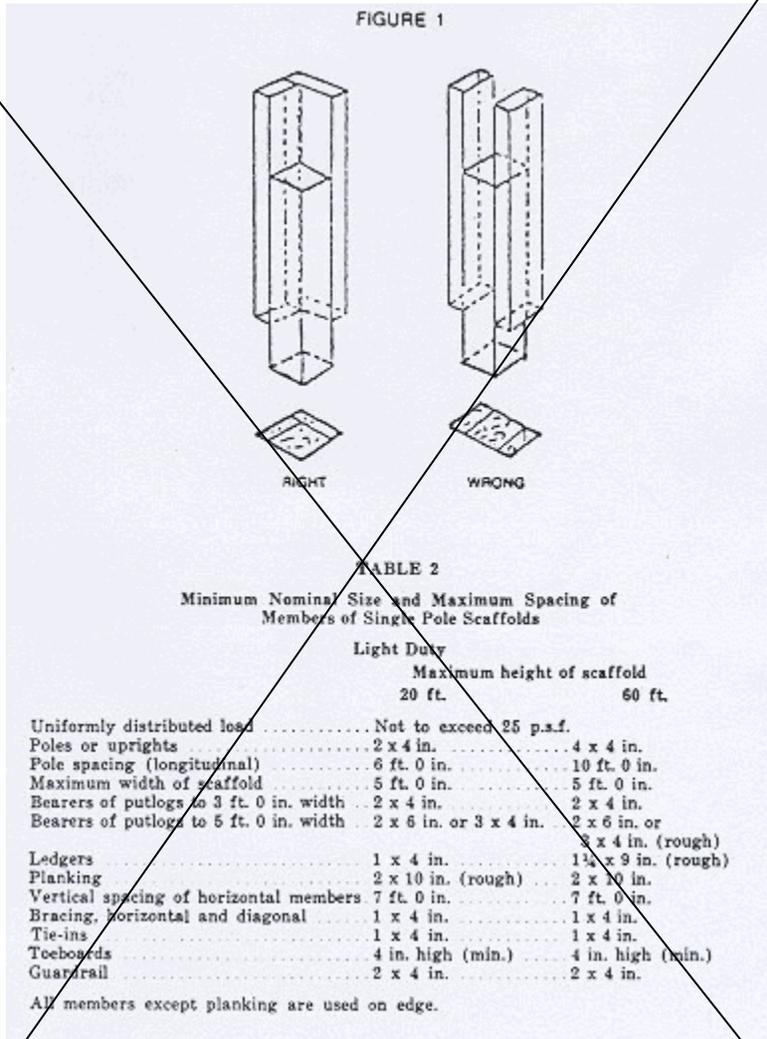


Figure for R 408.10521(2 of 4)

TABLE 3	
Minimum Nominal Size and Maximum Spacing of Members of Single Pole Scaffolds	
Medium Duty	
Uniformly distributed load	Not to exceed 50 p.s.f.
Maximum height of scaffold	60 ft.
Poles or uprights	4 x 4 in.
Pole spacing (longitudinal)	8 ft. 0 in.
Maximum width of scaffold	5 ft. 0 in.
Bearers or putlogs	2 x 10 in. or 3 x 4 in.
Spacing of bearers or putlogs	8 ft. 0 in.
Ledgers	2 x 10 in.
Vertical spacing of horizontal members	9 ft. 0 in.
Bracing, horizontal	1 x 6 in. or 1½ x 4 in.
Bracing, diagonal	1 x 4 in.
Tie-ins	1 x 4 in.
Planking	2 x 9 in.
Toeboards	4 in. high (minimum)
Guardrail	2 x 4 in.
All members except planking are used on edge.	

TABLE 4	
Minimum Nominal Size and Maximum Spacing of Members of Single Pole Scaffolds	
Heavy Duty	
Uniformly distributed load	Not to exceed 75 p.s.f.
Maximum height of scaffold	60 ft.
Poles or uprights	4 x 4 in.
Pole spacing (longitudinal)	6 ft. 0 in.
Maximum width of scaffold	5 ft. 0 in.
Bearers or putlogs	2 x 10 in. or 3 x 5 in. (rough)
Spacing of bearers or putlog	6 ft. 0 in.
Ledgers	2 x 10 in.
Vertical spacing of horizontal members	6 ft. 6 in.
Bracing, horizontal and diagonal	2 x 4 in.
Tie-ins	1 x 4 in.
Planking	2 x 10 in.
Toeboards	4 in. high (minimum)
Guardrail	2 x 4 in.
All members except planking are used on edge.	

Figure for R 408.10521(3 of 4)

TABLE 5		
Minimum Nominal Size and Maximum Spacing of Members of Independent Pole Scaffolds		
Light Duty		
	Maximum height of scaffold	
	20 ft.	60 ft.
Uniformly distributed load	Not to exceed 25 p.s.f.	
Poles or uprights	2 x 4 in.	4 x 4 in.
Pole spacing (longitudinal)	6 ft. 0 in.	10 ft. 0 in.
Pole spacing (transverse)	6 ft. 0 in.	10 ft. 0 in.
Ledgers	1½ x 4 in.	1½ x 9 in.
Bearers to 3 ft. 0 in. span	2 x 4 in.	2 x 4 in.
Bearers to 10 ft. 0 in. span	2 x 6 in. or 3 x 4 in.	2 x 9 (rough) or 3 x 8 in.
Planking	1½ x 9 in. (rough)	2 x 10 in.
Vertical spacing of horizontal members	7 ft. 0 in.	7 ft. 0 in.
Bracing, horizontal and diagonal	1 x 4 in.	1 x 4 in.
Tie-ins	1 x 4 in.	1 x 4 in.
Toeboards	4 in. high	4 in. high (min.)
Guardrail	2 x 4 in.	2 x 4 in.
All members except planking are used on edge.		

TABLE 6		
Minimum Nominal Size and Maximum Spacing of Members of Independent Pole Scaffolds		
Medium Duty		
Uniformly distributed load	Not to exceed 50 p.s.f.	
Maximum height of scaffold	60 ft.	
Poles or uprights	4 x 4 in.	
Pole spacing (longitudinal)	8 ft. 0 in.	
Pole spacing (transverse)	8 ft. 0 in.	
Ledgers	2 x 10 in.	
Vertical spacing of horizontal members	6 ft. 0 in.	
Spacing of bearers	8 ft. 0 in.	
Bearers	2 x 10 in. (rough) or 2 x 10 in.	
Bracing, horizontal	1 x 8 in. or 1½ x 4 in.	
Bracing, diagonal	1 x 4 in.	
Tie-ins	1 x 4 in.	
Planking	2 x 10 in.	
Toeboards	4 in. high (min.)	
Guardrail	2 x 4 in.	
All members except planking are used on edge.		

Figure for R 408.10521(4 of 4)

TABLE 7 Minimum Nominal Size and Maximum Spacing of Members of Independent Pole Scaffolds Heavy Duty	
Uniformly distributed load	Not to exceed 75 p.s.f.
Maximum height of scaffold	60 ft.
Poles or uprights	4 x 4 in.
Pole spacing (longitudinal)	6 ft. 0 in.
Pole spacing (transverse)	8 ft. 0 in.
Ledgers	2 ft. 10 in.
Vertical spacing of horizontal members	4 ft. 6 in.
Bearers	2 x 10 in. (rough)
Bracing, horizontal and diagonal	2 x 4 in.
Tie-ins	1 x 4 in.
Planking	2 x 10 in.
Toeboards	4 in. high (min.)
Guardrail	2 x 4 in.

All members except planking are used on edge.

R 408.10522 Independent pole **scaffold.** ~~scaffold; specific.~~

Rule 522. (1) An independent pole scaffold shall be set as close to the wall of the building as possible.

(2) Cross bracing shall be provided between the inner and outer set of poles of an independent pole scaffold.

R 408.10523 Single pole **scaffold.** ~~scaffold; specific.~~

Rule 523. Single pole scaffolding shall **meet all of the following requirements:**

(a) Have the inner end of the bearer rest in the wall of the building with at least a 4-inch bearing. Notching is prohibited.

(b) Have the inner end of the bearer, when used on frame buildings, rest on a block 12 inches long and not less than 2 by 6 inches nominal size. The block shall be notched the width of the bearer and not less than 2 inches deep. The bearer shall be nailed to both the block and the building.

(c) Have the inner end of the bearer, when it comes at a window opening, supported by a plank of equal strength resting on the window sill and fastened to the building. The bearer shall be braced against displacement.

(d) Have a bearer reinforced with a 3/16 by 2-inch steel strip or its equivalent secured to its lower edge along its entire length.

R 408.10524 Suspension scaffolding.

Rule 524. (1) A suspension scaffold, including the supporting thrustout, shall be capable of sustaining a working load of 50 pounds per square foot with a designed safety factor of not less than 4.

(2) Wire ropes used on suspension scaffolding shall have a designed safety factor of not less than 6. Wire ropes fastened around a rod shall be equipped with a thimble.

(3) When "U" bolt clamps are installed, a minimum of 3 shall be used at each fastening with the "U" bolts installed on the dead end(see table 8). The clamps shall be retightened after loading.

(4) A thrustout for a suspension scaffold shall be not less than a 7-inch, 15.3-pound steel "I" beam which is not less than 15 feet long and which does not project more than 6 1/2 feet beyond

the bearing point. It shall be set with the web vertical and spaced not more than 7 feet apart and shall project 1 foot beyond the outer edge of the suspension platform.

(5) The thrustout inner end shall be fastened to the frame of the building with bolts, anchor plates, lockwashers, and jam nuts and it shall be anchored against horizontal displacement or a thrustout may be counterbalanced if the counterweight is fastened to the thrustout. Sand bags or other loose material shall not be used. Where a counterweight is used, it shall be 3 times the supported weight and located on the inner end of the thrustout with the center of the counterweight mass not less than equidistant to the center of the weight of the load as measured from the fulcrum.

(6) A thrustout outer end shall be equipped with a stop-bolt to prevent the shackle slipping over the edge. A thrustout rigged over a parapet wall shall be supported by a wood block a minimum of 4 by 4 by 18 inches long nominal size at that point.

(7) A suspension platform shall be secured to prevent swinging away from the building. Rollers or fenders shall be provided to prevent striking the building and to facilitate raising and lowering.

(8) A bearer for a suspension scaffold shall be made of 4- by 6-inch timber set on edge or structural steel of equivalent strength. A bearer shall have sufficient length to hold the planks between the frame where a hoisting machine is used. Plank edges shall abut.

(9) A powered hoisting machine, where used, shall conform to R 408.10548. The running ends of the suspension wire rope shall be securely attached to the hoisting drum, and not less than 4 turns of rope shall remain on the drum at all times.

(10) Each scaffold shall be installed or relocated in accordance with designs and instructions of a registered professional mechanical or civil engineer, and such installation or relocation shall be supervised by a competent designated person.

(11) Table 8 reads as **follows:** ~~follow:~~

**TABLE 8**  
**APPLYING WIRE ROPE CLIPS**  
 Distance between clips should be equal to six rope diameters



**CORRECT METHOD:**  
 U-Bolts of Clips on short end of rope.

<b>WIRE ROPE OR CABLE NUMBER AND SPACING OF CLIPS FOR ROPES OF VARIOUS SIZES</b>				
<b>Diameter of rope (in.)</b>	<b>N u m b e r  o f  c l i p s</b>	<b>Center-to-center space between clips (in.)</b>	<b>Length of rope turned back exclusive of eye (in.)</b>	<b>Length of wrench (in.)</b>
1/2	3	3	9	12
5 / 8	3	3 3/4	12	12
3/4	4	4 1/2	18	18
7 / 8	4	5 1/4	21	18

<b>8</b>				
<b>1</b>	<b>4</b>	<b>6</b>	<b>24</b>	<b>24</b>
<b>1 1/8</b>	<b>5</b>	<b>6 3/4</b>	<b>34</b>	<b>24</b>
<b>1 1/4</b>	<b>5</b>	<b>7 1/2</b>	<b>38</b>	<b>24</b>
<b>1 3/8</b>	<b>6</b>	<b>8 1/4</b>	<b>50</b>	<b>24</b>
<b>1 1/2</b>	<b>6</b>	<b>9</b>	<b>54</b>	<b>24</b>
<b>1 5/8</b>	<b>6</b>	<b>9 3/4</b>	<b>60</b>	<b>30</b>
<b>1 3/4</b>	<b>7</b>	<b>10 1/2</b>	<b>74</b>	<b>30</b>
<b>1 7/8</b>	<b>8</b>	<b>11 1/4</b>	<b>90</b>	<b>30</b>
<b>2</b>	<b>8</b>	<b>12</b>	<b>96</b>	<b>30</b>
<b>2 1/8</b>	<b>8</b>	<b>13</b>	<b>104</b>	<b>30</b>
<b>2 1/4</b>	<b>8</b>	<b>14</b>	<b>112</b>	<b>30</b>

Figure for R 408.10524

**TABLE 8**  
**APPLYING WIRE ROPE CLIPS**  
Distance between clips should be equal to six rope diameters.



**CORRECT METHOD.**  
U-Bolts of Clips on short end of rope.

**WIRE ROPE OR CABLE**  
**NUMBER AND SPACING OF CLIPS FOR ROPES OF VARIOUS SIZES**

Diameter of rope (in.)	Number of clips	Center-to-center space between clips (in.)	Length of rope turned back exclusive of eye (in.)	Length of wrench (in.)
1/2	3	3	9	12
5/8	3	3 3/4	12	12
3/4	4	4 1/2	18	18
7/8	4	5 1/4	21	18
1	4	6	24	24
1 1/8	5	6 3/4	34	24
1 1/4	5	7 1/2	38	24
1 3/8	6	8 1/4	50	24
1 1/2	6	9	54	24
1 5/8	6	9 3/4	60	30
1 3/4	7	10 1/2	74	30
1 7/8	8	11 1/4	90	30
2	8	12	96	30
2 1/8	8	13	104	30
2 1/4	8	14	112	30

R 408.10525 Swinging scaffolds.

Rule 525. (1) A platform for a swing scaffold shall have a bar, strip, or other device attached to the platform outside the hanger to prevent the platform slipping off the hanger. A platform shall be not less than 20 inches nor more than 36 inches wide.

(2) Where rope and blocks are used to support a swing scaffold, the scaffold shall comply with all of the following requirements:

(a) Have hangers made of 3/4-inch round steel, or its equivalent, which are designed to have a flat bottom to hold a platform and which have arms to hold a standard barrier pursuant to R 408.10513 (2) and a loop to hold the hook on a block.

(b) Have supporting ropes of 3/4-inch, first-quality manila, or its equivalent, which are used with not less than 1 6-inch single and 1 6-inch double block. When acid cleaning or sandblasting is done, not less than 5/16 inch wire rope shall be used.

(c) Have all blocks fit the size of rope they carry.

(d) Have ropes made fast to the point of the hook on the hanger eye by a special hitch which cannot slip.

(3) The platform, rope, slings, and other supporting parts shall be inspected before each installation. Periodic inspections shall be made while the scaffold is in use.

(4) A hook with an eye or ring that is used to support the swing scaffold on the building shall be wrought iron or steel of a cross section not less than 5/8 by 2 inches, or equivalent, with the 5/8-inch measurement on the edge. Eaves or cornices shall be inspected for cracks, loose blocks, or other deterioration before setting the hooks. A hook shall have a safety line of 3/4-inch manila rope, or its equivalent, secured from an eye or ring to a structurally sound portion of the building to prevent slipping ~~off of~~ the hook.

(5) Two or more scaffolds shall not be combined by bridging with planks or similar connecting links, unless the scaffolds are equipped with hoisting machines and the planking has the capability to pivot and remain secured to the unit.

(6) Occupancy on a swing scaffold shall be limited as follows:

(a) Maximum designed working load of 500 pounds, 2 employees.

(b) Maximum designed working load of 750 pounds, 3 employees.

(7) An employee using a swing scaffold shall use a safety ~~harness belt~~ **harness belt** tied to a lifeline by a lanyard not more than 48 inches long connected by an approved fall prevention device on the lifeline. The lifeline shall extend to the ground.

(8) In lieu of providing a lifeline, an employee may attach a safety ~~harness belt~~ **harness belt** and lanyard to the scaffold, if a separate fall prevention device is installed at each support point, using safety lines equivalent to the support ropes, and if the device is connected to the scaffold with a line which will allow a drop of not more than 12 inches.

(9) Swing scaffolds shall be equipped with rollers or fenders as prescribed in R 408.10524 (7).

(10) When not in use, a swing scaffold shall be secured to the building or ground, and all tools and materials shall be removed.

(11) When a hoisting machine is used with a swing scaffold, it shall be as prescribed in R 408.10548 and R 408.10549.

R 408.10526 Outrigger's scaffolds.

Rule 526. (1) A thrustout for an outrigger scaffold shall be of timber 3 by 10 inches nominal, set on edge, or of structural steel of equal strength set with the web vertical. A thrustout shall extend outside the building not more than 6 feet, shall be spaced not ~~no~~ more than on 6 foot centers, and shall be fastened to prevent twisting or other movement. A thrustout shall be braced diagonally from the outside end to the building. The brace shall be not less than 25% longer

than the extended length of the thrustout. The inboard end of outrigger beams, measured from the fulcrum point to the extreme point of support, shall be not less than 1 1/2 times the outboard end in length.

(2) A suspended platform shall be formed by use of 2 by 6 inch nominal vertical hangers and 2 by 6 inch nominal bearers. A vertical hanger shall be braced to prevent side sway and be not more than 10 feet long. Additional support blocks shall be nailed to the vertical hangers above the thrustouts and below the bearers. The inboard ends of outrigger beams shall be securely supported, either by means of struts bearing against sills in contact with the overhead beams or ceiling, or by means of tension members secured to the floor joist underfoot, or by both if necessary. The inboard ends of outrigger beams shall be secured against tipping, and the entire supporting structure shall be securely braced in both directions to prevent any horizontal movement.

(3) Planking for the platform shall abut edges tightly from end of thrustout to building or from vertical hanger to vertical hanger, and shall be as prescribed in R 408.10512.

(4) A standard barrier and toeboard shall be installed as prescribed in **General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.10509.** ~~R 408.10231 and R 408.10233 of general industry safety standard Part 2. "Floor and Wall Openings, Stairways and Skylights."~~

(5) A horse scaffold shall not be used with an outrigger's scaffold.

(6) Outrigger scaffolds designed by a registered professional mechanical or civil engineer shall be constructed and erected in accordance with such design. A copy of the detailed drawings and specifications, showing the sizes and spacing of members, shall be kept on the job. Where additional working levels are required to be supported by the outrigger method, the plans and specifications of the outrigger and scaffolding structure shall be designed by a registered professional mechanical or civil engineer.

R 408.10528 Ladder jack scaffolds.

Rule 528. (1) A ladder jack scaffold shall be used on a Type 1, sometimes-called heavy duty, manufactured ladder only, and at heights not more than 20 feet from the ground or floor level.

(2) The span of a wood plank shall be not more than 8 feet between ladder jacks, and the planking shall be as prescribed in R 408.10512.

(3) The span of a pick shall not exceed 24 feet.

(4) A ladder jack ~~scaffold scaffold~~, shall be limited to 2 employees at any 1 time, except if 3 ladders support the **plank, plank then** 3 employees may occupy the plank. Not more than 2 employees shall occupy any given 8 feet of plank at any 1 time.

(5) A ladder used with a ladder jack shall be equipped with nonslip feet pursuant to **General Industry Safety Standard Part 4 "Portable Ladders," as referenced in R 408.10509.** ~~R 108.10447 of the general industry safety standard, Part 4. "Portable Ladders," R 408.10401 to R 408.10456.~~

(6) A ladder jack shall be made of metal with a designed strength to sustain the load as prescribed in **R 408.10513(1).** ~~subrule (1) of R 408.10513.~~ A ladder jack shall be designed to bear on the side rails in addition to the rungs, or if bearing on the rungs only, the bearing surface shall be not less than 10 lineal inches on each rung.

R 408.10529 Boatswain's chair.

Rule 529. (1) The wood seat of a boatswain's chair shall be not less than nominal 12 by 24 inches by 1 inch thick with the underside reinforced by cleats fastened to prevent splitting.

(2) Two 5/8-inch fiber, or equivalent, rope slings shall be reeved through 4 set holes so as to cross each other on the underside. Where an employee is using a heat- or spark-producing process such as gas or arc welding or cutting, 3/8-inch wire rope shall be used in place of the fiber rope.

(3) The employee shall use a safety **harness belt** and lifeline. The lifeline shall be securely attached to substantial members of the structure, not scaffold, or to securely rigged lines, which will safely suspend the worker in case of a fall.

(4) The tackle shall consist of bearing or bushed blocks and 5/8-inch manila rope, or its equivalent. A roof iron, hook, or other object to which the tackle is anchored shall be secured to prevent dislodgement. Tie backs shall be installed at right angles to the face of the building and secured to the roof hooks and the building.

#### R 408.10532 Working surfaces; steep slopes.

Rule 532. (1) An employee working on a roof where the working area is more than 20 feet above the ground, the pitch is more than 3 inches in 12 inches, and there is no roof parapet, shall be provided and use a roofing bracket scaffold or crawling board.

(2) An employee using a roofing bracket scaffold or crawling board shall use a safety **harness belt and lifeline, or the employer must provide lifeline or a catch platform.** ~~platform shall be provided.~~ The catch platform shall extend 2 feet beyond the projection of the eaves or structure, whichever is farther away, and shall be equipped with a standard barrier and toeboard as prescribed in **General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.10509.** ~~R 408.10231 and R 408.10233 of general industry safety standard Part 2. "Floor and Wall Openings, Stairways, and Skylights."~~

#### R 408.10542 Tube and coupler-type scaffolding.

Rule 542. (1) A light-duty tube and coupler scaffold shall have all posts, bearers, ledgers, and braces of not less than 2-inch nominal O.D. steel tubing or equivalent with the posts spaced not more than 6 feet apart by 10 feet along the length of the scaffold. Other structural members shall be capable of carrying the intended load. The scaffold shall be limited to those heights and working levels prescribed in table 10.

(2) A medium-duty tube and coupler scaffold shall have all posts, ledgers, and braces of not less than nominal 2-inch O.D. steel tubing or equivalent with the posts spaced not more than 6 feet apart by 8 feet along the length of the scaffold. Bearers shall be nominal 2 1/2-inch O.D. steel tubing or equivalent, except that 2-inch O.D. tubing may be used if the posts are spaced not more than 5 feet apart by 8 feet along the length of the scaffold. Other structural members shall be capable of carrying the intended load. The scaffold shall be limited to those heights and working levels prescribed in table 11.

(3) A heavy-duty tube and coupler scaffold shall have posts, ledgers, and braces of not less than nominal 2-inch O.D. steel tubing or equivalent with the posts spaced not more than 6 feet apart by 6 1/2 feet along the length of the scaffold. Bearers shall be of not less than nominal 2 1/2-inch O.D. steel tubing or equivalent. Other structural members shall be capable of carrying the intended load. The scaffold shall be limited to those heights and working levels prescribed in table 12.

(4) A scaffold to be erected at a height greater than those prescribed in table 10, 11, or 12 shall be designed by an engineer knowledgeable in scaffolding and a copy of the blueprint shall be maintained at the jobsite.

(5) Tube and coupler type scaffolding shall comply with all of the following:

(a) Have ledgers erected along the length of the scaffold which are located on both inside and outside posts at each bearer level. Ledgers shall be interlocked to form continuous lengths and coupled to each post. The bottom ledgers shall be located as close to the base as possible. Ledgers shall be placed not more than 6 feet 6 inches on centers, vertically.

(b) Have bearers installed transversely between posts which are coupled to the posts and bearing on the ledger coupler. A bearer shall be not less than 4 inches nor more than 12 inches longer than the post spacing or ledger spacing. A bearer may be cantilevered for use with brackets to carry not more than 2 planks.

(c) Be cross braced across the width of the scaffold from the inner to outer ledgers at not less than every third set of posts horizontally and every fourth runner vertically. The bracing shall extend diagonally from the inner and outer ledgers upward to the next outer and inner ledgers.

(d) Have longitudinal bracing installed at approximately a 45 degree angle from the base of the first outer post toward the top of the scaffold. Where possible, bracing shall be repeated every fifth post. In a similar manner, longitudinal diagonal bracing shall also be installed from the last post extending back and upward toward the first post. Where conditions preclude the attachment of this bracing to the posts, it may be attached to the ledgers.

(6) Table 10 reads as follows:

<b>TABLE 10 Tube and Coupler Scaffolds Light Duty</b>		
<b>Uniformly distributed loads</b>	<b>Not to exceed 25 p.s.f</b>	
<b>Post spacing (longitudinal)</b>	<b>10 ft. 0 in.</b>	
<b>Post spacing (transverse)</b>	<b>6 ft. 0 in.</b>	
<b>Working levels</b>	<b>Additional planked levels</b>	<b>Maximum height</b>
<b>1</b>	<b>8</b>	<b>125 ft.</b>
<b>2</b>	<b>4</b>	<b>125 ft.</b>
<b>3</b>	<b>0</b>	<b>91 ft. 0 in.</b>

(7) Table 11 reads as follows:

<b>TABLE 11 Tube and Coupler Scaffolds Medium Duty</b>	
<b>Uniformly distributed load</b>	<b>Not to exceed 50 p.s.f</b>
<b>Post spacing (longitudinal)</b>	<b>8 ft. 0 in.</b>
<b>Post spacing (transverse)</b>	<b>6 ft. 0 in.</b>

<b>Working levels</b>	<b>Additional planked levels</b>	<b>Maximum height</b>
<b>1</b>	<b>6</b>	<b>125 ft.</b>
<b>2</b>	<b>0</b>	<b>78 ft. 0 in.</b>

**TABLE 10**  
**Tube and Coupler Scaffolds Light Duty**

Uniformly distributed loads		Not to exceed 25 p.s.f
Post spacing(longitudinal)		10 ft. 0 in.
Post spacing(transverse)		6 ft. 0 in.
Working levels	Additional planked levels	Maximum height
1	8	125 ft.
2	4	125 ft.
3	0	91 ft. 0 in.

**TABLE 11**  
**Tube and Coupler Scaffolds Medium Duty**

Uniformly distributed load		Not to exceed 50 p.s.f
Post spacing(longitudinal)		8 ft. 0 in.
Post spacing(transverse)		6 ft. 0 in.
Working levels	Additional planked levels	Maximum height
1	6	125 ft.
2	0	78 ft. 0 in.

(8) Table 12 reads as follows:

<b>TABLE 12 Tube and Coupler Scaffolds Heavy Duty</b>		
<b>Uniformly distributed load</b>	<b>Not to exceed 75 p.s.f</b>	
<b>Post spacing (longitudinal)</b>	<b>6 ft. 6 in.</b>	
<b>Post spacing (transverse)</b>	<b>6 ft. 0 in.</b>	
<b>Working levels</b>	<b>Additional planked levels</b>	<b>Maximum height</b>
<b>1</b>	<b>6</b>	<b>125 ft.</b>

**TABLE 12  
Tube and Coupler Scaffolds Heavy Duty**

<b>Uniformly distributed load</b>	<b>Not to exceed 75 p.s.f</b>	
<b>Post spacing(longitudinal)</b>	<b>6 ft. 6 in.</b>	
<b>Post spacing(transverse)</b>	<b>6 ft. 0 in.</b>	
<b>Working levels</b>	<b>Additional planked levels</b>	<b>Maximum height</b>
<b>1</b>	<b>6</b>	<b>125 ft.</b>

R 408.10544 Mobile scaffolds.

Rule 544. (1) A mobile scaffold shall be constructed as prescribed in R 408.10542 or R 408.10543 and shall be limited to a height of 50 feet unless designed and erected by an engineer knowledgeable in scaffolding.

(2) A mobile scaffold shall **meet all the following requirements:**

(a) Not exceed a height of 4 times the minimum base dimension, or shall be guyed every 20 feet of height to prevent movement. Outriggers, when used, may be considered as part of the base dimension.

(b) Have a landing platform at intervals of not more than 30 feet.

(c) Have the wheels locked when in use and attached by pins or bolts, or other equivalent means, to the frame or adjusting screw.

(d) Have a limit adjustment of screw jack to not more than 12 inches from top of castor bearing plate to bottom of frame. The castor stem shall fit the socket in the frame and extend inside not less than 6 inches.

(e) Have all scaffold castors provided with a positive wheel, a swivel lock, or both, to prevent movement.

(f) Have adequate rigid diagonal bracing to vertical members provided.

(g) Have exposed surfaces free from sharp edges, burrs, and other hazards.

(h) Have the width of a working platform at any level not less than 20 inches and secured in place.

(i) Have the designed load of all mobile scaffolds calculated on the basis of **all of the following**:

(A) Light - Designed and constructed to carry a working load of 25 pounds per square foot.

(B) Medium - Designed and constructed to carry a working load of 50 pounds per square foot.

(C) Heavy - Designed and constructed to carry a working load of 75 pounds per square foot.

(j) Have the work level platform of scaffolds, sometimes called towers, of wood, aluminum, or plywood planking, steel, or expanded metal for the full width of the scaffold, except for necessary openings. Work platforms shall be secured in place.

(3) A sectional folding stairway scaffold shall **meet all of the following requirements**:

(a) Be designed as medium duty, except for high clearance. A sectional folding stairway scaffold with a high clearance base shall be designated as a light duty scaffold.

(b) Have an integral stairway and work platform incorporated into the structure.

(c) Have the end frames designed so that the horizontal bearers provide supports for multiple planking levels.

(d) Be not more than 4 1/2 feet wide by 6 feet in length.

(4) A sectional folding ladder scaffold shall **meet all of the following requirements**:

(a) Be designed as a light duty scaffold, including special base open end sections which are designed for high clearance. For certain special applications, the 6 foot in length folding ladder scaffolds, except for special high clearance base sections, shall be designed for use as medium duty scaffolds.

(b) Have a width of not more than 4 1/2 feet.

(c) Have a length of not more than 6 feet 6 inches for a 6-foot long unit, 8 feet 6 inches for an 8-foot unit, or 10 feet 6 inches for a 10-foot long unit.

(d) Have the end frames designed so that the horizontal bearers provide supports for multiple planking levels.

(e) Have an integral set of pivoting and hinged folding diagonal and horizontal braces and a detachable work platform incorporated into the structure.

R 408.10546 Powered and manual mobile elevating platforms.

Rule 546. (1) ~~(a)~~ Powered and manual mobile elevating platforms shall be operated as prescribed in **General Industry Safety Standard Part 58 "Aerial Work Platforms," as referenced in R 408.10509.** ~~general industry safety standard, Part 58. "Aerial Work Platforms," R 408.15801 to R 408.15842.~~

(2) ~~(b)~~ Powered industrial trucks shall be operated as prescribed in **General Industry Safety Standard Part 21 "Powered Industrial Trucks," as referenced in R 408.10509.** ~~general industry safety standard, Part 21. "Powered Industrial Trucks," R 408.12101 to R 408.12193.~~

R 408.10548 Powered hoisting machine.

Rule 548. (1) A powered hoisting machine shall be inspected not less than once a month when in service and not put into service unless free of hazards.

(2) A powered hoisting machine manufactured after the effective date of this **standard part** shall carry a label of an approved nationally recognized testing laboratory such as underwriters laboratories or factory mutual engineering corporation that the machine is approved for the use on a suspension scaffold, swinging scaffold, or powered mobile elevating platform.

## POWERED PLATFORMS

R 408.10561. **Installations.** ~~Construction and modification; requirements for buildings utilizing working platforms for maintenance; tie-in guides.~~

Rule 561. (1) A powered platform installed, or that part of a powered platform modified, after August 27, 1971, shall be in compliance with the design and manufacturing requirements prescribed in ~~ANSI ASME standard A120.1, “Safety Requirements for Powered Platforms for Exterior Building Maintenance,” 1970 edition, ‘Safety requirements for powered platforms for exterior building maintenance, which is as~~ adopted in **R 408.10509, R 408.10509** by ~~reference, and as further prescribed in the rules of this standard. part.~~

(2) The following requirements apply to affected parts of buildings that utilize working platforms for building maintenance:

(a) Structural supports, tie-downs, tie-in guides, anchoring devices, and any affected parts of the building that are included in the installation shall be designed by, or under the direction of, a registered professional engineer who is experienced in such design.

(b) Exterior installations shall be capable of withstanding prevailing climatic conditions.

(c) The building installation shall provide safe access to, and egress from, the equipment and shall provide sufficient space to conduct necessary maintenance of the equipment.

(d) The affected parts of the building shall have the capability of sustaining all of the loads imposed by the equipment.

(e) The affected parts of the building shall be designed to allow the equipment to be used without exposing employees to a hazardous condition.

(3) The exterior of each building shall be provided with tie-in guides unless the conditions specified in either of the following provisions are met:

(a) Tie-in guides required pursuant to this rule may be eliminated for not more than 75 feet (22.9 m) of the uppermost elevation of the building if angulated roping is employed, if the use of tie-in guides is not feasible due to the exterior building design, and if an angulation force of not less than 10 pounds (44.4 n) is maintained under all conditions of loading.

(b) Tie-in guides may be eliminated if 1 of the specified guide systems is provided as specified in R 408.10562 and R 408.10563.

## POWERED PLATFORM INSTALLATIONS - EQUIPMENT

R 408.10564 Design of **installation; equipment.** ~~installation.~~

Rule 564. (1) The requirements of this rule apply to equipment that is part of a powered platform installation, such as any of the following:

(a) Platforms.

(b) Stabilizing components.

(c) Carriages.

- (d) Outriggers.
- (e) Hoisting machines.
- (f) Wire ropes.
- (g) Electrical components.

(2) Equipment installations shall be designed by, or under the direction of, a registered professional engineer who is experienced in such design.

(3) The design shall provide for a minimum live load of 250 pounds (113.6 kg) for each occupant of a suspended or supported platform.

(4) Equipment that is exposed to wind when not in service shall be designed to withstand forces generated by winds that have a velocity of **at least** 100 miles per hour (44.7 m/s) ~~or more~~ at 30 feet (9.2 m) above grade.

(5) Equipment that is exposed to wind when in service shall be designed to withstand forces generated by winds that have a velocity of **at least** 50 miles per hour (22.4 m/s) ~~or more~~ for all elevations.

(6) Bolted connections shall be self-locking or shall otherwise be secured to prevent the loss of the connections by vibration.

#### R 408.10565 Roof cars; carriages; suspension methods.

Rule 565. (1) A roof car shall be used when it is necessary to move a working platform horizontally to a work or storage position.

(2) Movements of a roof car shall be restricted to a designated path of travel. Mechanical stops shall be provided and shall prevent the roof car from traversing outside the intended path of travel. The stops shall be capable of withstanding a force equal to 100% of the inertial effect of the roof car under power and shall be designed to prevent a crushing or shearing hazard.

(3) Elevated building maintenance equipment shall be suspended by a roof car, carriage, outrigger, davits, or an equivalent method.

(4) Carriages or roof cars shall be in compliance with all of the following provisions:

(a) The horizontal movement of a carriage shall be controlled to ensure its safe movement and allow accurate positioning of the platform for vertical travel or storage.

(b) Powered carriages shall not exceed a traversing speed of 50 feet per minute (0.3 ~~ms~~ ~~mls~~).

(c) The initiation of a traversing movement for a manually propelled carriage on a smooth level surface shall not require a person to exert a horizontal force of more than 40 pounds (444.8 n).

(d) Structural stops and curbs shall be provided to prevent the traversing of the carriage beyond its designed limits of travel.

(e) Traversing controls for a powered carriage shall be of a continuous pressure weatherproof type. Multiple controls, when provided, shall be arranged to permit operation from only 1 control station at a time. An emergency stop device shall be provided on each end of a powered carriage for interrupting power to the carriage drive motors.

(f) The operating control or controls shall be connected so that, in the case of suspended equipment, traversing of a carriage is not possible until the suspended portion of the equipment is located at its uppermost designed position for traversing and is free of contact with the face of the building or building guides. All protective devices and interlocks shall be in the proper position to allow traversing of the carriage.

(g) Stability for underfoot supported carriages shall be obtained by gravity, by an attachment to a structural support, or by a combination of gravity and a structural support. The use of flowing counterweights to achieve stability is prohibited.

(h) The stability factor against overturning shall not be less than 5 for horizontal traversing of the carriage, including the effects of impact and wind.

(i) The carriages and their anchorages shall be capable of resisting accidental **over-tensioning** ~~overtensioning~~ of the wire ropes that suspend the working platform, and this calculated value shall include the effect of **1-1/2** ~~1-1/2~~ times the stall capacity of the hoist motor. The forces that result from the stall load of the hoist and **1/2** ~~1/2~~ of the wind load shall not cause damage to any part of the installation.

(j) Roof carriages that rely on having tie-down devices secured to the building to develop the required stability against overturning shall be provided with an interlock that will prevent vertical platform movement unless the tie-down is engaged.

(k) An automatically applied braking or locking system, or an equivalent, shall be provided that will prevent the unintentional traversing of power-traversed or power-assisted carriages.

(l) ~~(l)~~ A manual or automatic braking or locking system, or an equivalent, shall be provided that will prevent the unintentional traversing of manually propelled carriages.

(m) A means to lock out the power supply for the carriage shall be provided.

(n) Safe access to, and egress from, the carriage shall be provided from a safe surface. If the carriage traverses an elevated area, any operating area on the carriage shall be protected by a guardrail system in compliance with **General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.10509.** ~~general industry safety standard Part 2. "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241.~~ Any access gate shall be self-closing and self-latching or shall be provided with an interlock.

(o) Each carriage work station position shall be identified by location markings or position indicators, or both.

(p) A motor shall stall if the load on the hoist motor is at any time more than 3 times that necessary for lifting the working platform with its rated load.

R 408.10567 Davits.

Rule 567. (1) Every davit installation, whether fixed or portable or rotatable or **non-rotatable**, ~~nonrotatable~~, shall be designed and installed to **ensure** ~~insure~~ that it has a stability factor against overturning of not less than 4.

(2) Both of the following requirements apply to roof-rigged davit systems:

(a) Access to and egress from the working platform shall be from a safe surface. Access or egress shall not require **a person** ~~persons~~ to climb over a building's parapet or guard railing.

(b) The working platform shall be provided with wheels, casters, or a carriage for traversing horizontally.

(3) Both of the following requirements apply to ground-rigged davit systems:

(a) The point of suspension shall not be more than 300 feet (91.5 m) above a safe surface. A guide system or systems shall be provided and shall be in compliance with the requirements of R 408.10561 and R 408.10562.

(b) Access and egress to and from the working platform shall only be from a safe surface that is below the point of suspension.

(4) A rotating davit shall not require a horizontal force of more than 40 pounds (177.9 n) per person to initiate a rotating movement.

(5) All of the following requirements ~~shall~~ apply to portable davits:

(a) A davit or part of a davit that weighs more than 80 pounds (36 kg) shall be provided with a means for its transport, which shall keep the center of gravity of the davit at or below 36 inches (914 mm) above the safe surface during transport.

(b) A davit shall be provided with a pivoting socket or with a base that will allow the insertion or removal of a davit at a position of not more than 35 degrees above the horizontal, with the complete davit inboard of the building face being serviced.

(c) Means shall be provided to lock the davit to its socket or base before it is used to suspend the platform.

**R 408.10568 Roof guarding.** ~~Perimeter guarding; equipment stops; maintenance access; elevated track system walkway and guardrail system; platform access and egress safety; certain anchors, fasteners, and structures to be corrosion resistant; cable installation; emergency action plan; repairs or major maintenance to parts of building providing primary support.~~

Rule 568. (1) Employees who work on roofs while performing building maintenance shall be protected by a perimeter guarding system that meets the requirements of **General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights,"** as referenced in **R 408.10509.** ~~general industry safety standard, Part 2. "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241.~~

(2) The perimeter guard shall not be more than 6 inches (152 mm) inboard of the inside face of a barrier, for example, the parapet wall, or roof edge curb of the building being serviced; however, the perimeter guard location shall not be set back more than 18 inches (457 mm) from the exterior building face.

~~(3) Operational areas for trackless type equipment shall be provided with structural stops, such as curbs, to prevent equipment from traveling outside its intended travel areas and to prevent a crushing or shearing hazard.~~

~~(4) Means shall be provided to traverse all carriages and their suspended equipment to a safe area for maintenance and storage. Maintenance shall be performed on equipment in a stored position when possible.~~

~~(5) An elevated track system which is located 4 feet (1.2 m) or more above a safe surface and which is traversed by carriage supported equipment shall be provided with a walkway and guardrail system or else the working platform shall be capable of being lowered, as part of its normal operation, to the lower safe surface for access and egress of the personnel and shall be provided with a safe means of access and egress to the lower safe surface.~~

~~(6) Imbedded tie down anchors, fasteners, and affected structures shall be resistant to corrosion.~~

~~(7) Hanging lifelines and all cables that are not in tension shall be stabilized at 200 foot (61 m) intervals of vertical travel of the working platform beyond an initial 200 foot (61 m) distance.~~

~~(8) Hanging cables, other than suspended wire ropes, that are in constant tension shall be stabilized when the vertical travel is more than an initial 600 foot (183 m) distance. Beyond the initial 600 feet, cables shall be stabilized at intervals of 600 feet (183 m) or less.~~

~~(9) A written emergency action plan shall be developed and implemented for each kind of working platform operation. This plan shall explain the emergency procedures that are to be followed in the event of a power failure, equipment failure, or other emergencies which may be encountered. The plan shall include building emergency escape routes, procedures, and alarm systems to be used by each employee before operating a platform. Upon initial assignment and when the plan is changed, the employer shall review, with each employee, those parts of the plan that the employee is required to know in the event of an emergency.~~

~~(10) Repairs or major maintenance of those building portions that provide primary support for the suspended equipment shall not affect the capability of the building to be in compliance with the requirements of these rules.~~

**R 408.10568a Equipment stops.**

**Rule 568a. Operational areas for trackless type equipment shall be provided with structural stops, such as curbs, to prevent equipment from traveling outside its intended travel areas and to prevent a crushing or shearing hazard.**

**R 408.10568b Maintenance access.**

**Rule 568b. Means shall be provided to traverse all carriages and their suspended equipment to a safe area for maintenance and storage. Maintenance shall be performed on equipment in a stored position when possible.**

**R 408.10568c Elevated track.**

**Rule 568c. Either of the following must be provided:**

**(a) An elevated track system that is located 4 feet (1.2 m) or more above a safe surface and that is traversed by carriage supported equipment shall be provided with a walkway and guardrail system.**

**(b) The working platform that is capable of being lowered, as part of its normal operation, to the lower safe surface for access and egress of the personnel and provided with a safe means of access and egress to the lower safe surface.**

**R 408.10568d Tie-down anchors.**

**Rule 568d. Imbedded tie-down anchors, fasteners, and affected structures shall be resistant to corrosion.**

**R 408.10568e Cable stabilization.**

**Rule 568e. (1) Hanging lifelines and all cables that are not in tension shall be stabilized at 200-foot (61 m) intervals of vertical travel of the working platform beyond an initial 200-foot (61 m) distance.**

**(2) Hanging cables, other than suspended wire ropes, that are in constant tension shall be stabilized when the vertical travel is more than an initial 600-foot (183 m) distance. Beyond the initial 600 feet, cables shall be stabilized at intervals of 600 feet (183 m) or less.**

**R 408.10568f Emergency planning.**

**Rule 568f. An employer shall develop and implement a written emergency action plan for each kind of working platform operation. This plan shall explain the emergency procedures that are to be followed in the event of a power failure, equipment failure, or other emergencies which may be encountered. The plan shall include building emergency escape routes, procedures, and alarm systems to be used by each employee before operating a platform. Upon initial assignment and when the plan is changed, the employer shall review, with each employee, those parts of the plan that the employee is required to know in the event of an emergency.**

**R 408.10568g Building maintenance.**

**Rule 568g. Repairs or major maintenance of those building portions that provide primary support for the suspended equipment shall not affect the capability of the building to be in compliance with the requirements of these rules.**

R 408.10569 Electrical requirements.

Rule 569. The following electrical requirements apply to buildings that utilize working platforms for building maintenance:

(a) General building electrical installations shall be in compliance with the provisions of **General Industry Safety Standard Part 39 “Design Safety Standards for Electrical Systems,” as referenced in R 408.10509.** ~~general industry safety standard Part 39. Design Safety Standards for Electrical Systems.~~

(b) Building electrical wiring shall be of such capacity that when a full load is applied to the equipment power circuit not more than a 5% drop from building service-vault voltage ~~will shall~~ occur at any power circuit outlet that is used by equipment regulated by these rules.

(c) The equipment power circuit shall be an independent electrical circuit that **remains shall remain** separate from all other equipment within or on the building, other than power circuits that are used for hand tools which will be used in conjunction with the equipment. If the building has an emergency power system, the equipment power circuit may also be connected to this system.

(d) The power circuit shall be provided with a disconnect switch that can be locked in the "off" or "on" position. The switch shall be located to allow the operators of the equipment access to the switch.

(e) The disconnect switch for the power circuit shall be locked in the "on" position when the equipment is in use.

R 408.10572 Working platforms.

Rule 572. A working platform that is used on the exterior of a building shall be equipped with rollers which will be in contact with the building face. Where the vertical working travel of a working platform is more than 130 feet, the platform shall be equipped with guide rollers or guide shoes which shall positively engage guides, such as "t" rails or indented mullions. The guide rollers or guide shoes shall enter the guides at the lowest possible speed and shall not require any manual assistance from an employee while the work platform is in motion. A working platform ~~that which~~ is installed before the effective date of this ~~standard part~~ and ~~that which~~ has a rise of more than 130 feet may use an equivalent means to tie the platform to the building instead of guide rollers or guide shoes.

R 408.10575 Hoisting **machines.** ~~machines; suspended equipment; 2 and 4 point suspended working platforms; single point suspended platforms; ground rigged working platforms; intermittently stabilized platforms; button guide stabilized platforms; supported equipment; suspension wire ropes and rope connections.~~

Rule 575. (1) The raising and lowering of suspended or supported equipment shall be performed only by a hoisting machine.

(2) Each hoisting machine shall be capable of arresting any overspeed descent of the load.

(3) Each hoisting machine shall be powered only by air, electric, or hydraulic sources.

(4) Each hoisting machine shall be capable of raising or lowering 125% of the rated load of the hoist.

(5) Moving parts of a hoisting machine shall be enclosed or guarded in compliance with the provisions of **General Industry Safety Standard Part 7 “Guards for Power Transmission,”**

**as referenced in R 408.10509.** ~~general industry safety standard, Part 7. "Guards for Power Transmission," R 408.10701 to R 408.10765.~~

(6) Flammable liquids shall not be carried on the working platform.

(7) Winding drums, traction drums, and sheaves and directional sheaves that are used in conjunction with hoisting machines shall be sized for the wire rope that is used.

(8) Each winding drum shall be provided with a positive means of attaching the wire rope to the drum. The attachment shall be capable of developing not less than 4 times the rated load of the hoist.

(9) Each hoisting machine shall be provided with a primary brake and at least 1 independent secondary brake, each of which shall be capable of stopping and holding not less than 125% of the lifting capacity of the hoist. ~~The primary brake shall be directly connected to the drivetrain of the hoisting machine and shall not be connected through belts, chains, clutches, or set screw-type devices. The brake shall automatically set when power to the prime mover is interrupted. The secondary brake shall be an automatic emergency type of brake that, if actuated during each stopping cycle, shall not engage before the hoist is stopped by the primary brake and shall stop and hold the platform within a vertical distance of 24 inches (609.6 mm).~~

**(10) The primary brake shall be directly connected to the drivetrain of the hoisting machine and shall not be connected through belts, chains, clutches, or set screw-type devices. The brake shall automatically set when power to the prime mover is interrupted.**

**(11) The secondary brake shall be an automatic emergency type of brake that, if actuated during each stopping cycle, shall not engage before the hoist is stopped by the primary brake and shall stop and hold the platform within a vertical distance of 24 inches (609.6 mm).**

~~(12) (10)-~~Any component of a hoisting machine that requires lubrication for its protection and proper functioning shall be provided with a means for that lubrication to be applied.

~~(11) All of the following provisions apply to suspended equipment:~~

~~(a) Each suspended unit component, except for suspension ropes and guardrail systems, shall be capable of supporting not less than 4 times the maximum intended live load applied or transmitted to that component.~~

~~(b) Each suspended unit component shall be constructed of materials that will withstand anticipated weather conditions.~~

~~(c) Each suspended unit shall be provided with a load rating plate which is conspicuously located and which states the unit weight and rated load of the suspended unit.~~

~~(d) When the suspension points on a suspended unit are not at the unit ends, the unit shall be capable of remaining continuously stable under all conditions of use and position of the live load and shall maintain not less than a 1.5 to 1 stability factor against unit upset.~~

~~(e) Guide rollers, guide shoes, or building face rollers shall be provided and shall compensate for variations in building dimensions and for minor horizontal out-of-level variations of each suspended unit.~~

~~(f) Each working platform of a suspended unit shall be secured to the building facade by 1 or more of the following methods or by an equivalent method that is in compliance with the provisions of R 408.10561 and R 408.10562:~~

~~(i) Continuous.~~

~~(ii) Intermittent.~~

~~(iii) Button guide engagement.~~

~~(iv) Angulated roping.~~

~~(v) Building face rollers.~~

(g) Each working platform of a suspended unit shall be provided with a guardrail system on all sides, which shall meet the requirements of general industry safety standard, Part 2. "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241. All of the following provisions apply to the guardrail system:

(i) The system shall consist of a top guardrail, midrail, and toeboard.

(ii) The top guardrail shall be not less than 42 inches high and shall be able to withstand not less than a 200-pound force in any downward or outward direction.

(iii) The midrail shall be able to withstand not less than a 75-pound(333 n) force in any direction.

(iv) The areas between the guardrail and toeboard on the ends and outboard side, and the area between the midrail and toeboard on the inboard side, shall be closed with a material that is capable of withstanding a load of 100 pounds(45.4 kg.) applied horizontally over any area of 1 square foot(.09 m<sup>2</sup>). All openings in the material shall be small enough to prevent the passage of lifelines and potential falling objects that may be hazardous to persons below.

(v) Toeboards shall be capable of withstanding a force of not less than 50 pounds(222 n) applied in any direction at any point along the toeboard.

(vi) Toeboards shall be not less than 4 inches in height from the top edge to the level of the platform floor.

(vii) Toeboards shall be securely fastened in place at the outermost edge of the platform and have not more than 1/4 of an inch(1.3 cm) clearance above the platform.

(viii) Toeboards shall be solid or have an opening that is not more than 1 inch(2.5 cm) in the greatest dimension.

(12) All of the following provisions apply to a 2 and 4 point suspended working platform:

(a) The working platform shall be not less than 24 inches(610 mm) wide and shall be provided with a minimum of a 12-inch(305 mm) wide passage at or past any obstruction on the platform.

(b) The flooring shall be of a slip-resistant type and shall not have an opening that would allow the passage of lifelines, cables, and other potential falling objects.

(c) The working platform shall be provided with a means of suspension that will restrict the platform from tilting more than 15 degrees in any direction.

(d) Any cable that is suspended from above the platform shall be provided with a means for storage to prevent accumulation of the cable on the floor of the platform.

(e) All operating controls for the vertical travel of the platform shall be of the continuous-pressure type and shall be located on the platform.

(f) Each operating station of every working platform shall be provided with a means of interrupting the power supply to all hoist motors to stop any further powered ascent or descent of the platform.

(g) The maximum rated speed of the platform shall not be more than 50 feet per minute (0.3 ms) for single-speed hoists and not more than 75 feet per minute (0.4 ms) for multispeed hoists.

(h) All tools, water tanks, and other accessories shall be secured to prevent their movement or accumulation on the floor of the platform.

(i) Portable fire extinguishers that are in compliance with the provisions of general industry safety standard, Part 8. "Portable Fire Extinguishers," R 408.10801 to R 408.10839, shall be provided and securely attached on all working platforms.

(j) Access to and egress from a working platform, except for those that land directly on a safe surface, shall be provided by stairs, ladders, platforms, and runways that are in compliance with the provisions of general industry safety standards, Part 2. "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241, and Part 4. "Portable Ladders," R 408.10401 to R 408.10456. Access gates shall be self-closing and self-latching.

~~(k) Means of access to or egress from a working platform that is 48 inches (1.2 m) or more above a safe surface shall be provided with a guardrail system or ladder handrails that are in compliance with the provisions of general industry safety standards, Part 2. "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241, and Part 4. "Portable Ladders," R 408.10401 to R 408.10456.~~

~~(l) The platform shall be provided with a secondary wire rope suspension system if the platform has overhead structures that restrict the emergency egress of employees. A horizontal lifeline or a direct connection anchorage shall be provided as part of a fall arrest system. The system shall be in compliance with the requirements of general industry safety standard Part 33. "Personal Protective Equipment," R 408.10331 to R 408.13398.~~

~~(m) A vertical lifeline shall be provided as part of a fall arrest system. The system shall be in compliance with the requirements of general industry safety standard Part 33. "Personal Protective Equipment," R 408.10331 to R 408.10398, for each employee on a working platform that is suspended by 2 or more wire ropes if the failure of 1 wire rope or suspension attachment will cause the platform to upset. If a secondary wire rope suspension is used, vertical lifelines are still required for the fall arrest system.~~

~~(n) An emergency electric operating device shall be provided on roof-powered platforms near the hoisting machine for use in the event of failure of the normal operating device that is located on the working platform or failure of the cable that is connected to the platform. The emergency electric operating device shall be mounted in a secured compartment and the compartment shall be labeled with instructions for use. A means for opening the compartment shall be mounted on a break glass receptacle that is located near the emergency electric operating device or in an equivalent secure accessible location.~~

~~(13) Both of the following provisions apply to a single-suspended working platform:~~

~~(a) The requirements of R 408.10575(12)(a) to(k) shall also apply to a single-point working platform.~~

~~(b) Each single-point suspended working platform shall be provided with a secondary wire rope suspension system that will prevent the working platform from falling if there is a failure of the primary means of support or if the platform contains overhead structures that restrict the egress of the employees. A horizontal lifeline or a direct connection anchorage that meets the requirements of appendix c shall be provided, as part of a fall arrest system that is in compliance with the requirements of general industry safety standard Part 33. "Personal Protective Equipment," R 408.13301 to R 408.13398, for each employee on the platform.~~

~~(14) Both of the following provisions apply to a ground-rigged working platform:~~

~~(a) The working platform shall be in compliance with all of the requirements of R 408.10575(12)(a) to(k).~~

~~(b) After each day's use, the power supply within the building shall be disconnected from a ground-rigged working platform, and the platform shall be either disengaged from its suspension points or secured and stored at grade.~~

~~(15) All of the following provisions apply to an intermittently stabilized platform:~~

~~(a) The platform shall be in compliance with the requirements of R 408.10575(12)(a) to(m).~~

~~(b) Each stabilizer tie shall be equipped with a quick-connect/quick-disconnect device which cannot be accidentally disengaged, which is for attachment to the building anchor, and which is resistant to adverse environmental conditions.~~

~~(c) The platform shall be provided with a stopping device that will interrupt the hoist power supply if the platform contacts a stabilizer tie during its ascent.~~

~~(d) Building face rollers shall not be placed at the anchor setting if exterior anchors are used on the building face.~~

~~(e) Stabilizer ties that are used on intermittently stabilized platforms shall allow for the specific attachment length that is needed to effect the predetermined angulation of the suspended wire rope. The specific attachment length shall be maintained at all building anchor locations.~~

~~(f) The platform shall be in continuous contact with the face of the building during ascent and descent.~~

~~(g) The attachment and removal of stabilizer ties shall not require the horizontal movement of the platform.~~

~~(h) The platform-mounted equipment and its suspension wire ropes shall not be physically damaged by the loads from the stabilizer tie or its building anchor. The platform, platform-mounted equipment, and wire ropes shall be able to withstand a load that is not less than twice the ultimate strength of the stabilizer tie.~~

~~(16) All of the following provisions apply to a button-guide stabilized platform:~~

~~(a) The platform shall be in compliance with the requirements of R 408.10575(12)(a) to(m).~~

~~(b) Each guide track on the platform shall engage a minimum of 2 guide buttons during any vertical travel of the platform after the initial button engagement.~~

~~(c) Each guide track on a platform that is part of a roof-rigged system shall be provided with a storage position on the platform.~~

~~(d) Each guide track on the platform shall be sufficiently maneuverable by platform occupants to permit easy engagement of the guide buttons and easy movement into and out of the guide track's storage position on the platform.~~

~~(e) Two guide tracks shall be mounted on the platform and shall provide continuous contact with the building face.~~

~~(f) The load-carrying components of the button-guide stabilization system that transmit the load into the platform shall be capable of supporting the weight of the platform or provision shall be made in the guide track connectors or platform attachments to prevent the weight of the platform from being transmitted to the platform attachments.~~

~~(17) All of the following provisions apply to supported equipment:~~

~~(a) Supported equipment shall maintain a vertical position in respect to the face of the building by means other than friction.~~

~~(b) Cog wheels or equivalent means shall be incorporated to provide climbing traction between the supported equipment and the building guides.~~

~~Additional guide wheels or shoes shall be incorporated as may be necessary to ensure that the drive wheels are continuously held in positive engagement with the building guides.~~

~~(c) Launch guide mullions which are indexed to the building guides and which are retained in alignment with the building guides shall be used to align drive wheels that enter the building guides.~~

~~(d) Manned platforms that are used on supported equipment shall be in compliance with the requirements of R 408.10575(12)(a),(b), and(d) to(k) with respect to suspended equipment.~~

~~(18) All of the following provisions apply to suspension wire ropes and rope connections:~~

~~(a) Each specific installation shall use suspension wire ropes or combination cable and connections that are in compliance with the specifications recommended by the manufacturer of the hoisting machine that is used. Connections shall be capable of developing not less than 80% of the rated breaking strength of the wire rope.~~

~~(b) Each suspension rope shall have a design factor of not less than 10.~~

~~The design factor is the ratio of the rated strength of the suspension wire rope to the rated working load and shall be calculated using the following formula:~~

~~$f = s(n)$~~

~~-w where: f = design factor S = manufacturer's rated strength of 1 suspension rope.~~

~~n = number of suspension ropes under 1 load W = rated working load on all ropes at any point of travel.~~

~~(c) Suspension wire rope grade shall be at least improved plow steel or equivalent.~~

~~(d) Suspension wire ropes shall be sized to be in compliance with the required design factor, but shall not be less than 5/16 of an inch (7.94 mm) in diameter.~~

~~(e) A reverse bend in wire rope shall not be permitted.~~

~~(f) A bend radius in wire rope shall not be less than 20 times the wire rope diameter.~~

~~(g) Wire rope shall be inspected and maintained as specified in the provisions of R 408.10582.~~

#### **R 408.10575a Suspended equipment.**

**Rule 575a. (1) Each suspended unit component, except for suspension ropes and guardrail systems, shall be capable of supporting not less than 4 times the maximum intended live load applied or transmitted to that component.**

**(2) Each suspended unit component shall be constructed of materials that will withstand anticipated weather conditions.**

**(3) Each suspended unit shall be provided with a load rating plate which is conspicuously located and which states the unit weight and rated load of the suspended unit.**

**(4) When the suspension points on a suspended unit are not at the unit ends, the unit shall be capable of remaining continuously stable under all conditions of use and position of the live load and shall maintain not less than a 1.5 to 1 stability factor against unit upset.**

**(5) Guide rollers, guide shoes, or building face rollers shall be provided and shall compensate for variations in building dimensions and for minor horizontal out-of-level variations of each suspended unit.**

**(6) Each working platform of a suspended unit shall be secured to the building facade by 1 or more of the following methods or by an equivalent method that is in compliance with the provisions of R 408.10561 and R 408.10562:**

**(a) Continuous.**

**(b) Intermittent.**

**(c) Button guide engagement.**

**(d) Angulated roping.**

**(e) Building face rollers.**

**(7) Each working platform of a suspended unit shall be provided with a guardrail system on all sides, which shall meet the requirements of General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.10509. All of the following provisions apply to the guardrail system:**

**(a) The system shall consist of a top guardrail, midrail, and toeboard.**

**(b) The top guardrail shall be not less than 42 inches high and shall be able to withstand not less than a 200- pound force in any downward or outward direction.**

**(c) The midrail shall be able to withstand not less than a 75-pound (333 n) force in any direction.**

**(d) The areas between the guardrail and toeboard on the ends and outboard side, and the area between the midrail and toeboard on the inboard side, shall be closed with a material that is capable of withstanding a load of 100 pounds (45.4 kg.) applied horizontally over any area of 1 square foot (.09 m<sup>2</sup>). All openings in the material shall be small enough to prevent the passage of lifelines and potential falling objects that may be hazardous to persons below.**

(e) Toeboards shall be capable of withstanding a force of not less than 50 pounds (222 n) applied in any direction at any point along the toeboard.

(f) Toeboards shall be not less than 4 inches in height from the top edge to the level of the platform floor.

(g) Toeboards shall be securely fastened in place at the outermost edge of the platform and have not more than 1/4 of an inch (1.3 cm) clearance above the platform.

(h) Toeboards shall be solid or have an opening that is not more than 1 inch (2.5 cm) in the greatest dimension.

**R 408.10575b Two- and 4-point suspended working platforms.**

**Rule 575b. (1) The 2- and 4-point suspended working platform shall be not less than 24 inches (610 mm) wide and shall be provided with a minimum of a 12-inch (305 mm) wide passage at or past any obstruction on the platform.**

**(2) The flooring of the 2- and 4-point suspended working platform shall be of a slip-resistant type and shall not have an opening that would allow the passage of lifelines, cables, and other potential falling objects.**

**(3) The 2- and 4-point suspended working platform shall be provided with a means of suspension that will restrict the platform from tilting more than 15 degrees in any direction.**

**(4) Any cable that is suspended from above the 2- and 4-point suspended working platform shall be provided with a means for storage to prevent accumulation of the cable on the floor of the platform.**

**(5) All operating controls for the vertical travel of the 2- and 4-point suspended working platform shall be of the continuous-pressure type and shall be located on the platform.**

**(6) Each operating station of every 2- and 4-point suspended working platform shall be provided with a means of interrupting the power supply to all hoist motors to stop any further powered ascent or descent of the platform.**

**(7) The maximum rated speed of the 2- and 4-point suspended working platform shall not be more than 50 feet per minute (0.3 ms) for single-speed hoists and not more than 75 feet per minute (0.4 ms) for multispeed hoists.**

**(8) All tools, water tanks, and other accessories shall be secured to prevent their movement or accumulation on the floor of the 2- and 4-point suspended working platform.**

**(9) Portable fire extinguishers that are in compliance with the provisions of General Industry Safety Standard Part 8 "Portable Fire Extinguishers," as referenced in R 408.10509, shall be provided and securely attached on all 2- and 4-point suspended working platforms.**

**(10) Access to and egress from a 2- and 4-point suspended working platform, except for those that land directly on a safe surface, shall be provided by stairs, ladders, platforms, and runways that are in compliance with the provisions of General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," and General Industry Safety Standard Part 4 "Portable Ladders," as referenced in R 408.10509. Access gates shall be self-closing and self-latching.**

**(11) Means of access to or egress from a working platform that is 48 inches (1.2 m) or more above a safe surface shall be provided with a guardrail system or ladder-handrails that are in compliance with the provisions of General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," and General Industry Safety Standard Part 4 "Portable Ladders," as referenced in R 408.10509.**

(12) The 2- and 4-point suspended working platform shall be provided with a secondary wire rope suspension system if the platform has overhead structures that restrict the emergency egress of employees. A horizontal lifeline or a direct connection anchorage shall be provided as part of a fall arrest system. The system shall be in compliance with the requirements of General Industry Safety Standard Part 33 “Personal Protective Equipment,” as referenced in R 408.10509.

(13) A vertical lifeline shall be provided as part of a fall arrest system. The system shall be in compliance with the requirements of General Industry Safety Standard Part 33 “Personal Protective Equipment,” as referenced in R 408.10509, for each employee on a working platform that is suspended by 2 or more wire ropes if the failure of 1 wire rope or suspension attachment will cause the platform to upset. If a secondary wire rope suspension is used, vertical lifelines are still required for the fall arrest system.

(14) An emergency electric operating device shall be provided on roof-powered platforms near the hoisting machine for use in the event of failure of the normal operating device that is located on the working platform or failure of the cable that is connected to the platform. The emergency electric operating device shall be mounted in a secured compartment and the compartment shall be labeled with instructions for use. A means for opening the compartment shall be mounted on a break-glass receptacle that is located near the emergency electric operating device or in an equivalent secure accessible location.

**R 408.10575c Single point suspended working platforms.**

Rule 575c. (1) The requirements of R 408.10575b(1) to (11) shall also apply to a single-point working platform.

(2) Each single-point suspended working platform shall be provided with a secondary wire rope suspension system that will prevent the working platform from falling if there is a failure of the primary means of support or if the platform contains overhead structures that restrict the egress of the employees. A horizontal lifeline or a direct connection anchorage that meets the requirements of Appendix C “Personal Fall Arrest System,” shall be provided, as part of a fall arrest system that is in compliance with the requirements of General Industry Safety Standard Part 33 “Personal Protective Equipment,” as referenced in R 408.10509, for each employee on the platform.

**R 408.10575d Ground-rigged working platforms.**

Rule 575d. (1) The ground-rigged working platform shall be in compliance with all of the requirements of R 408.10575b(1) to (11).

(2) After each day's use, the power supply within the building shall be disconnected from a ground-rigged working platform, and the platform shall be either disengaged from its suspension points or secured and stored at grade.

**R 408.10575e Intermittently stabilized platforms.**

Rule 575e. (1) The intermittently stabilized platform shall be in compliance with the requirements of R 408.10575b(1) to (13).

(2) Each stabilizer tie shall be equipped with a quick-connect/quick-disconnect device that cannot be accidentally disengaged, that is for attachment to the building anchor, and that is resistant to adverse environmental conditions.

(3) The platform shall be provided with a stopping device that will interrupt the hoist power supply if the platform contacts a stabilizer tie during its ascent.

**(4) Building face rollers shall not be placed at the anchor setting if exterior anchors are used on the building face.**

**(5) Stabilizer ties that are used on intermittently stabilized platforms shall allow for the specific attachment length that is needed to effect the predetermined angulation of the suspended wire rope. The specific attachment length shall be maintained at all building anchor locations.**

**(6) The intermittently stabilized platform shall be in continuous contact with the face of the building during ascent and descent.**

**(7) The attachment and removal of stabilizer ties shall not require the horizontal movement of the platform.**

**(8) The platform-mounted equipment and its suspension wire ropes shall not be physically damaged by the loads from the stabilizer tie or its building anchor. The platform, platform-mounted equipment, and wire ropes shall be able to withstand a load that is not less than twice the ultimate strength of the stabilizer tie.**

#### **R 408.10575f Button-guide stabilized platforms.**

**Rule 575f. (1) The button-guide stabilized platform shall be in compliance with the requirements of R 408.10575b(1) to (13).**

**(2) Each guide track on the button-guide stabilized platform shall engage a minimum of 2 guide buttons during any vertical travel of the platform after the initial button engagement.**

**(3) Each guide track on a button-guide stabilized platform that is part of a roof-rigged system shall be provided with a storage position on the platform.**

**(4) Each guide track on the button-guide stabilized platform shall be sufficiently maneuverable by platform occupants to permit easy engagement of the guide buttons and easy movement into and out of the guide track's storage position on the platform.**

**(5) Two guide tracks shall be mounted on the button-guide stabilized platform and shall provide continuous contact with the building face.**

**(6) The load-carrying components of the button guide stabilization system that transmit the load into the platform shall be capable of supporting the weight of the platform or provision shall be made in the guide track connectors or platform attachments to prevent the weight of the platform from being transmitted to the platform attachments.**

#### **R 408.10575g Supported equipment.**

**Rule 575g. (1) Supported equipment shall maintain a vertical position in respect to the face of the building by means other than friction.**

**(2) Cog wheels or equivalent means shall be incorporated to provide climbing traction between the supported equipment and the building guides.**

**(3) Additional guide wheels or shoes shall be incorporated as may be necessary to ensure that the drive wheels are continuously held in positive engagement with the building guides.**

**(4) Launch guide mullions that are indexed to the building guides and that are retained in alignment with the building guides shall be used to align drive wheels that enter the building guides.**

**(5) Manned platforms that are used on supported equipment shall be in compliance with the requirements of R 408.10575b (1), (2), and (4) to (11) with respect to suspended equipment.**

**R 408.10575h Suspension wire ropes and rope connections.**

**Rule 575h. (1) Each specific installation shall use suspension wire ropes or combination cable and connections that are in compliance with the specifications recommended by the manufacturer of the hoisting machine that is used. Connections shall be capable of developing not less than 80% of the rated breaking strength of the wire rope.**

**(2) Each suspension rope shall have a design factor of not less than 10. The design factor is the ratio of the rated strength of the suspension wire rope to the rated working load and shall be calculated using the following formula:**

$$F = \frac{S(N)}{W}$$

**Where:**

**F = Design factor**

**S = Manufacturer's rated strength of 1 suspension rope.**

**N = Number of suspension ropes under 1 load**

**W = Rated working load on all ropes at any point of travel.**

**(3) Suspension wire rope grade shall be at least improved plow steel or equivalent.**

**(4) Suspension wire ropes shall be sized to be in compliance with the required design factor, but shall not be less than 5/16 of an inch (7.94 mm) in diameter.**

**(5) A reverse bend in wire rope shall not be permitted.**

**(6) A bend radius in wire rope shall not be less than 20 times the wire rope diameter.**

**(7) Wire rope shall be inspected and maintained as specified in the provisions of R 408.10582.**

**R 408.10576 Tags.**

**Rule 576. (1) A corrosion-resistant tag shall be securely attached to 1 of the wire rope fastenings when a suspension wire rope is to be used at a specific location and will remain in that location. This tag shall bear all of the following wire rope data:**

**(a) The diameter in inches or millimeters, or both.**

**(b) Construction classification.**

**(c) Whether ~~non-preformed~~ **non-preformed** or preformed.**

**(d) The grade of materials.**

**(e) The manufacturer's rated strength.**

**(f) The manufacturer's name.**

**(g) The month and year the ropes were installed.**

**(h) The name of the person or company that installed the ropes.**

**(2) A new tag shall be installed at each rope renewal.**

**(3) The original tag shall be stamped with the date of the resocketing or the original tag shall be retained and a supplemental tag shall be provided when ropes are resocketed. The supplemental tag shall show the date of resocketing and the name of the person or company that resocketed the rope.**

(4) Winding drum-type hoists shall contain not less than 3 wraps of the suspension wire rope on the drum when the suspended unit has reached the lowest possible point of its vertical travel.

(5) Traction drum and sheave-type hoists shall be provided with a wire rope that is of a sufficient length to reach the lowest possible point of vertical travel of the suspended unit and with an additional length of the wire rope that is not less than 4 feet (1.2 m). The lengthening or repairing of suspension wire rope is prohibited. Babbitted fastenings for suspension wire rope are prohibited.

**R 408.10577 Control circuits; power circuits; components.** ~~Compliance with material electrical code required; exception; electrical runway conductors; cable protection; electrical overload protection.~~

Rule 577. (1) Electrical wiring and equipment shall be in compliance with the requirements specified in **General Industry Safety Standard Part 39 “Design Safety Standards for Electrical Systems,” as referenced in R 408.10509**, ~~section 1910.309 of the national electrical code~~, except as otherwise required by these rules.

(2) An electrical runway conductor system shall be of a type that is designed for use in exterior locations and shall be located so that the system does not come into contact with accumulated snow or water.

(3) Cables shall be protected against damage that results from ~~over-tensioning~~ **overtensioning** or from other causes.

(4) Devices shall be included in the control system for the equipment which will provide protection against electrical overloads, 3-phase reversal, and phase failure. The control system shall have a separate method, which shall be independent of the direction control circuit, for breaking the power circuit if there is an emergency or malfunction.

(5) Suspended or supported equipment shall have a control system that will require the operator of the equipment to follow predetermined procedures.

(6) All of the following requirements apply to electrical protection devices:

(a) On installations where the carriage does not have a stability factor of at least 4 against overturning, an electrical contact or contacts shall be provided and connected so that the operating devices for the suspended or supported equipment shall be operative only when the carriage is located and mechanically retained at an established operating point.

(b) Overload protection shall be provided in the hoisting or suspension system to protect against the equipment operating in the "up" direction with a load of more than 125% of the rated load of the platform.

(c) An automatic detector shall be provided for each suspension point which will interrupt power to all hoisting motors for travel in the "down" direction and which will apply the primary brakes if any suspension wire rope becomes slack. A continuous-pressure rigging-bypass switch that is designed for use during rigging is permitted. This switch shall only be used by authorized personnel during rigging.

(d) Upper and lower directional switches that are designed to prevent the travel of suspended units beyond safe upward and downward levels shall be provided.

(e) Emergency stop switches shall be provided on remote controlled, roof-powered platforms that are adjacent to each control station on the platform.

(f) Cables that are in constant tension shall have overload devices which will prevent the tension in the cable from interfering with the load-limiting device or with the platform roll-limiting device. The setting of these devices shall be coordinated with other overload settings at

the time the system is designed and shall be clearly indicated on or near the device. The device shall interrupt the equipment travel in the "down" direction.

R 408.10578 ~~Installation and alteration; inspections~~ **Inspection** and tests.

Rule 578. (1) All completed building maintenance equipment installations shall be inspected and tested in the field before being placed in initial service to determine that all parts of the installation are in compliance with applicable requirements of these rules, and that all safety and operating equipment is functioning as required. ~~A similar inspection and test shall be made after any major alteration to an existing installation. A hoist in an installation shall not be subjected to a load that is more than 125% of its rated load.~~

**(2) A similar inspection and test shall be made after any major alteration to an existing installation.**

**(3) A hoist in an installation shall not be subjected to a load that is more than 125% of its rated load.**

R 408.10579. **Periodic inspections and tests.** ~~Inspection of related building supporting structures; equipment inspection and testing intervals; certification record; employer inspection of platforms.~~

Rule 579. (1) Related building supporting structures shall undergo periodic inspection by a competent person at intervals of not more than 12 months.

(2) All parts of the equipment, including control systems, shall be inspected and, where necessary, tested by a competent person at intervals specified by the manufacturer and supplier, but not more than **12-month** ~~12-month~~ intervals, to determine that equipment parts are in safe operating condition. Parts that are subject to wear, such as wire ropes, bearings, gears, and governors, shall be inspected or tested to determine that they have not worn to such an extent as to affect the safe operation of the installation.

(3) The owner shall keep a certification record of each inspection and test required. The record shall include all of the following information:

(a) The date of the inspection.

(b) The signature of the person who performed the inspection.

(c) The number, or other identifier, of the building support structure and equipment that was inspected. This certification record shall be kept readily available for review by the director of the Michigan department of licensing and regulatory affairs or his or her representative and by the employer.

(4) Working platforms and their components shall be inspected by the employer for visible defects before every use and after each occurrence that could affect the platform's structural integrity.

R 408.10580. **Maintenance inspections and tests.** ~~Intervals of maintenance inspections and tests; certification record.~~

Rule 580. (1) A maintenance inspection and, where necessary, a test shall be made of each platform installation every 30 days. If the work cycle is less than 30 days, such inspection and test shall be made before each work cycle. This inspection and test shall follow the procedures recommended by the manufacturer and shall be made by a competent person.

(2) The building owner shall keep a certification record of each inspection and test performed. The record shall contain all of the following information:

(a) The date of the inspection and test.

- (b) The signature of the person who performed the inspection or test.
- (c) An identifier for the platform installation that was inspected. The certification record shall be kept readily available for review by the director of the Michigan department of licensing and regulatory affairs or his or her designated representative and by the employer.

## MAINTENANCE

R 408.10582. **Suspension wire rope maintenance, inspection and replacement.** ~~Wire rope; reinforcement; use of metal thimble, end fittings; requirements for use of wire clips; cutting preparation; lubrication; use of suspension wire rope to follow procedures recommended by manufacturer; inspection of suspension wire rope; certification record.~~

Rule 582. (1) Wire rope for a scaffold shall be replaced if any of the following conditions exists:

(a) In any length of 8 diameters, the total number of visible broken wires is more than 6 in 1 rope lay or 3 wires in 1 strand.

(b) The wire rope has been kinked, crushed, or bird-caged or has sustained any other damage that distorts the wire rope structure.

(c) The wire rope shows heat or corrosive damage.

(d) The wire rope contains a broken wire within 18 inches (460.8 mm) of the end attachment.

(2) Wire rope that is bent to form an eye over a bolt or rod ~~that which~~ has a diameter that is less than 4 times the rope diameter shall be equipped with a metal thimble.

(3) End fittings should be swagged or zinc-poured sockets.

(4) Where wire clips are used, the provisions of table 8 shall be followed and the u-bolts shall be installed on the dead end or short end of the wire rope.

(5) Wire rope shall be stored in a manner to prevent damage or deterioration.

(6) Before cutting wire rope, a seizing shall be placed on each side of the cut on preformed wire rope, 2 seizings shall be placed on each side of ~~7/8 718~~ inch size or smaller nonpreformed wire rope, and 3 seizings shall be placed on each side of 1 inch or larger size nonpreformed wire rope.

(7) Wire rope shall be maintained in a lubricated condition over its entire length with the same type of lubricant that is used by the manufacturer.

(8) Suspension wire ropes shall be maintained and used in accordance with the procedures recommended by the wire rope manufacturer.

(9) Suspension wire rope shall be inspected by a competent person for visible defects and gross damage to the rope before every use and after each occurrence that might affect the wire rope's integrity.

(10) A thorough inspection of suspension wire ropes in service shall be made once a month. Suspension wire ropes that have been inactive for 30 days or more shall have a thorough inspection before they are placed into service. These thorough inspections of suspension wire ropes shall be performed by a competent person.

(11) The need for replacement of suspension wire rope shall be based on its condition. A wire rope shall be removed for any of the following conditions:

(a) Evidence of core failure. A lengthening of rope lay, protrusion of the rope core, and a reduction in rope diameter suggests core failure.

(b) Outer wire wear is more than 1/3 of the original outer wire diameter.

(c) Any other condition that the competent person determines has significantly affected the integrity of the rope.

(12) The owner shall keep a certification record of each monthly inspection of a suspension wire rope which shall be verified by the employer. The record shall include the date of the inspection and a number or other identifier of the wire rope that was inspected. The record of inspection shall be made available for review by the director of the Michigan department of licensing and regulatory affairs or his or her designated representative and by the employer.

**R 408.10583 Fiber rope maintenance; inspection and replacement.** ~~Fiber rope; inspection; storage; drying of wet rope; use prohibited under certain conditions; replacement; use of thimble.~~

Rule 583. (1) **An employer shall ensure that** A fiber rope shall be inspected visually before the start of each daily use as follows:

(a) Externally for any of the following conditions:

(i) Abrasions.

(ii) Cut or broken fibers.

(iii) Decay.

(iv) Burns.

(v) Lack of strength.

(vi) Softness.

(vii) Variation in size or roundness of the strands.

(b) Internally, by separating the strands at 3-foot intervals, for any of the following conditions:

(i) Broken fibers.

(ii) Presence of grit.

(iii) Mildew or mold.

(iv) Color change of the fibers.

(v) Powdering.

(vi) Short loose fibers. A rope that has any of the conditions specified in this rule shall be replaced or returned to the manufacturer for repair.

(2) A fiber rope shall be stored in a dry room in coils or on a reel.

(3) A wet fiber rope shall be dried by placing it in the sunshine or a warm room hanging loosely over a rounded peg or hook.

(4) A fiber rope shall not be kinked or run over sharp corners, shall not be used when frozen, and shall not be left in freezing temperatures when wet.

(5) A fiber rope that is subjected to an impact load that is equal to or more than its rated capacity shall be replaced.

(6) A thimble shall be used with fiber rope pursuant to the provisions of R 408.10581(2).

**R 408.10584 Synthetic rope maintenance; inspection and replacement.** ~~Synthetic rope; inspection; condition of use; replacement; use of thimble.~~

Rule 584. (1) **An employer shall ensure that** A synthetic rope shall be inspected visually before the start of each job for all of the following conditions:

(a) Abrasions.

(b) Cut or broken fibers.

(c) Burns.

(d) Melted fibers.

(e) Variation in size or roundness of the strands. A rope that has any of these conditions shall be replaced or returned to the manufacturer for repair.

(2) Because of the variance in manufacturing methods, the manufacturer's recommendations shall be followed.

(3) A synthetic rope shall not be kinked, run over sharp corners, used when frozen, or left in freezing temperatures when wet.

(4) A synthetic rope that is subjected to an impact load that is equal to or more than its rated capacity shall be replaced.

(5) A thimble shall be used with synthetic rope pursuant to the provisions of R 408.10581(2).

**R 408.10585 Hoist inspection; maintenance and cleaning.** ~~Hoist inspection; general maintenance; cleaning.~~

Rule 585. (1) Before lowering personnel below the top elevation of the building, a hoist shall be tested each day in the lifting direction with the intended load to make certain it has sufficient capacity to raise the personnel back to the boarding level.

(2) All parts of the equipment that affect the safe operation of a hoist shall be maintained in proper working order so that the parts perform the functions for which they were intended. The equipment shall be taken out of service when it is not in proper working order.

(3) Control or power contacts and relays shall be kept clean.

(4) All other equipment parts shall be kept clean if their proper functioning would be affected by the presence of dirt or other contaminants.

**R 408.10589 Inoperative safety devices.** ~~Rendering safety devices inoperative prohibited; exception.~~

Rule 589. A person shall not render a required safety device or electrical protective device inoperative, except as necessary for tests, inspections, and maintenance. Immediately upon completion of such tests, inspections, and maintenance, the device shall be restored to its normal operating condition.

**R 408.10591 Operations use.** ~~Platform load; work on platforms covered with certain materials prohibited; exception; protective precautions; operation of platform under certain wind conditions prohibited; use of anemometer required; accumulation of tools, materials, or debris prohibited; stabilizer ties.~~

Rule 591. (1) Working platforms shall not be loaded in excess of the rated load as stated on the platform load rating plate.

(2) Employees shall be prohibited from working on snow, ice, or other slippery material that covers a platform, except to remove such materials.

(3) Adequate precautions shall be taken to protect the platform, wire ropes, and lifelines from damage due to acids or other corrosive substances. The precautions taken shall be in accordance with the recommendations of the corrosive substance producer, supplier, platform manufacturer, or other equivalent information sources. Platform members that have been exposed to acids or other corrosive substances shall be washed down after each use with a neutralizing solution at a frequency recommended by the corrosive substance producer or supplier.

(4) Platform members, wire ropes, and lifelines shall be protected when using a heat-producing process. Wire ropes and lifelines that have been contacted by the heat-producing process shall be considered to be permanently damaged and shall not be used.

(5) A platform shall not be operated in winds of more than 25 miles per hour (40.2 km/hr), except to move the platform from an operating to a storage position. Wind speed shall be

determined based on the best available information, which includes on-site anemometer readings and local weather forecasts that predict wind velocities for the area.

(6) On exterior installations, an anemometer shall be mounted on the platform to determine on-site wind velocities before and during use of the platform. The anemometer may be a portable (hand-held) unit that is temporarily mounted during platform use.

(7) Tools, materials, and debris that are not related to the work in progress shall not be allowed to accumulate on platforms. Stabilizer ties shall be located so as to allow unencumbered passage along the full length of the platform and shall be of such length so as not to become entangled in rollers, hoists, or other machinery.

R 408.10592. Personal fall protection.

Rule 592. Employees on working platforms shall be protected by a personal fall arrest system that is in compliance with the requirements of **General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.10509.** ~~general industry safety standard Part 33. "Personal Protective Equipment," R 408.13301 to R 408.13398.~~

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**OPINIONS OF THE  
ATTORNEY GENERAL**

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*MCL 14.32 states in part:*

*“It shall be the duty of the attorney general, when required, to give his opinion upon all questions of law submitted to him by the legislature, or by either branch thereof, or by the governor, auditor general, treasurer or any other state officer”*

*MCL 24.208 states in part:*

*“Sec. 8. (1) The Office of Regulatory Reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:*

\* \* \*

*(j) Attorney general opinions.”*

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**OPINIONS OF THE ATTORNEY GENERAL**

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STATE OF MICHIGAN

BILL SCHUETTE, ATTORNEY GENERAL

MICHIGAN PLANNING ENABLING  
ACT:

Township board of review member serving  
on township planning commission.

GENERAL PROPERTY TAX ACT:

INCOMPATIBLE PUBLIC OFFICES  
ACT:

Neither the Michigan Planning Enabling Act, MCL 125.3801 *et seq.*, nor the General Property Tax Act, 1893 PA 206, MCL 211.1 *et seq.*, prohibits a member of a township board of review from simultaneously serving as a member of a township planning commission in the same township.

The Incompatible Public Offices Act, 1978 PA 566, MCL 15.181 *et seq.*, does not prohibit a member of a township board of review from simultaneously serving as a member of a township planning commission in the same township unless circumstances arise that would result in the individual being unable to protect, advance, and promote the interests of both offices simultaneously.

Opinion No. 7289

April 11, 2016

The Honorable Tonya Schuitmaker  
State Senator  
The Capitol  
Lansing, MI 48909

You have asked whether a member of a township's board of review may also be a member of the same township's planning commission under the Michigan Planning Enabling Act (MPEA), MCL 125.3801 *et seq.*

The MPEA authorizes local units of government, including townships, to create a planning commission. MCL 125.3811. A township's planning commission is responsible for adopting a master development plan for the township. MCL

125.3831. The planning commission must consist of 5, 7, or 9 members who are appointed by the township supervisor with the approval of the township’s board of trustees, its legislative body. MCL 125.3815(1)-(2). The MPEA requires the appointment of one member of a township’s board of trustees to serve as an ex officio member of the planning commission. MCL 125.3815(5).<sup>1</sup> Otherwise, “an elected officer or employee of the [township] is not eligible to be a member of the planning commission.” *Id.*

The General Property Tax Act (GPTA), 1893 PA 206, MCL 211.1 *et seq.*, provides for the creation of a board of review by each township. MCL 211.28. This board hears protests from property owners disputing the valuations and classifications established by local assessors for real and personal property tax purposes or claiming entitlement to an exemption from taxation. MCL 211.29; 211.30. Under the GPTA, members of the board of review are appointed by the board of trustees. MCL 211.28(1).

The GPTA imposes certain restrictions on who may serve on a township board of review: “A member of the township board is not eligible to serve on the board or to fill any vacancy. A spouse, mother, father, sister, brother, son, or daughter, including an adopted child, of the assessor is not eligible to serve on the board or to fill any vacancy. . . .” MCL 211.28(1). And by operation of law, the

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<sup>1</sup> In a township that had a planning commission created on or before September 1, 2008, one member of the township’s legislative body (board of trustees) or the chief elected officer (township supervisor) or both may be appointed to the planning commission as ex officio members. MCL 125.3811(5).

assessor for a township cannot serve as a member of a board of review, but rather serves as secretary for the board of review. MCL 211.28(1) and 41.61(1).

Neither the MPEA nor the GPTA expressly prohibits a township board of review member from serving on the same township's planning commission. Information included with your request notes that subsection 15(5) of the MPEA, MCL 125.3815(5), prohibits "an elected officer or employee" of the township from serving on the planning commission. But as noted above, a board of review member is an appointed township office. Thus, a board of review member is not an elected official of the township, and this subsection of the MPEA does not prohibit a dual appointment.

This same conclusion was reached in OAG, 1995-1996, No. 6839, pp 23-24 (March 3, 1995), which analyzed similar language in the now-superseded Township Rural Zoning Act, MCL 125.271 *et seq.*:

Section 4 of the Township Rural Zoning Act states as follows:

An elected officer of the township or an employee of the township board shall not serve simultaneously as a member or an employee of the zoning board.

This provision only prohibits an *elected* officer of the township from serving simultaneously as a *member or employee of the zoning board*. . . .

[A]s noted above under section 28 of the General Property Tax Act [MCL 211.28], members of the township board of review are appointed, not elected, officers of the township. Section 4 only applies to elected officers. . . . To read section 4 as applying to all officers of the township, whether elected or appointed, would be to render the word elected nugatory. Since the prohibition in section 4 expressly mentions elected

officers, it must be concluded that the Legislature did not intend to extend this prohibition to appointed officers. Thus, section 4 does not apply to the appointed officers on the township board of review. [Emphasis in original.]

Similarly, as appointed township officials, these board of review members are not employees of the township either. See, e.g., MCL 15.181(d) (term “public employee” does not include person whose employment “results from election or appointment”). Accordingly, nothing in the MPEA or the GPTA prohibits a township board of review member from serving as a member of the township planning commission.

It is my opinion, therefore, that neither the MPEA nor the GPTA prohibits a member of a township board of review from simultaneously serving as a member of the township’s planning commission.

Next, it is necessary to consider whether the Incompatible Public Offices Act (IPOA), 1978 PA 566, MCL 15.181 *et seq.*, which prohibits the same person from simultaneously holding two or more incompatible public offices, applies to the situation you describe. Subsection 2(1), MCL 15.182(1), provides: “Except as provided in section 3, a *public officer* . . . shall not hold 2 or more incompatible offices at the same time.” (Emphasis added). A “public officer” includes a person “appointed” to a “public office of a . . . township . . . in this state.” MCL 15.181(e). Township planning commission members and board of review members are “public officers” for purposes of the IPOA. See OAG, 1983-1984, No. 6144, p 101 (April 7,

1983); OAG, 1995-1996, No. 6839, p 23; and OAG, 2003-2004, No. 7161, p 151 (September 15, 2004).

Subsection 1(b) of the IPOA, MCL 15.181(b), defines incompatible public offices as follows:

“Incompatible offices” means public offices held by a public official which, when the official is performing the duties of any of the public offices held by the official, results in any of the following with respect to those offices held:

- (i) The subordination of 1 public office to another.
- (ii) The supervision of 1 public office by another.
- (iii) A breach of duty of public office.

In order to determine whether the offices of township planning commission member and board of review member are incompatible, it is necessary to examine the relationship of the offices to one another. A review of the duties and responsibilities of these offices discloses no instance in which these offices have a superior-subordinate or supervisory relationship for purposes of MCL 15.181(b)(i)-(ii).

The two offices perform distinct functions. A board of review member participates in the board’s determinations regarding the accuracy of the township’s property tax assessment roll, including 1) consideration of objections to the roll that are submitted to the board; 2) corrections to be made to the roll; and 3) approval of the roll on an annual basis. See MCL 211.28 – MCL 211.33.<sup>1</sup> By contrast, a township planning commission member participates in the commission’s

determinations as to 1) the development and maintenance of the township’s master development plan; 2) the preparation or review of the township’s capital improvement program; and 3) the undertaking of other planning-related activities. See MCL 125.3811, MCL 125.3833, MCL 125.3839, MCL 125.3845, and 125.3865.<sup>2</sup>

In addition, one must look to subsection 1(b)(iii) of the IPOA to determine whether holding these offices at the same time results in a breach of duty. A breach of duty arises when a public official holding dual offices cannot protect, advance, and promote the interests of both offices simultaneously. See *Macomb Co Prosecutor v Murphy*, 464 Mich 149, 162-166; 627 NW2d 247 (2001) (discussing circumstances under which a prohibited breach of duty will arise under the IPOA). See also OAG, 1987-1988, No. 6418, pp 15, 17 (January 13, 1987); OAG, 1979-1980, No. 5626, pp 537, 543 (January 16, 1980); OAG, 2009-2010, No. 7226, p 17 (March 11, 2009).

After reviewing the duties and responsibilities of a planning commission member and a board of review member, it appears that holding both offices would not result in an individual being unable to protect, advance, and promote the interests of both offices simultaneously. Thus, absent specific facts resulting in a

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<sup>1</sup> A summary of the work performed by a board of review is available on the Michigan State Tax Commission’s website, [https://www.michigan.gov/documents/treasury/BOR\\_QA\\_423899\\_7.pdf](https://www.michigan.gov/documents/treasury/BOR_QA_423899_7.pdf). (accessed March 22, 2016).

<sup>2</sup> In addition, a township board of trustees may assign to the planning commission certain zoning responsibilities under the Michigan Zoning Enabling Act, such as the review and approval of special use permits and planned unit developments. See MCL 125.3301, MCL 125.3501 – 125.3504, and MCL 125.3514.

breach of duty, holding the offices of township board of review member and township planning commissioner does not violate the IPOA.<sup>1</sup>

It is my opinion, therefore, that the IPOA does not prohibit a member of a township board of review from simultaneously serving as a member of a township planning commission in the same township unless circumstances arise that would result in the individual being unable to protect, advance, and promote the interests of both offices simultaneously.

Sincerely,

A handwritten signature in black ink that reads "Bill Schuette". The signature is written in a cursive, flowing style.

BILL SCHUETTE  
Attorney General

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<sup>1</sup> Even if the offices were incompatible, the township at issue has a population under 40,000. Under subsection 3(4)(c) of the IPOA, MCL 15.183(4)(c), as amended by 2015 PA 134, a township board may “authorize a public officer or public employee to perform . . . other additional services for the unit of local government” as an exception to the otherwise applicable requirements of the IPOA. See OAG, 2001-2002, No. 7105, p 86 (April 17, 2002) (discussing this exception, which at that time applied to local units with a population of less than 25,000).

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**CORRECTION OF OBVIOUS  
ERRORS IN PUBLICATION**

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*MCL 24.256(1) states in part:*

*“Sec. 56. (1) The Office of Regulatory Reform shall perform the editorial work for the Michigan register and the Michigan Administrative Code and its annual supplement. The classification, arrangement, numbering, and indexing of rules shall be under the ownership and control of the Office of Regulatory Reform, shall be uniform, and shall conform as nearly as practicable to the classification, arrangement, numbering, and indexing of the compiled laws. The Office of Regulatory Reform may correct in the publications obvious errors in rules when requested by the promulgating agency to do so...”*

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**CORRECTION OF OBVIOUS  
ERRORS IN PUBLICATION**

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April 12, 2016

Ms. Deidre O’Berry  
Office of Regulatory Reinvention  
Department of Licensing and Regulatory Affairs  
Ottawa Building - 611 West Ottawa Street  
Lansing, Michigan 48933

Dear Ms. O’Berry:

SUBJECT: Request for Correction of the Michigan Administrative Code R 408.41001 -  
408.41099  
Construction Safety Standard Part 10 Cranes and Derricks

The Department of Licensing and Regulatory Affairs (LARA), as the promulgating agency, is writing to request that the Office of Regulatory Reinvention exercise its discretion to correct an obvious error in the Michigan Administrative Code (MAC), pursuant to Section 56(1), MCL 24.256, of the Administrative Procedures Act, 1969 PA 306, as amended.

The correct language is yellow highlighted in the attached document. The corrections are in the following rules:

- R 408.41003
- R 408.41003e
- R 408.41006
- R 408.41037e
- R 408.41055
- R 408.41080
- R 408.41087

In addition, we need to delete all of the appendices. They are non-mandatory, therefore in the latest amendment we removed them from the administrative rules and have changed them. I did not think to ‘Rescind’ them in the amendment. Can you remove them or do I need to do another promulgation? Please let me know what I need to do.

Please note the corrections as you deem appropriate.

If you have any questions, please contact me anytime.

Respectfully submitted,

Dena Hendon  
Dena Hendon  
Michigan Occupational Safety and Health Administration  
MIOSHA Standards Analyst

517.284.7736

**Please correct the words or numbers that are highlighted in the following rules:**

**R 408.41003 Adopted Standards.**

**Rule 1003.** (1) The standards adopted in these rules are available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, **PO Box 30643**, Lansing, Michigan, 48909-8143.

(2) 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, **PO Box 30643**, Lansing, Michigan, 48909-8143, at the cost stated in these rules, plus \$20.00 for shipping and handling.

**R 408.41003e MIOSHA referenced standards.**

**Rule 1003e.** 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, **PO Box 30643**, Lansing, Michigan, 48909-8143 or via the internet at website: [www.michigan.gov/mioshastandards](http://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.

**R 408.41006 Definitions; A, B.**

**Rule 1006.** (1) "A/D director" or "assembly/disassembly director" means an individual who meets this standards requirements for an A/D director, irrespective of the individual's formal job title or whether the individual is non-management or management personnel.

(2) "Articulating crane" means a crane whose boom consists of a series of folding, pin connected structural members, typically manipulated to extend or retract by power from hydraulic cylinders.

(3) "Assembly or disassembly" means the assembly, disassembly, or both, of equipment covered under this standard. With regard to tower cranes, "erecting and climbing" replaces the term "assembly," and "dismantling" replaces the term "disassembly." Regardless of whether the crane is initially erected to its full height or is climbed in stages, the process of increasing the height of the crane is an erection process.

(4) "Attachments" means any device that expands the range of tasks that can be done by the equipment. Examples include, but are not limited to, an auger, drill, magnet, pile-driver, and boom-attached personnel platform.

(5) "Audible signal" means a signal made by a distinct sound or series of sounds. Examples include, but are not limited to, sounds made by a bell, horn, or whistle.

(6) "Base-mounted drum hoist" means a self-contained lifting unit that has a motor, a drum to receive the lifting cable, and mounting flanges for anchoring.

(7) "Blocking," also referred to as "cribbing," means wood or other material used to support equipment or a component and distribute loads to the ground. Blocking is typically used to support lattice boom sections during assembly/disassembly and under outrigger and stabilizer floats.

(8) "Boatswain's chair" means a single-point adjustable suspension scaffold consisting of a seat or sling, which may be incorporated into a full body harness, designed to support 1 employee in a sitting position.

(9) "Bogie" means "travel bogie," as defined in R 408.41006e.

(10) "Boom" when used on equipment other than a tower crane, means an inclined spar, strut, or other long structural member that supports the upper hoisting tackle on a crane or derrick. Typically, the length and vertical angle of the boom can be varied to achieve increased height or height and reach when lifting loads. Booms may be grouped into general categories of hydraulically extendible, cantilevered type, latticed section, cable supported type, or articulating type.

(11) "Boom" or principle horizontal structure, when used on a tower crane, means if it is moveable up and down. If the "boom" is fixed, it is referred to as a jib.

(12) "Boom angle indicator" means a device that measures the angle of the boom relative to horizontal.

(13) "Boom hoist limiting device" includes boom hoist disengaging device, boom hoist shut-off, boom hoist disconnect, boom hoist hydraulic relief, boom hoist kick-outs, automatic boom stop device, or derricking limiter. The boom hoist limiting device means a device that disengages boom hoist power when the boom reaches a predetermined operating angle. It also sets brakes or closes valves to prevent the boom from lowering after power is disengaged.

(14) "Boom length indicator" indicates the length of the permanent part of the boom, such as ruled markings on the boom or, as in some computerized systems, the length of the boom with extensions or attachments.

(15) "Boom stop" means a device that is used to limit the angle of the boom at the highest recommended position. Boom stop includes boom stops, belly straps with struts or standoff, telescoping boom stops, attachment boom stops, and backstops. These devices restrict the boom from moving above a certain maximum angle and toppling over backward.

(16) "Boom suspension system" means a system of pendants, running ropes, sheaves, and other hardware that supports the boom tip and controls the boom angle.

(17) "Builder" means the builder or constructor of equipment.

### **R 408.41037e Annual and comprehensive inspection.**

**Rule 1037e.** (1) At least every 12 months, a qualified person shall inspect the equipment in accordance with R 408.41037c, except that the corrective action set forth in subrules (3), (4), and (5) of this rule shall apply in place of the corrective action required by R 408.41037c(2) and (3).

(2) In addition to the requirement in subrule (1) of this rule, at least every 12 months, the equipment shall be inspected by a qualified person. Disassembly shall be required, as necessary, to complete the inspection. The equipment and equipment structure including the boom and, if equipped, the jib, shall be inspected for all of the following:

(a) Deformed, cracked, or significantly corroded structural members.

- (b) Loose, failed, or significantly corroded bolts, rivets, and other fasteners.
- (c) Cracked welds.
- (d) Sheaves and drums for cracks or significant wear.
- (e) Parts such as pins, bearings, shafts, gears, rollers, and locking devices for distortion, cracks, or significant wear.
- (f) Brake and clutch system parts, linings, pawls, and ratchets for excessive wear.
- (g) Safety devices and operational aids for proper operation, including significant inaccuracies.
- (h) Gasoline, diesel, electric, or other power plants for proper operation and safety-related problems or conditions, such as a leaking exhaust and an emergency shut-down feature.
- (i) Chains and chain drive sprockets for excessive wear of sprockets and excessive chain stretch.
- (j) Travel steering, brakes, and locking devices, for proper operation.
- (k) Tires for damage or excessive wear.
- (l) Hydraulic, pneumatic, and other pressurized hoses, fittings, and tubing, as follows:
  - (i) A flexible hose or its junction with the fittings for indications of leaks.
  - (ii) Threaded or clamped joints for leaks.
  - (iii) Outer covering of the hose for blistering, abnormal deformation, or other signs of failure or impending failure.
  - (iv) Outer surface of a hose, rigid tube, or fitting for indications of excessive abrasion or scrubbing.
- (m) Hydraulic and pneumatic pumps and motors, as follows:
  - (i) Performance indicators for unusual noises or vibration, low operating speed, excessive heating of the fluid, or low pressure.
  - (ii) Loose bolts or fasteners.
  - (iii) Shaft seals and joints between pump sections for leaks.
- (n) Hydraulic and pneumatic valves, as follows:
  - (i) Spools for sticking, improper return to neutral, and leaks.
  - (ii) Leaks.
  - (iii) Valve housing cracks.
  - (iv) Relief valves for failure to reach correct pressure. A manufacturer procedure for checking pressure, must be followed.
- (o) Hydraulic and pneumatic cylinders, as follows:
  - (i) Drifting caused by fluid leaking across the piston.
  - (ii) Rod seals and welded joints for leaks.
  - (iii) Cylinder rods for scores, nicks, or dents.
  - (iv) Case or barrel for significant dents.
  - (v) Rod eyes and connecting joints that are loose or deformed.
- (p) Outrigger or stabilizer pads or floats for excessive wear or cracks.
- (q) Slider pads for excessive wear or cracks.
- (r) Electrical components and wiring for cracked or split insulation and loose or corroded terminations.
- (s) Warning labels and decals originally supplied with the equipment by the manufacturer or otherwise required under this standard that are missing or unreadable.
- (t) Originally equipped operator seat or equivalent that are missing.
- (u) Operator seat that is unserviceable.
- (v) Originally equipped steps, ladders, handrails, and guards that are missing.
- (w) Steps, ladders, handrails, and guards that are in unusable or unsafe condition.

(3) The inspection required in subrule (1) of this rule shall include functional testing of the equipment as configured to determine if it is functioning properly.

(4) If any deficiency is identified during the inspection, a qualified person shall make an immediate determination as to whether the deficiency constitutes a safety hazard or, though not yet a safety hazard, needs to be monitored in the monthly inspections.

(5) If the qualified person determines that a deficiency is a safety hazard, the employer shall ensure that the equipment is taken out of service until it has been corrected, except when temporary alternative measures are implemented as specified in R 408.41052a or R 408.41084c. See R 408.41053.

(6) If the qualified person determines that, though not presently a safety hazard, the deficiency needs to be monitored, the employer shall ensure that the deficiency is checked in the monthly inspections.

(7) Documentation of annual inspection. The following information shall be documented, maintained, and retained for a minimum of 12 months by the employer that conducts the inspection:

- (a) The items checked and the results of the inspection.
- (b) The name and signature of the person who conducted the inspection and the date.

#### **R 408.41055 Signals; general requirements.**

**Rule 1055.** (1) The employer shall ensure that a signal person is provided in each of the following situations:

(a) The point of operation, meaning the load travel or the area near or at load placement, is not in full view of the operator.

(b) When the equipment is traveling, the view in the direction of travel is obstructed.

(c) Due to site specific safety concerns, either the operator or the person handling the load determines that it is necessary.

(2) Types of signals. The signals between the operator and signal person shall be by hand, voice, audible, or new signals.

(3) Hand signals. The following apply to hand signals:

(a) When using hand signals, the signal person, operator, and lift director shall use the standard method. See Appendix A “Standard Hand Signals for Controlling Crane Operations” of this standard.

Exception: When use of the standard method for hand signals is infeasible, or when an operation or use of an attachment is not covered in the standard method, nonstandard hand signals may be used in accordance with subdivision (b) of this subrule.

#### **R 408.41080 Hoisting personnel.**

**Rule 1080.** (1) The requirements of these rules are in addition to the other requirements in this standard and apply when 1 or more employees are hoisted.

(2) The use of equipment to hoist employees is prohibited except where the employer demonstrates that the erection, use, and dismantling of conventional means of reaching the work area would be more hazardous, or is not possible, because of the project’s structural design or

worksite conditions. Examples of conventional means of reaching the work operations are any of the following:

- (a) Personnel hoist.
- (b) Ladder.
- (c) Stairway.
- (d) Aerial lift.
- (e) Elevating work platform.
- (f) Scaffold.

**R 408.41087 Overhead and gantry cranes.**

**Rule 1087.** (1) All overhead and gantry cranes when used in construction and are permanently installed in a facility shall comply with the applicable requirements for design, construction, installation, testing, maintenance, inspection, and operation as prescribed in General Industry Safety Standard Part 18 “Overhead and Gantry Cranes,” as referenced in R 408.41003e, and shall comply with the requirements of R 408.41061 to R 408.41061g.

(2) This rule shall apply to all of the following overhead and gantry cranes when used in construction and that are not permanently installed in a facility:

- (a) Overhead and gantry cranes.
- (b) Overhead and bridge cranes.
- (c) Semi-gantry.
- (d) Cantilever gantry.
- (e) Wall cranes.
- (f) Storage bridge cranes.
- (g) Launching gantry cranes.
- (h) Similar equipment having the same fundamental characteristics, irrespective of whether it travels on tracks, wheels, or other means.

**All of the appendices need to be removed.  
They are non-mandatory and are no longer correct.**

APPENDIX A  
Standard Hand Signals

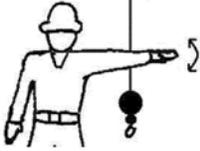
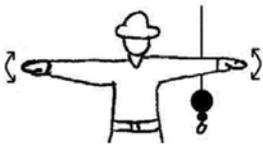
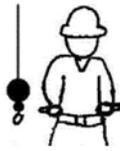
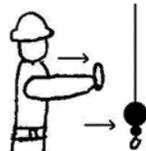
(1) Hand signals.

(a) When using hand signals, the Standard Method shall be used as follows.

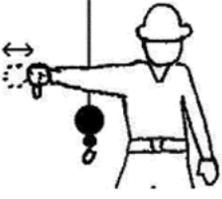
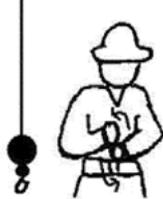
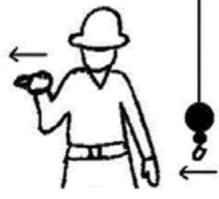
Exception: When use of the Standard Method for hand signals is infeasible, or when an operation or use of an attachment is not covered in the Standard Method, nonstandard hand signals may be used in accordance with the subrule (1)(b).

(b) Non-standard hand signals. When using non-standard hand signals, the signal person, operator, and lift director, where there is one, shall contact each other prior to the operation and agree on the non-standard hand signals that will be used.

STANDARD METHOD FOR HAND SIGNALS

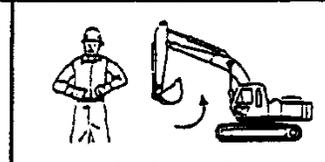
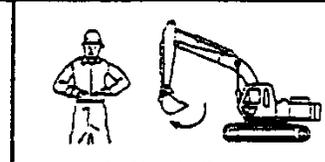
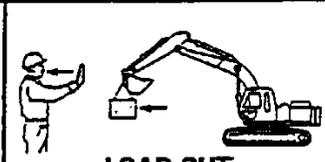
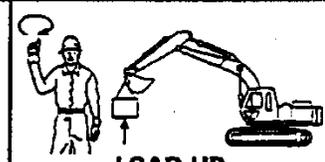
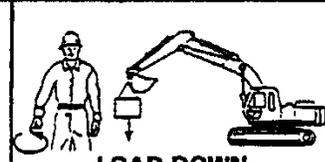
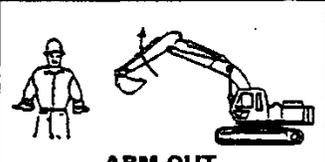
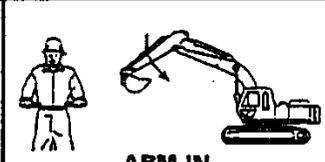
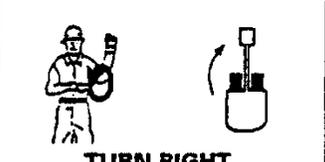
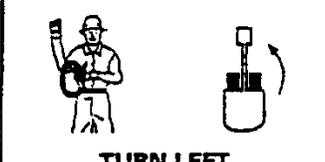
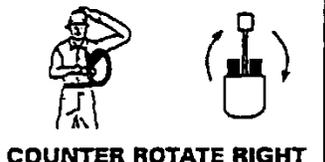
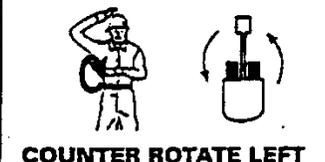
 <p><b>STOP</b> – With arm extended horizontally to the side, palm down, arm is swung back and forth.</p>	 <p><b>EMERGENCY STOP</b> – With both arms extended horizontally to the side, palms down, arms are swung back and forth.</p>	 <p><b>HOIST</b> – With upper arm extended to the side, forearm and index finger pointing straight up, hand and finger make small circles.</p>
 <p><b>RAISE BOOM</b> – With arm extended horizontally to the side, thumb points up with other fingers closed.</p>	 <p><b>SWING</b> – With arm extended horizontally, index finger points in direction that boom is to swing.</p>	 <p><b>RETRACT TELESCOPING BOOM</b> – With hands to the front at waist level, thumbs point at each other with other fingers closed.</p>
 <p><b>RAISE THE BOOM AND LOWER THE LOAD</b> – With arm extended horizontally to the side and thumb pointing up, fingers open and close while load movement is desired.</p>	 <p><b>DOG EVERYTHING</b> – Hands held together at waist level.</p>	 <p><b>LOWER</b> – With arm and index finger pointing down, hand and finger make small circles.</p>
 <p><b>LOWER BOOM</b> – With arm extended horizontally to the side, thumb points down with other fingers closed.</p>	 <p><b>EXTEND TELESCOPING BOOM</b> – With hands to the front at waist level, thumbs point outward with other fingers closed.</p>	 <p><b>TRAVEL/TOWER TRAVEL</b> – With all fingers pointing up, arm is extended horizontally out and back to make a pushing motion in the direction of travel.</p>

STANDARD METHOD FOR HAND SIGNALS

 <p><b>LOWER THE BOOM AND RAISE THE LOAD</b> – With arm extended horizontally to the side and thumb pointing down, fingers open and close while load movement is desired.</p>	 <p><b>MOVE SLOWLY</b> – A hand is placed in front of the hand that is giving the action signal.</p>	 <p><b>USE AUXILIARY HOIST (whipline)</b> – With arm bent at elbow and forearm vertical, elbow is tapped with other hand. Then regular signal is used to indicate desired action.</p>
 <p><b>CRAWLER CRANE TRAVEL, BOTH TRACKS</b> – Rotate fists around each other in front of body; direction of rotation away from body indicates travel forward; rotation towards body indicates travel backward.</p>	 <p><b>USE MAIN HOIST</b> – A hand taps on top of the head. Then regular signal is given to indicate desired action.</p>	 <p><b>CRAWLER CRANE TRAVEL, ONE TRACK</b> – Indicate track to be locked by raising fist on that side. Rotate other fist in front of body in direction that other track is to travel.</p>
 <p><b>TROLLEY TRAVEL</b> – With palm up, fingers closed and thumb pointing in direction of motion, hand is jerked horizontally in direction trolley is to travel.</p>		

(2) The signals for specified types of excavation equipment shall be as follows:

**STANDARD HAND SIGNALS FOR CONTROLLING CRAWLER EXCAVATOR OPERATIONS**

 <b>BOOM UP</b>	 <b>BOOM DOWN</b>	 <b>BUCKET IN</b>	 <b>BUCKET OUT</b>	
 <b>LOAD IN</b>	 <b>LOAD OUT</b>	 <b>LOAD UP</b>	 <b>LOAD DOWN</b>	
 <b>ARM OUT</b>	 <b>ARM IN</b>	 <b>SWING RIGHT</b>	 <b>SWING LEFT</b>	 <b>STOP ENGINE</b>
 <b>TURN RIGHT</b>	 <b>TURN LEFT</b>	 <b>TRAVEL AHEAD</b>	 <b>TRAVEL BACK</b>	 <b>STOP</b>
 <b>COUNTER ROTATE RIGHT</b>	 <b>COUNTER ROTATE LEFT</b>	 <b>SLOW ANY FUNCTION</b>	 <b>THIS FAR</b>	 <b>EMERGENCY STOP</b>

## NON-MANDATORY APPENDIX B

### Assembly or Disassembly: Sample Procedures for Minimizing the Risk of Unintended Dangerous Boom Movement

1. R 408.41015a(2)(f)(i) provides that when pins, or similar devices, are being removed, employees shall not be under the boom, jib, or other components, except where the requirements of 408.41015a(2)(f)(ii) are met. The exception in 408.41015a(2)(f)(ii) shall apply when the employer demonstrates that site constraints require one or more employees to be under the boom, jib, or other components when pins, or similar devices, are being removed. In this situation, the A/D director shall implement procedures that minimize the risk of unintended dangerous movement and minimize the duration and extent of exposure under the boom. The following scenario is an example of how the exception applies. A boom cannot be disassembled on the ground because of above ground piping, as might be found in an oil refinery, that precludes lowering the boom to the ground. The boom shall be disassembled in the air, and the employees who remove the pins shall perform that work from an aerial lift with a base that is positioned on one side, the near side, of the boom. To gain access to the pins on the far side, the aerial lift basket shall move under the boom, since, due to lack of room, the aerial lift cannot be repositioned on the far side. To minimize the risk of unintended dangerous movement while the pins are removed, the A/D director shall use an assist crane that is rigged to support the boom section that is being detached, using particular care to ensure that the section end that is near the employee or employees removing the pins is well supported. The duration and extent of exposure shall be minimized by removing the far side pins first, moving the aerial lift basket as soon as possible to the near side so that the employees are no longer under the boom, and then removing the near side pins.

2. R 408.41015a(2)(h)(vi)(A) provides that, during assembly or disassembly, the center of gravity of the load shall be identified if that is necessary for the method used for maintaining stability. R 408.41015a(2)(h)(vi)(B) states that, where there is insufficient information to accurately identify the center of gravity, measures designed to prevent unintended dangerous movement resulting from an inaccurate identification of the center of gravity shall be used. An example of the application of R 408.41015a(2)(h)(vi)(B) is as follows. The boom shall be assembled by lowering boom sections sequentially into place using an assist crane. The A/D director's plan shall keep the boom sections stable while they are lowered into place by attaching the assist crane hoist line above the center of gravity of each section. However, in assembling the non-symmetrical top section of the boom, the A/D director is not able to determine where to attach the assist crane hoist line so that it is above the center of gravity. In this situation, before raising the section, all personnel shall be kept clear of the section and the section shall be first raised a few inches to determine whether it tips when raised. If the section did tip, it would indicate it is not rigged over the center of gravity. If this occurs, the hoist line shall be repositioned and the procedure repeated, with employees kept clear of the section while it is raised, until the A/D director determines that it is rigged over the center of gravity and can be moved into place without dangerous movement.

## APPENDIX C

### Operator Certification: Written Examination: Technical Knowledge Criteria

This appendix contains information for employers, accredited testing organizations, and auditors developing criteria for a written examination to test an individual's technical knowledge relating to the operation of cranes.

(1) General technical information.

(a) The functions and limitations of the crane and attachments.

(b) Wire rope:

(i) Background information necessary to understand the inspection and removal from service criteria in R 408.41013a and R 408.41014a.

(ii) Capacity and when multi-part rope is needed.

(iii) Relationship between line pull and safe working load.

(iv) How to determine the manufacturer's recommended rope for the crane.

(c) Rigging devices and their use, such as all of the following:

(i) Slings.

(ii) Spreaders.

(iii) Lifting beams.

(iv) Wire rope fittings, such as clips, shackles and wedge sockets.

(v) Saddles or softeners.

(vi) Clamps.

(d) The technical limitations of protective measures against electrical hazards:

(i) Grounding.

(ii) Proximity warning devices.

(iii) Insulated links.

(iv) Boom cages.

(v) Proximity to electric power lines, radii, and microwave structures.

(e) The effects of load share and load transfer in multi-crane lifts.

(f) Basic crane terms.

(g) The basics of machine power flow systems.

(i) Mechanical.

(ii) Electrical.

(iii) Pneumatic.

(iv) Hydraulic.

(v) Combination.

(h) The significance of the instruments and gauge readings.

(i) The effects of thermal expansion and contraction in hydraulic cylinders.

(j) Background information necessary to understand the requirements of preoperation and inspection.

(k) How to use the safety devices and operational aids required under R 408.41018a and R 408.41019a.

(l) The difference between duty-cycle and lifting operations.

(m) How to calculate net capacity for every possible configuration of the equipment using the manufacturer's load chart.

(n) How to use manufacturer-approved attachments and their effect on the equipment.

(o) How to obtain dimensions, weight, and center of gravity of the load.

(p) The effects of dynamic loading from all of the following:

(i) Wind.

(ii) Stopping and starting.

(iii) Impact loading.

(iv) Moving with the load.

- (q) The effect of side loading.
- (r) The principles of backward stability.
- (2) Site information.
  - (a) How to identify the suitability of the supporting ground or surface to support the expected loads of the operation. Elements shall include both of the following:
    - (i) Weaknesses below the surface, such as voids, tanks, and loose fill.
    - (ii) Weaknesses on the surface, such as retaining walls, slopes, excavations, and depressions.
  - (b) Proper use of mats, blocking or cribbing, outriggers, stabilizers, or crawlers.
  - (c) Identification of site hazards such as power lines, piping, and traffic.
  - (d) How to review operation plans with supervisors and other workers, such as the signal person, including how to determine working height, boom length, load radius, and travel clearance.
  - (e) How to determine if there is adequate room for extension of crawlers, outriggers or stabilizers, and counterweights.
- (3) Operations.
  - (a) How to pick, carry, swing and place the load smoothly and safely on rubber tires and on outriggers, stabilizers or crawlers, where applicable.
  - (b) How to communicate at the site with supervisors, the crew, and the signal person.
  - (c) Proper procedures and methods of reeving wire ropes and methods of reeving multiple-part lines and selecting the proper load block, ball, or both.
  - (d) How to react to changes in conditions that affect the safe operation of the equipment.
  - (e) How to shut down and secure the equipment properly when leaving it unattended.
  - (f) Know how to apply the manufacturer's specifications for operating in various weather conditions, and understand how environmental conditions affect the safe operation of the equipment.
  - (g) How to properly level the equipment.
  - (h) How to verify the weight of the load and rigging prior to initiating the lift.
  - (i) How to determine where the load is to be picked up and placed and how to verify the radii.
  - (j) Know basic rigging procedures.
  - (k) How to carry out the shift inspection required in this subpart.
  - (l) Know that the following operations require specific procedures and skill levels:
    - (i) Multi-crane lifts.
    - (ii) Hoisting personnel.
    - (iii) Clamshell or dragline operations.
    - (iv) Pile driving and extracting.
    - (v) Concrete operations, including poured in-place and tilt-up.
    - (vi) Demolition operations.
    - (vii) Operations on water.
    - (viii) Magnet operations.
    - (ix) Multi-drum operations.
  - (m) Know the proper procedures for operating safely under all of the following conditions:
    - (i) Traveling with suspended loads.
    - (ii) Approaching a two-block condition.
    - (iii) Operating near power lines.
    - (iv) Hoisting personnel.
    - (v) Using other than full outrigger, crawler, or stabilizer extensions.
    - (vi) Lifting loads from beneath the surface of the water.
    - (vii) Using various approved counterweight configurations.
    - (viii) Handling loads out of the operator's vision, "operating in the blind."

- (ix) Using electronic communication systems for signal communication.
- (n) Know the proper procedures for load control and the use of hand-held tag lines.
- (o) Know the emergency response procedure for the following circumstances:
  - (i) Fires.
  - (ii) Power line contact.
  - (iii) Loss of stability.
  - (iv) Control malfunction.
  - (v) Two-blocking.
  - (vi) Overload.
  - (vii) Carrier or travel malfunction.
- (p) Know how to properly use outriggers and stabilizers in accordance with manufacturer specifications.
- (4) Use of load charts.
  - (a) Know the terminology necessary to use load charts.
  - (b) Know how to ensure that the load chart is the appropriate chart for the equipment in its particular configuration and application.
  - (c) Know how to use load charts, which includes knowing all of the following:
    - (i) The operational limitations of load charts and footnotes.
    - (ii) How to relate the chart to the configuration of the crane, crawlers, outriggers or stabilizers when extended or retracted, jib erected or offset, and various counterweight configurations.
    - (iii) The difference between structural capacity and capacity limited by stability.
    - (iv) What is included in capacity ratings.
    - (v) The range diagram and its relationship to the load chart.
    - (vi) The work area chart and its relationship to the load chart.
    - (vii) Where to find and how to use the “parts-of-line” information.
  - (d) Know how to use the load chart together with the load indicators, load moment devices, or both.

#### APPENDIX D

Clarification of utility owner/operator obligation to provide voltage information.


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DEPARTMENT OF LABOR

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- **Standard Number:** [1926.1407](#); [1926.1407\(e\)](#); [1926.1408](#)

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**OSHA requirements are set by statute, standards and regulations. Our interpretation letters explain these requirements and how they apply to particular circumstances, but they cannot create additional employer obligations. This letter constitutes OSHA's interpretation of the requirements discussed. Note that our enforcement guidance may be affected by changes to OSHA rules. Also, from time to time we update our guidance in response to new information. To keep apprised of such developments, you can consult OSHA's website at <http://www.osha.gov>.**

October 13, 2011

Charles Kelly, Director  
Industry Human Resource Issues  
Edison Electric Institute  
701 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004

Dear Mr. Kelly:

On October 6, 2010, Edison Electric Institute (EEI) filed a Petition of Review in *EEI vs. the Occupational Safety and Health Administration and Secretary of Labor (OSHA), No. 10-1311 (D.C. Circuit)* challenging various aspects of OSHA's final rule, *Cranes and Derricks in Construction (Subpart CC)*. EEI and OSHA entered a settlement agreement, dated August 22, 2011, in which OSHA agreed to clarify the two Subpart CC requirements below in a letter of interpretation. This letter fulfills that obligation.

(1) 29 CFR §1926.1407(e) states:

*Voltage information. Where Option (3) of this section is used, the utility owner/operator of the power lines must provide the requested voltage information within two working days of the employer's request.*

Thus, §1926.1407(e) allows a utility owner/operator two working days to provide the requested information. For the purposes of this provision, working days include all calendar days except weekends and holidays. See [75 Fed. Reg. 47951](#) (Aug. 9, 2010). For example, if an electric utility receives a request for voltage information on one of its distribution lines on a Friday, it will have until the end of the business day on the following Tuesday to provide the necessary information (assuming there are no holidays in between).

(2) The provisions of §1926.1408 (Power Line Safety) allow deenergization as one option for employee protection from electrical hazards of power lines. Employers choosing this option must not proceed with this option if the electric utility does not de-energize the power line, but Subpart CC does not require utility companies to deenergize power lines.

Sincerely,

James G. Maddux, Director  
Directorate of Construction

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Telephone: 800-321-OSHA (6742) | TTY: 877-889-5627

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**CORRECTION OF OBVIOUS  
ERRORS IN PUBLICATION**

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April 12, 2016

Ms. Deidre O’Berry  
Office of Regulatory Reinvention  
Department of Licensing and Regulatory Affairs  
Ottawa Building - 611 West Ottawa Street  
Lansing, Michigan 48933

Dear Ms. O’Berry:

**SUBJECT:** Request for Correction of the Michigan Administrative Code R 408.41501 - 408.41595  
Construction Safety Standard Part 15 Excavators, Hoists, Elevators, Helicopters, and Conveyors

The Department of Licensing and Regulatory Affairs (LARA), as the promulgating agency, is writing to request that the Office of Regulatory Reinvention exercise its discretion to correct an obvious error in the Michigan Administrative Code (MAC), pursuant to Section 56(1), MCL 24.256, of the Administrative Procedures Act, 1969 PA 306, as amended.

The correct language is yellow highlighted below:

**R 408.41505 Adopted and referenced standards.**

**Rule 1505.** (1).....

(2) The standards adopted in these rules are available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, **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 Regulatory Services Section, **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, **P.O. Box 30643**, Lansing, Michigan, 48909-8143 or via the internet at: [www.michigan.gov/mioshastandards](http://www.michigan.gov/mioshastandards). For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.

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**OTHER OFFICIAL INFORMATION**

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*MCL 24.208 states in part:*

*Sec. 8. (1) The office of regulatory reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:*

\* \* \*

*(i) Other official information considered necessary or appropriate by the office of regulatory reform.*

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**OTHER OFFICIAL INFORMATION**

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**PROCLAMATION**

**REQUEST FOR EXTENSION OF DECLARATION OF EMERGENCY**

WHEREAS, on April 25, 2014, the water source in the City of Flint, Michigan, was switched from the Detroit water system to the Flint River. The switch to the new water source resulted in impacts to Flint’s water system, particularly in areas with lead service lines or lead plumbing and fixtures in private residences. In these areas, lead leached into the water potentially exposing residents to negative health impacts; and

WHEREAS, from October 1, 2015, to this date, the County of Genesee, City of Flint, the State of Michigan, and the Federal Emergency Management Agency have taken numerous actions to cope with the situation, including but not limited to, switching back to the Detroit water system on October 16th, declaring states of emergency, activating the emergency response and recovery aspects of their emergency operations plans, marshaling and distributing required resources on a city-wide level, and issuing emergency public information and bulletins; and

WHEREAS, it is in the best interest of the state of Michigan to continue to provide resources within the city, and take appropriate measures in response to the public health emergency, to ensure that resources remain sufficient to protect public health, safety and property, and to lessen or avert the threat of more severe and long lasting impacts to the community;

NOW, THEREFORE, I RICHARD D. SNYDER, Governor of the state of Michigan, pursuant to the Constitution of the state of Michigan and the provisions of Act No. 390 of the Public Acts of 1976, as amended, do hereby request the legislature extend the state of emergency proclaimed on January 5, 2016, and previously extended through April 14, 2016, for an additional 122 days, through August 14, 2016, in the County of Genesee and the City of Flint. This additional 122-day extension coincides with the extension of the Presidential Emergency Declaration through August 14, 2016.

Given under my hand and the Great Seal of the state of Michigan this \_\_\_\_\_ day of \_\_\_\_\_ in the year of our Lord, Two Thousand and Sixteen.

---

RICHARD D. SNYDER  
GOVERNOR

BY THE GOVERNOR:

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SECRETARY OF STATE

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**OTHER OFFICIAL INFORMATION**

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March 10, 2016

Ms. Deidre O’Berry  
Office of Regulatory Reinvention  
Ottawa Building – 2nd Floor  
811111 S. Capitol Avenue  
Lansing, MI 48933

Dear Ms. O’Berry

The PA 32 of 2016, will rescind two rules for the “Breath Alcohol and Ignition Interlock Devices”, R 257.1005 and 257.1006 which will go into effect on June 6, 2016.

The Department of State is writing the Office of Regulatory Reinvention to request corrections to the Administrative Code be made, pursuant to the Administrative Procedures Act, Section 31(2), MCL 24.231, and Section 56(1), MCL 24.256. We request the following administrative rules be rescinded, effective June 6, 2016:

- R 257.1005 and R 257.1006

If you have any questions regarding this submission, please contact me at 241-1276.

Thank you.

Sincerely,

Doug Novak  
Director, Office of Legal Affairs

---

**(2016 SESSION)**

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*MCL 24.208 states in part:*

*“Sec. 8. (1) The Office of Regulatory Reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:*

*\* \* \**

*(i) Other official information considered necessary or appropriate by the Office of Regulatory Reform.”*

*The following table cites administrative rules promulgated during the year 2000, and indicates the effect of these rules on the Michigan Administrative Code (1979 ed.).*

**MICHIGAN ADMINISTRATIVE CODE TABLE  
(2015 RULE FILINGS)**

R Number	Action	2016 MR Issue	R Number	Action	2016 MR Issue	R Number	Action	2016 MR Issue
125.651	R	4	338.619	*	6	400.5011	R	3
125.652	R	4	338.621	*	6	400.5013	R	3
125.653	R	4	338.623	*	6	400.5014	R	3
125.654	R	4	338.602	A	6	400.5016	R	3
281.700.3	*	4	338.604	A	6	400.5017	R	3
325.1	*	2	338.627	A	6	400.5018	R	3
325.2	*	2	338.629	A	6	408.10702	A	5
325.3	*	2	338.641	A	6	408.10711	*	5
325.4	*	2	338.645	a	6	408.10712	*	5
325.2581	R	3	338.647	A	6	408.10713	*	5
325.2583	R	3	338.649	A	6	408.10727	*	5
325.2584	R	3	338.609	R	6	408.10753	*	5
325.2586	R	3	338.625	R	6	408.18502	*	5
325.2587	R	3	338.1751a	A	6	408.18599	*	5
325.2588	R	3	338.2201a	A	6	408.14016e	R	6
325.2589	R	3	338.3651	A	6	408.14017a	R	6
325.2590	R	3	338.3653	A	6	408.14018a	R	6
325.2591	R	3	338.3655	A	6	408.14019a	R	6
325.52001	*	6	338.3657	A	6	408.14019b	R	6
325.52002	*	6	338.3659	A	6	408.14019c	R	6
325.52003	*	6	338.3661	A	6	408.14020a	R	6
325.52005	*	6	338.3663	A	6	408.14021a	R	6
325.52008	*	6	338.3665	A	6	408.14021b	R	6
325.52011	*	6	338.3901a	A	6	408.14022a	R	6
325.50251	*	5	338.4971	*	6	408.14023a	R	6
325.50252	*	5	338.4972	*	6	408.14024a	R	6
325.50253	*	5	338.4973	*	6	408.14025a	R	6
325.50254	*	5	338.4976	*	6	408.14025b	R	6
325.50255	*	5	338.4978	*	6	408.14026a	R	6
325.50256	*	5	338.4982	*	6	408.14027a	R	6
325.50257	*	5	338.12001a	A	6	408.14028a	R	6
325.50258	*	5	339.14002	A	6	408.14029a	R	6
325.52601	*	5	400.5001	R	3	408.14030a	R	6
325.52602	*	5	400.5002	R	3	408.14031a	R	6
338.601	*	6	400.5004	R	3	408.14032a	R	6
338.607	*	6	400.5005	R	3	408.14033a	R	6
338.611	*	6	400.5006	R	3	408.14034a	R	6
338.613	*	6	400.5008	R	3	408.14041a	R	6
338.617	*	6	400.5009	R	3	408.41003a	*	6

(\* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

2016 MR 7 – May 1, 2016

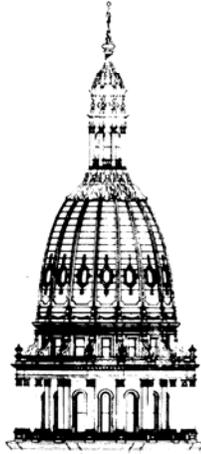
R Number	Action	2016 MR Issue	R Number	Action	2016 MR Issue	R Number	Action	2016 MR Issue
408.41006a	*	6	408.41052	A	6	408.41061g	A	6
408.41001	A	6	408.41052a	A	6	408.41062	A	6
408.41003	A	6	408.41052b	A	6	408.41063	A	6
408.41003b	A	6	408.41053	A	6	408.41064	A	6
408.41003c	A	6	408.41053a	A	6	408.41065a	R	6
408.41003d	A	6	408.41053b	A	6	408.41066a	R	6
408.41003e	A	6	408.41053c	A	6	408.41067a	R	6
408.41006	A	6	408.41053d	*	6	408.41068a	R	6
408.41006b	A	6	408.41053e	*	6	408.41069a	R	6
408.41006c	A	6	408.41053f	A	6	408.41070a	R	6
408.41006d	A	6	408.41053g	A	6	408.41070b	R	6
408.41006e	A	6	408.41054	A	6	408.41071a	R	6
408.41007	A	6	408.41055	A	6	408.41072a	R	6
408.41035	A	6	408.41055a	A	6	408.41073a	R	6
408.41035a	A	6	408.41055b	A	6	408.41074a	R	6
408.41035b	A	6	408.41055c	A	6	408.41075a	R	6
408.41035c	A	6	408.41056	A	6	408.41080	A	6
408.41035d	A	6	408.41056a	A	6	408.41080a	A	6
408.41036	A	6	408.41056b	A	6	408.41080b	A	6
408.41036a	A	6	408.41056c	A	6	408.41080c	A	6
408.41036b	A	6	408.41056d	A	6	408.41080d	A	6
408.41036c	A	6	408.41056e	A	6	408.41080e	A	6
408.41036d	A	6	408.41056f	A	6	408.41080f	A	6
408.41037	A	6	408.41056g	A	6	408.41080g	A	6
408.41037a	A	6	408.41056h	A	6	408.41080h	A	6
408.41037b	A	6	408.41056i	A	6	408.41080i	A	6
408.41037c	A	6	408.41057	A	6	408.41080j	*	6
408.41037d	A	6	408.41058	A	6	408.41080k	*	6
408.41037e	A	6	408.41060	A	6	408.41080l	A	6
408.41037f	A	6	408.41060a	A	6	408.41080m	A	6
408.41038	A	6	408.41060b	A	6	408.41080n	A	6
408.41038a	A	6	408.41060c	A	6	408.41080o	A	6
408.41038b	A	6	408.41061	A	6	408.41081	A	6
408.41038c	A	6	408.41061a	A	6	408.41082	A	6
408.41039	A	6	408.41061b	A	6	408.41082a	A	6
408.41039a	A	6	408.41061c	A	6	408.41082b	A	6
408.41039b	A	6	408.41061d	A	6	408.41082c	A	6
408.41040	A	6	408.41061e	A	6	408.41082d	A	6
408.41051a	R	6	408.41061f	A	6	408.41082e	A	6

(\* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

2016 MR 7 – May 1, 2016

R Number	Action	2016 MR Issue	R Number	Action	2016 MR Issue	R Number	Action	2016 MR Issue
408.41082f	A	6	408.41008a	R	6	408.41564	A	6
408.41082g	A	6	408.41009a	R	6	408.41570	A	6
408.41083	A	6	408.41009b	R	6	408.41580	A	6
408.41084	A	6	408.41011a	R	6	408.41590	A	6
408.41084a	A	6	408.41011b	R	6	408.41595	A	6
408.41084b	A	6	408.41011c	R	6	408.41605	*	4
408.41084c	A	6	408.41011d	R	6	408.41610	*	4
408.41084d	A	6	408.41011e	R	6	436.1311	R	4
408.41084e	A	6	408.41012a	R	6	792.10101	*	5
408.41084f	A	6	408.41013a	R	6	792.11501	*	5
408.41085	A	6	408.41014a	R	6	792.11503	R	5
408.41085a	A	6	408.41015a	R	6	792.11504	R	5
408.41085b	A	6	408.41016a	R	6	792.11505	R	5
408.41085c	A	6	408.41016b	R	6	792.11506	R	5
408.41085d	A	6	408.41016c	R	6	792.11507	R	5
408.41085e	A	6	408.41016d	R	6	792.11508	R	5
408.41085f	A	6	408.41501	A	6	792.11509	R	5
408.41085g	A	6	408.41505	A	6	792.1151	R	5
408.41085h	A	6	408.41510	A	6	792.11511	R	5
408.41086	A	6	408.41515	A	6	792.11512	R	5
408.41086a	A	6	408.41520	A	6	792.11513	R	5
408.41086b	A	6	408.41521	A	6	792.11514	R	5
408.41086c	A	6	408.41522	A	6	792.11515	R	5
408.41086d	A	6	408.41523	A	6	792.11516	R	5
408.41086e	A	6	408.41524	A	6	792.11517	R	5
408.41086f	A	6	408.41525	A	6			
408.41086g	A	6	408.41526	A	6			
408.41087	A	6	408.41527	A	6			
408.41088	A	6	408.41530	A	6			
408.41089	A	6	408.41531	A	6			
408.41090	A	6	408.41540	A	6			
408.41090a	A	6	408.41541	A	6			
408.41090b	A	6	408.41542	A	6			
408.41090c	*	6	408.41543	A	6			
408.41090d	*	6	408.41550	A	6			
408.41090e	A	6	408.41560	A	6			
408.41001a	R	6	408.41561	A	6			
408.41004a	R	6	408.41562	A	6			
408.41005a	R	6	408.41563	A	6			

(\* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)



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**ADMINISTRATIVE RULES  
ENROLLED SENATE AND HOUSE BILLS  
SIGNED INTO LAW OR VETOED  
(2015 SESSION)**

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*Mich. Const. Art. IV, §33 provides: “Every bill passed by the legislature shall be presented to the governor before it becomes law, and the governor shall have 14 days measured in hours and minutes from the time of presentation in which to consider it. If he approves, he shall within that time sign and file it with the secretary of state and it shall become law . . . If he does not approve, and the legislature has within that time finally adjourned the session at which the bill was passed, it shall not become law. If he disapproves . . . he shall return it within such 14-day period with his objections, to the house in which it originated.”*

*Mich. Const. Art. IV, §27, further provides: “No act shall take effect until the expiration of 90 days from the end of the session at which it was passed, but the legislature may give immediate effect to acts by a two-thirds vote of the members elected to and serving in each house.”*

*MCL 24.208 states in part:*

*“Sec. 8. (1) The Office of Regulatory Reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:*

\* \* \*

*(b) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills signed into law by the governor during the calendar year and the corresponding public act numbers.*

*(c) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills vetoed by the governor during the calendar year.”*

# 2016 Michigan Public Acts Table

Legislative Service Bureau  
Legal Division, Statutory Compiling and Law Publications Unit  
124 W. Allegan, Lansing, MI 48909

March 18, 2016  
Through PA 50 of 2016

PA No.	ENROLLED		I.E.* Yes/No	Governor Approved	Filed Date	Effective Date	SUBJECT
	HB	SB					
1	4983		Yes	1/26	1/26	4/25/16	<b>Natural resources; fishing;</b> entrance into state-operated public boating access sites and certain state parks on free fishing weekends; allow free of charge. <b>(Rep. B. Rendon)</b>
2	4604		Yes	1/26	1/26	2/25/16	<b>Natural resources; soil and erosion;</b> soil erosion and sedimentation permit process; provide exemption for certain agricultural practices. <b>(Rep. B. Roberts)</b>
3	5220		Yes	1/29	1/29	1/29/16	<b>Appropriations; supplemental;</b> distribution of certain appropriated revenue from the state general fund to department of health and human services; provide for. <b>(Rep. P. Phelps)</b>
4	4459		Yes	2/2	2/2	2/2/16	<b>Traffic control; driver license;</b> emergency contact information encoded in driver license; allow. <b>(Rep. P. Lucido)</b>
5	4460		Yes	2/2	2/2	2/2/16	<b>State; identification cards;</b> emergency contact information on state identification card; provide for. <b>(Rep. P. Lucido)</b>
6	4535		Yes	2/2	2/2	5/2/16	<b>Weapons; licensing;</b> requirement to obtain a license to purchase, carry, possess, use, or transport a pistol; exempt law enforcement officers. <b>(Rep. L. Theis)</b>
7		0232	Yes	2/2	2/2	2/2/16	<b>Use tax; definitions;</b> definition of auto dealer; modify. <b>(Sen. D. Robertson)</b>
8		0233	Yes	2/2	2/2	2/2/16	<b>Sales tax; definitions;</b> definition of auto dealer; modify. <b>(Sen. D. Robertson)</b>

- \* - I.E. means Legislature voted to give the Act immediate effect.
- \*\* - Act takes effect on the 91st day after sine die adjournment of the Legislature.
- \*\*\* - See Act for applicable effective date.
- + - Line item veto.
- ++ - Pocket veto.
- # - Tie bar.

## 2016 Michigan Public Acts Table

PA No.	ENROLLED		I.E.* Yes/No	Governor Approved	Filed Date	Effective Date	SUBJECT
	HB	SB					
9		0539	Yes	2/16	2/16	2/16/16	<b>Higher education; financial aid;</b> promise zones; modify administration. <b>(Sen. G. Hansen)</b>
10		0540	Yes	2/16	2/16	2/16/16 #	<b>Property tax; state education tax;</b> distribution of state education tax; modify. <b>(Sen. J. Ananich)</b>
11	5023		Yes	2/16	2/16	5/16/16	<b>Natural resources; other;</b> dark sky preserves; expand locations. <b>(Rep. P. Pettalia)</b>
12		0328	Yes	2/16	2/16	5/16/16	<b>Law enforcement; state police;</b> grade and duties of state law enforcement officers; modify. <b>(Sen. T. Schuitmaker)</b>
13		0303	Yes	2/16	2/16	5/16/16	<b>Cemeteries and funerals; other;</b> investment of money in a perpetual care and maintenance fund; expand authority. <b>(Sen. M. Knollenberg)</b>
14		0394	Yes	2/16	2/16	5/16/16	<b>Housing; inspection;</b> multi-unit inspections; make discretionary unless complaint is received and include certain townships within scope of act. <b>(Sen. D. Robertson)</b>
15		0615	Yes	2/16	2/16	2/16/16	<b>Civil procedure; remedies;</b> judgments against municipalities that are collected as tax levies; prohibit transmission or capturing by other governmental entity. <b>(Sen. W. Schmidt)</b>
16	4455		Yes	2/23	2/23	5/23/16	<b>Highways; bridges;</b> bridge inspection process; modify. <b>(Rep. B. Glardon)</b>
17	5070		Yes	2/23	2/23	5/23/16	<b>Labor; health and safety;</b> franchisee and franchisor responsibility as employer under the Michigan occupational safety and health act; clarify. <b>(Rep. E. Leutheuser)</b>
18	5071		Yes	2/23	2/23	5/23/16	<b>Labor; hours and wages;</b> employer responsibility for employees; allocate between franchisor and franchisee. <b>(Rep. P. Somerville)</b>

\* - I.E. means Legislature voted to give the Act immediate effect.

\*\* - Act takes effect on the 91st day after sine die adjournment of the Legislature.

\*\*\* - See Act for applicable effective date.

+ - Line item veto.

++ - Pocket veto.

# - Tie bar.

## 2016 Michigan Public Acts Table

PA No.	ENROLLED		I.E.* Yes/No	Governor Approved	Filed Date	Effective Date	SUBJECT
	HB	SB					
19	5072		Yes	2/23	2/23	5/23/16	<b>Labor; hours and wages</b> ; franchisor responsibility for minimum wage violations; clarify. <b>(Rep. N. Jenkins)</b>
20	5073		Yes	2/23	2/23	5/23/16	<b>Employment security; employers</b> ; franchisee and franchisor responsibility for contributions and benefits; clarify. <b>(Rep. D. Garcia)</b>
21		0513	Yes	2/23	2/23	2/23/16	<b>Highways; name</b> ; renaming a bridge on US-10; designate as the "Corpsman Aaron D. Ullom Memorial Bridge". <b>(Sen. J. Stamas)</b>
22	4853		Yes	2/23	2/23	5/23/16	<b>Vehicles; motorcycles</b> ; fee for motorcycle safety course; modify. <b>(Rep. J. Tedder)</b>
23	4854		Yes	2/23	2/23	5/23/16	<b>Vehicles; motorcycles</b> ; waiver of certain test requirements for individuals who complete a motorcycle safety course; provide for. <b>(Rep. J. Tedder)</b>
24		0136	Yes	2/26	2/26	2/26/16	<b>Appropriations; zero budget</b> ; supplemental appropriations; provide for fiscal year 2015-2016. <b>(Sen. D. Hildenbrand)</b>
25	4888		Yes	3/1	3/1	5/30/16	<b>Property tax; other</b> ; assessment roll; allow assessor to maintain electronically. <b>(Rep. H. Hughes)</b>
26		0503	Yes	3/1	3/1	5/30/16	<b>Children; adoption</b> ; Michigan Indian family preservation act (MIFPA); modify. <b>(Sen. J. Emmons)</b>
27	4758		Yes	3/1	3/1	3/1/16	<b>Drains; financing</b> ; term bonds with mandatory redemption; provide for. <b>(Rep. A. Pscholka)</b>
28	4727		Yes	3/1	3/1	5/30/16	<b>Aeronautics; other</b> ; regulations for tall structures; revise for meteorological towers. <b>(Rep. T. Cole)</b>

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\*\*\* - See Act for applicable effective date.

+ - Line item veto.

++ - Pocket veto.

# - Tie bar.

## 2016 Michigan Public Acts Table

PA No.	ENROLLED		I.E.* Yes/No	Governor Approved	Filed Date	Effective Date	SUBJECT
	HB	SB					
29		0554	Yes	3/8	3/8	6/6/16	<b>Health; occupations;</b> use of electronic continuing education tracking services; allow. <b>(Sen. T. Schuitmaker)</b>
30		0555	Yes	3/8	3/8	6/6/16	<b>Occupations; individual licensing and regulation;</b> use of electronic continuing education tracking services; allow. <b>(Sen. T. Schuitmaker)</b>
31		0056	Yes	3/8	3/8	3/8/16	<b>Courts; judges;</b> salary formula for judges; modify. <b>(Sen. R. Jones)</b>
32		0176	Yes	3/8	3/8	6/6/16 #	<b>Crimes; intoxication or impairment;</b> oversight for ignition interlock servicing centers; provide for department of state. <b>(Sen. T. Schuitmaker)</b>
33		0357	Yes	3/8	3/8	6/6/16 #	<b>Occupations; vehicles, dealers and repair facilities;</b> breath alcohol ignition interlock mechanics and servicers; include in motor vehicle service and repair act. <b>(Sen. T. Schuitmaker)</b>
34	4980		Yes	3/8	3/8	6/6/16 #	<b>Criminal procedure; sentencing guidelines;</b> guidelines for crime of knowingly providing false information concerning an ignition interlock device; revise. <b>(Rep. K. Kesto)</b>
35		0334	Yes	3/8	3/8	3/8/16	<b>Children; protection;</b> reporting child abuse or child neglect through an online reporting system and waiving a written report under certain circumstances; allow, change venereal disease to sexually transmitted infection, and allow federal or state governmental agency access to certain records. <b>(Sen. J. Emmons)</b>
36		0588	Yes	3/8	3/8	6/6/16	<b>Natural resources; hunting;</b> certain tribal conservation officers; authorize to demand hunting, fishing, or fur harvester's licenses. <b>(Sen. T. Casperson)</b>
37		0680	Yes	3/8	3/8	3/8/16	<b>Mental health; other;</b> naming the new patient programming center at the Walter P. Reuther Psychiatric Hospital the "James K. Haveman Center for Activity, Rehabilitation, and Therapy"; provide for. <b>(Sen. P. MacGregor)</b>
38		0150	Yes	3/15	3/15	3/15/16	<b>Insurance; health insurers;</b> health plans that provide prescription drug coverage; clarify requirements for synchronizing multiple prescriptions and dispensing fees. <b>(Sen. M. O'Brien)</b>

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	HB	SB					
39		0051	Yes	3/15	3/15	6/13/16	<b>Highways; name</b> ; renaming a portion of highway in Genesee County; designate as "John Wayne "Dusty" Marcum Memorial Highway". <b>(Sen. K. Horn)</b>
40		0444	Yes	3/15	3/15	6/13/16	<b>Health; emergency services</b> ; critical incident stress management services for emergency service providers; provide for, prohibit disclosure of confidential communications, and provide immunity from liability. <b>(Sen. J. Stamas)</b>
41		0471	Yes	3/15	3/15	6/13/16	<b>Courts; district court</b> ; sixty-seventh district; clarify fourth division jurisdiction. <b>(Sen. D. Robertson)</b>
42		0472	Yes	3/15	3/15	6/13/16	<b>Taxation; tobacco</b> ; tobacco product manufacturers' escrow accounts act; modify. <b>(Sen. W. Schmidt)</b>
43		0473	Yes	3/15	3/15	6/13/16	<b>Tobacco; generally</b> ; tobacco products tax act; require certain enforcement disclosures. <b>(Sen. P. MacGregor)</b>
44		0578	Yes	3/15	3/15	6/13/16	<b>Consumer credit; predatory lending</b> ; mortgage borrowers' bill of rights; modify to refer to federal home loan publications. <b>(Sen. D. Booher)</b>
45		0644	Yes	3/15	3/15	3/15/16	<b>Businesses; nonprofit corporations</b> ; authorization to restructure municipal health facilities corporations; revise requirements. <b>(Sen. J. Stamas)</b>
46	4314		Yes	3/15	3/15	6/13/16	<b>Traffic control; violations</b> ; operation of a motor vehicle on property open to public in a manner that would be a moving violation if on public property causing death or serious impairment of a body function; prohibit, and provide penalties. <b>(Rep. S. Singh)</b>
47	4408		Yes	3/15	3/15	6/13/16 #	<b>Health occupations; veterinarians</b> ; veterinarian continuing education requirement; modify, and include veterinary technicians and a license cycle for veterinarian and veterinary technician licenses. <b>(Rep. K. Crawford)</b>
48	4458		Yes	3/15	3/15	6/13/16	<b>Transportation; other</b> ; complete streets advisory council; eliminate. <b>(Rep. J. Runestad)</b>

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	HB	SB					
49	4999		Yes	3/15	3/15	6/13/16 #	<b>Health; pharmaceuticals;</b> dispensing prescription drug or device requirements; expand to include an out-of-state veterinary prescriber, and amend certain other provisions relating to veterinary licensing. <b>(Rep. E. McBroom)</b>
50	5105		No	3/15	3/15	**	<b>Insurance; health insurers;</b> health insurance claims assessment on carriers and third party administrators; modify sunset. <b>(Rep. A. Pscholka)</b>

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