

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

CONSTRUCTION SAFETY STANDARDS

Filed with the Secretary of State on April 4, 2013

~~These rules take effect 7 days after filing with the Secretary of State~~

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** ~~consumer and industry services~~ by sections 19 and 21 of 1974 PA 154 and Executive Reorganization Order Nos. 1996-2, **2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030** ~~MCL 408.1019, 408.1021, and 445.2001~~)

R 408.41802, R 408.41841, R 408.41852, R 408.41872, and R 408.41884 of the Michigan Administrative Code are amended and R 408.41842 and R 408.41850 are rescinded, as follows:

PART 18. FIRE PROTECTION AND PREVENTION

R 408.41802 Adopted ~~and referenced~~ **and referenced** of standards.

Rule 1802. (1) ~~The standards specified in this rule, except the standards specified in subrule (5) of this rule, are adopted by reference in these rules.~~

~~(2) The following standards are adopted by reference in these rules and are available from The National Fire Protection Association, (NFPA) 1 Batterymarch Park, P.O. Box 9101, Quincy, Massachusetts, 02169-7471, 02269-9101, USA; telephone number: 617-770-3000; or via the internet at web-site: www.nfpa.org; or at the Michigan Department of Consumer and Industry Services, MIOSHA Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at a cost as of the time of adoption of these rules as stated: in this subrule.~~

~~(a)(i) NFPA 13 "Installation Of Sprinkler System" 1991 edition. Cost \$27.00. 67-50.~~

~~(b)(ii) NFPA 14 "Standard For The Installation Of Standpipe, Private Hydrants And Hose Systems", 2000 edition. Cost \$39.00. 26-75.~~

~~(c)(iii) NFPA 25 "Inspection, Testing, And Maintenance Of Water-Based Fire Protection Systems", 1998 edition. Cost \$50.50. 35-25.~~

~~(d)(iv) NFPA 251 "Standard Methods Of Fire Testing Of Building Construction And Materials," 1990 edition. Cost \$27.00. 13-50.~~

~~(e)(v) NFPA 30 "Flammable And Combustible Liquids Code," 1996 edition. Cost \$27.00. 29-75.~~

~~(f)(vi) NFPA 385 "Standard For Tank Vehicles For Flammable And Combustible Liquids," 1990 edition. Cost \$27.00. 22-25.~~

~~(g)(vii) NFPA 58 "Storage And Handling Of Liquefied Petroleum Gases", 1992 edition. Cost \$27.00. 32-25.~~

~~(h)(viii) NFPA 52 "The Compressed Natural Gas Vehicular Fuel Systems," 1992 edition. Cost \$27.00. 13-00.~~

~~(i)(ix) NFPA 59A "Production, Storage And Handling Of Liquefied Natural Gas," 1990 edition. Cost \$27.00. 18-00.~~

~~(2)(3) Compressed Gas Association (CGA) Standard CGA C7 "Guide To The Preparation Of Precautionary Labeling And Marking Of Compressed Gas Containers," 2000 edition, which is adopted by reference in these rules and is 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 amendments of \$892.00. 294.00~~

~~(3)(4) The provisions of 49 C.F.R. Transportation "Subchapter D--Pipeline Safety" Parts 186-199, are adopted by reference in these rules and are available from the United States Government Bookstore Superintendent of Documents, P.O. Box 371954, Pittsburgh, Pennsylvania, 15250-7954, USA, telephone number: 1-866-512-1800 or via the internet at web-site: www.bookstore.gpo.gov <http://bookstore.gpo.gov> at a cost as of the time of adoption of these rules of \$70.00. amendments of \$2.00; or at the Michigan Department of Consumer and Industry Services, MIOSHA Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.~~

~~(4) The standards adopted in subrules (1), (2), and (3) 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.~~

~~(5) Copies of the standards adopted in subrules (1), (2) and (3) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus \$20.00 for shipping and handling.~~

~~(6)(5)~~ Michigan Construction Safety Standard Part 22 'Signals, Signs, Tags And Barricades,' being R 480.42201 to **R 408.42242, is referenced in these rules.** ~~et seq. which is referenced in R 408.41861, R 408.41863, R 408.41864, and R 408.41869, Up to 5 copies of this standard may be obtained~~ is available for inspection and distribution at no charge from the Michigan Department of **Licensing and Regulatory Affairs, Consumer and Industry Services, MIOSHA Standards Section, Division,** 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48908-8143, or via the internet at website: www.michigan.gov/mioshastandards. www.michigan.gov/cis

R 408.41841 Employer responsibility.

Rule 1841. (1) An employer shall be responsible for the development and maintenance of a fire protection and prevention program to be followed during all phases of construction to reduce the chance of fire and injury to employees.

(2) The fire protection portion of the program shall include all of the following:

(a) Establishing and maintaining a means of egress from all areas of the building occupied by employees to provide free and unobstructed egress from all parts of the building or structure at all times when the building or structure is occupied. A lock or fastening that prevents free escape from the inside of any building shall not be installed, except in mental, penal, or corrective institutions where supervisory personnel is continually on duty and effective provisions are made to remove occupants in case of fire or other emergency.

(b) Posting fire rules or, by other means, informing the employees of the evacuation signal, escape routes, and emergency phone numbers. Exits shall be marked by a readily visible sign. Access to exits shall be marked by readily visible signs in all cases where the exit or way to reach the exit is not immediately visible to the occupants.

(c) A requirement that means of egress shall be continually maintained free of all obstructions or impediments to full instant use in the case of fire or other emergency.

(3) The fire prevention portion of the program shall include both of the following:

(a) A housekeeping policy designed to keep a means of egress free from the accumulation of stored materials and debris and to reduce the likelihood of fire.

(b) A policy for the storage of combustible and flammable liquids and materials and for the use of proper heating equipment as prescribed in this part.

(4) Fire fighting equipment shall be provided by the employer and meet all of the applicable requirements of this part as to location, accessibility, inspection, testing, and maintenance. Defective equipment shall be immediately replaced.

~~-(5) The requirements of this rule may be satisfied by 1 employer who is designated by all of the employers on the job if an agreement to that effect is reduced to writing and posted for all employees, employers, and representatives of the department of consumer and industry services to see. The agreement shall include authority for the designated employer to comply with this rule.~~

~~-(6) An employer shall furnish training to an employee before the employer assigns an employee to perform maintenance on a fixed fire system.~~

~~-(7) An employer shall ensure that fire walls and exit stairways required for the completed buildings are given construction priority. Fire doors with automatic closing devices shall be hung on openings as soon as practicable.~~

~~-(8) An employer shall retain existing fire separations in buildings undergoing alterations or demolition until operations necessitate their removal.~~

R 408.41842 Employee Emergency Action Plans. **Rescinded.**

~~-Rule 1842. (1) This rule applies to all emergency action plans required by a particular MIOSHA or OSHA safety or health standard. The emergency action plan shall be in writing, except as provided in subrule (6) of this rule, and shall cover the designated actions that employers and employees must take to ensure employee safety from fire and other emergencies.~~

~~-(2) All of the following elements, at a minimum, shall be included in an employee emergency action plan:~~

~~-(a) Emergency escape procedures and emergency escape route assignments.~~

~~-(b) Procedures to be followed by employees who remain to operate critical plant operations before they evacuate.~~

~~-(c) Procedures to account for all employees after emergency evacuation has been completed.~~

~~-(d) Rescue and medical duties for those employees who are to perform them.~~

~~-(e) The preferred means of reporting fires and other emergencies.~~

~~-(f) Names or regular job titles of persons of departments that can be contacted for further information or an explanation of duties under the plan.~~

~~-(3) An employer shall establish, in the emergency action plan, the types of evacuation to be used in emergency circumstances.~~

~~-(4) Before implementing the emergency action plan, an employer shall designate and train a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees.~~

~~-(5) An employer shall review the plan at the following times with each employee who is covered by the plan:~~

~~-(a) Initially when the plan is developed.~~

~~-(b) When the employee's responsibilities or designated actions under the plan change.~~

~~-(c) When the plan is changed.~~

~~-(6) Upon initial assignment, an employer shall review, with each employee, the parts of the plan that an employee must know to protect the employee in the event of an emergency. The written plan shall be kept at the workplace and made~~

available for employee review. For employers that have 10 or fewer employees, the plan may be communicated orally to employees and the employer need not maintain a written plan.

~~(7) An employer shall provide, as warranted by the project, a trained and equipped fire fighting organization (fire brigade) to assure adequate protection to life.~~

R 408.41850 Training. **Rescinded.**

~~Rule 1850. (1) If an employer has provided portable fire extinguishers for employee use in the workplace, the employer shall also provide an education program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage fire fighting.~~

~~(2) An employer shall provide the education required in this rule upon initial employment and at least annually thereafter.~~

R 408.41852 Portable fire extinguishing equipment; inspection, testing, and maintenance.

Rule 1852. (1) An extinguisher shall be inspected monthly, or at more frequent intervals when circumstances require.

Inspections shall check for all of the following:

(a) That the extinguisher is in its designated place.

(b) That the extinguisher has not been actuated or tampered with.

(c) That the extinguisher does not have obvious damage, physical damage, external corrosion, or other impairment.

(2) An extinguisher that shows defects which could possibly affect its operation shall be removed from service and given a complete check. An employer shall attach a tag to an extinguisher or keep a record documenting extinguisher maintenance or discharge dates and the initials or signature of the person who performed the service. Records shall be readable, kept on file or in an electronic system (for example, bar coding), and shall be available for inspection by a representative of the department of **licensing and regulatory affairs, consumer and industry services**. An employer shall keep a record of extinguisher maintenance or recharge dates and the initials or signature of the person who performed the service.

(3) An extinguisher shall receive a thorough inspection at least once a year to ensure operability. An extinguisher that requires recharging or weighing shall be maintained at least annually.

(4) An extinguisher that shows evidence of corrosion or mechanical damage shall be subjected to an approved hydrostatic test as prescribed in subrule (6) of this rule or shall be replaced.

(5) An extinguisher shall be given an approved hydrostatic test every 5 years, except for the following extinguishers, which shall be tested every 12 years:

(a) A dry chemical extinguisher that has a brazed brass, aluminum, or mild steel shell.

(b) An extinguisher that used bromotrifluoromethane.

(c) A dry powder extinguisher that is for metal fires. The hydrostatic test date shall be recorded on a suitable metallized decal or on an equally durable material which has been affixed by a heatless process to the shell of the extinguisher and which shows the date of the test, the test pressure, and the name of the person or agency making the test. An extinguisher tested after the effective date of this part shall have a label that will not retain its original condition when removal from an extinguisher is attempted. An extinguisher manufactured under the department of transportation specifications adopted by reference in subrule (7) of this rule may have the inspection date and serviceman's or firm's name, initials, or symbol stamped into the cylinder.

(6) A nitrogen cylinder or other cylinder for inert gas, such as found on a wheeled extinguisher, shall be hydrostatically tested at not more than 5-year intervals.

(7) An extinguisher, cylinder, or cartridge which is used for the storage of a compressed gas and which is manufactured as prescribed in department of transportation specifications shall be hydrostatically tested in accordance with the provisions of C.F.R. 49 **Transportation "Subchapter D--Pipeline Safety"** Parts 186- 199, which are adopted by reference in R 408.41802.

(8) The hose and couplings on an extinguisher equipped with a shutoff nozzle at the outlet end of the hose shall have a hydrostatic test without the nozzle at the test intervals prescribed for the unit on which the hose is installed.

~~(9) A dry chemical and dry powder hose assembly that requires a hydrostatic test shall be at a test pressure of 300 pounds per square inch for 1 minute.~~

~~(10) An extinguisher subjected to an original factory test pressure of 350 pounds per square inch or more shall be tested at 75% of the factory test pressure, but not less than 300 pounds per square inch. See table 2.~~

~~(11) An extinguisher shall be suitable for use within a temperature range from plus 40 degrees to plus 120 degrees Fahrenheit. An extinguisher installed at a location subject to temperature extremes shall be of a type listed for the temperature to which it will be exposed or shall be placed in an enclosure capable of maintaining the temperature.~~

~~(12) Table 2 reads as follows:~~

TABLE 2

HYDROSTATIC TEST PRESSURE REQUIREMENTS - NON-ICC SHELLS		
SHELLS NOT SPECIFIED IN UNITED STATES DEPARTMENT OF TRANSPORTATION REGULATIONS (formerly Interstate Commerce Commission)		
EXTINGUISHER TYPE	ORIGINAL FACTORY TEST PRESSURE	REQUIRES HYDROSTATIC TEST PRESSURE
All dry chemical and Dry powder	400 psi or greater	75% of factory test pressure
	350-399 psi below 350 psi	300 psi 75% of factory test pressure
Foam - 500 psi factory test	500	375
Foam - 350 psi factory test	350	300
Stored pressure or cartridge-operated water type, including antifreeze And loaded stream	400 psi or greater	75% of factory test pressure
	350-399 psi below 350	300 psi 75% of factory test pressure

R 408.41872 L. P. pipe, fittings, and hose.

Rule 1872. (4) Piping, pipe and tubing fittings, and valves used to supply utilization equipment within the scope of this standard shall be acceptable for services as approved by the manufacture of the equipment.

~~(2) Pipe shall be wrought iron, steel, brass, or copper.~~

~~(3) Aluminum piping or tubing is prohibited.~~

~~(4) Fittings shall be steel, brass, copper, malleable iron, or ductile iron. Cast iron fittings shall not be used.~~

~~(5) Tubing shall be steel, brass, or copper.~~

~~(6) Hose, hose connections, and flexible connections shall be fabricated of approved materials resistant to the action of L. P. gas, both as a liquid and vapor.~~

~~(7) Hose, hose connections, and flexible connectors shall be designed for a working pressure of not less than 350 psig and shall be as short as practical.~~

~~(8) Fittings at pressures higher than container pressures shall be suitable for a working pressure of 350 psig.~~

~~(9) Fittings used at operating pressures over 125 psig shall be suitable for a working pressure of 250 psig.~~

~~(10) Fittings used with vapor at pressure not exceeding 125 psig shall be suitable for a working pressure of 125 psig.~~

R 408.41884 Heating devices.

Rule 1884. (1) A temporary heating device shall not produce combustion products that will increase the air contaminants above the maximum allowable limits established by the **Construction Safety and Occupational Health** Division of the Michigan department of **licensing and regulatory affairs**. ~~consumer and industry services.~~

(2) A heating device, including a temporary heating device, shall be located at a distance sufficient to prevent ignition of any material in its proximity or the material shall be insulated.

(3) A temporary heating device shall not be located less than 50 feet from a point where a flammable or combustible liquid is used or dispensed.

(4) A temporary heating device that is set on a combustible floor shall be separated from the floor by an insulating material or 1 inch of concrete. The insulating material shall extend not less than 2 feet beyond the heater in all directions.

(5) A temporary heating device shall be located not less than 10 feet from a combustible covering, such as, but not limited to, canvas or tarpaulins, unless the covering is fastened to prevent its dislodgement due to wind action.

(6) A temporary heating device using L.P. gas, other than in an integral heater-container unit, shall be located not less than 6 feet from any L.P. gas container.

(7) Integral heaters may be used if designed and installed so as to prevent direct or radiant heat application to the container.

(8) Blower-and radiant-type units shall not be directed toward any L.P. gas container that is less than 20 feet away.

(9) If 2 or more heater units are located within the same unpartitioned area, then the containers of each unit shall be separated from the containers of any such other unit by not less than 20 feet.

(10) If containers are manifolded together and serve 1 heater on the same floor, then the total water capacity of the containers shall not be more than 735 pounds (nominal 300 pounds L.P. gas capacity). If more than 1 such manifold is used they shall be separated by not less than 20 feet.

(11) On floors on which no heaters are connected for use, containers may be manifolded together if the total water capacity is not more than 2,450 pounds (nominal 1,000 pounds L.P. gas capacity). Manifolds of more than 735 pounds water capacity shall be separated by not less than 50 feet.

(12) Heating devices, including portable heaters and salamanders using a liquid flammable fuel such as, but not limited to, fuel oil or kerosene, shall be equipped with an approved automatic shutoff safety control device which will, in the event of flame failure, shut off the flow of fuel to the main burner and pilot if used. The device shall not be relit while the combustion chamber is hot.

(13) Portable heaters including salamanders that have inputs above 50,000 British thermal unit's (B.T.U.) per hour, shall be equipped with either a pilot, that is lighted and proved before the main burner can be turned on, or an electric ignition system, except the provisions of this rule do not apply to any of the following:

(a) Tar kettles, hand torches, melting pots, or portable heaters of less than 7,500 British thermal unit's (B.T.U.), if used with 2 1/2 pound containers.

(b) Manufactured tent heaters, as utilized by, and in applications common to, public utilities or telecommunication companies, with 12,000 British Thermal Unit's (B.T.U.) input or less, when used out-of-doors and if constantly attended.

(14) A temporary heating device shall be installed horizontally level.

(15) A solid fuel salamander shall not be used in a building or on a scaffold.

(16) L.P. gas containers valves, connectors, regulators and manifolds, piping, and tubing shall not be used as structural supports for heaters and shall be located to minimize exposure to high temperatures or physical damage.

(17) A heating device, including a temporary heating device, designed for barometric or gravity oil feed shall be used only with an integral tank.

(18) Heaters specifically designed and approved for use with separate supply tanks may be connected for gravity feed, or an automatic pump, from a supply tank.

(19) L.P. containers may be used in buildings for temporary emergency heating as provided in this rule and the equipment shall not be left unattended.