



DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

GENERAL INDUSTRY SAFETY AND HEALTH STANDARD

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R 408.17405 and R 408.17426 of the Michigan Administrative Code are amended as follows:

**GENERAL INDUSTRY SAFETY AND HEALTH STANDARD
PART 74. FIRE FIGHTING**

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R 408.17401. Scope.

Rule 7401. This part prescribes rules for training; for the construction, care, and use of equipment; and for the safeguards to be furnished and maintained as it relates to municipal fire service personnel and equipment. The occupation can be full-time or part-time; for pay or volunteer status.

R 408.17402. Applicability.

Rule 7402. A person who is functioning as a municipal fire fighter and who is exposed to the hazards of an emergency operation shall comply with this part.

R 408.17403. Definitions; A to M.

Rule 7403. (1) "Approved label" means a label or other identifying mark of a nationally recognized testing laboratory, such as Underwriters Laboratory, Inc., or Factory Mutual Research Corporation, that maintains a periodic inspection of production of labeled equipment or materials and by whose labeling compliance with nationally recognized standards or tests to determine suitable usage in a specified manner is indicated.

(2) "Aerial apparatus" means a fire department vehicle which is equipped with a power operated extension ladder or elevating platform used for rescue, ventilation, elevated master streams, and gaining access to upper levels and which carries ground ladders, tools, and other equipment.

(3) "Control" means the limitation of worker exposure to exhaust emissions to levels not exceeding applicable MIOSHA exposure limits.

(4) "Controlled process" means an arrangement of equipment to control exhaust emissions by means of any of the following:

(a) A point of source capture of exhaust emissions by a mechanical tailpipe exhaust ventilation system.

(b) A general mechanical exhaust ventilation system in a fire apparatus building bay or bays.

(c) A device that is permanently installed directly on the fire apparatus exhaust system.

(5) "Emergency operations" means a fire or non-fire incident, including, but not limited to, rescues, extrications, hazardous material release, and natural disasters, where fire department response can be anticipated and which subject fire personnel to personal injury or hazards. Vegetative cover fires are not included in this definition.

(6) "Exhaust emissions" means exhaust by-products of combustion, from internal combustion engines, capable of causing occupational illness or disease to a person.

(7) "Fire apparatus" means mobile fire fighting equipment such as, but not limited to, a pumper/engine, aerial apparatus, a tanker/tender, or any other similar equipment that has fire suppression or rescue as its primary use. A vehicle not designed, equipped, or utilized for emergency operations is not fire apparatus.

(8) "Fire station" means a structure in which fire service equipment is housed and employees may be quartered.

(9) "Fire service personnel" means all employees who are engaged in fire suppression, fire inspection, or fire investigation or who are subjected to the hazards of emergency operations.

(10) "Head protection" means a fire fighter's helmet and hood.

(11) "Ladder pipe" means a large capacity water delivery device attached to an aerial ladder.

(12) "Municipal" means any public entity.

R 408.17404. Definitions; O to V.

Rule 7404. (1) "Operator's control station" means a work station where the operator of apparatus, such as an aerial ladder or pumper, is stationed.

(2) "Personal alert safety systems (PASS)" means a device that is certified as being in compliance with these rules, that senses movement or lack of movement, and that automatically activates an audible alarm signal (which can also be manually activated to alert and to assist others in locating a fire fighter or emergency services person who is in danger).

(3) "Platform control station" means a work station where the rider of an elevating platform is stationed.

(4) "Positive-pressure breathing apparatus" means a self-contained breathing apparatus in which the pressure in the breathing zone is positive in relation to the immediate environment during inhalation and exhalation.

(5) "Primary control station" means a work station where the operator of apparatus that has an aerial ladder or platform is stationed.

(6) "Protective ensemble" means multiple elements of clothing and equipment designed to provide a degree of protection for fire service personnel from adverse exposures to the inherent risks of structural fire fighting operations and other emergency operations.

(7) "Roof ladder" means a ladder equipped with folding hooks. The hooks provide a means of anchoring the ladder to the roof ridge or other roof part.

(8) "Stay poles" also called tormenters, mean poles attached to the rails of the long extension ladders to aid in the raising and supporting of the ladder.

(9) "Structural fire fighting" means activities of rescue, fire suppression, and property conservation in buildings, enclosed structures, aircraft, vehicles, vessels, or like properties that are involved in a fire or emergency situation.

(10) "Training" means the process of making fire service personnel proficient through instruction or hands-on practice, or both, in the operation and care of equipment that is expected to be used and in the performance of assigned duties.

(11) "Volunteer" means a person who is permitted to work as, and who is trained as, a member of an organized fire department.

R 408.17405. Adopted and referenced standards.

Rule 7405. (1) The following National Fire Protection Association standards are adopted by reference in these rules and are available from the National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, Massachusetts, 02269-9101, or via the internet at the following website: www.nfpa.org, at a cost as of the time of adoption of these amendments, as stated in these rules.

(a) NFPA 1901: "Automotive Fire Apparatus," 2009 edition. Cost: \$50.50.

(b) NFPA 1983: "Fire Service Life Safety Rope and System Components," 1995 edition. Cost: \$27.00.

(c) NFPA 1971: "Protective Ensemble for Structural Fire Fighting," 2007 edition. Cost: \$48.50.

(d) NFPA 1981: "Open Circuit Self-contained Breathing Apparatus for Fire Fighter," 1997 edition. Cost: \$43.00.

(e) NFPA 1982: "Personal Alert Safety System (PASS) for Fire Fighters," 1998 edition. Cost: \$39.00.

(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.

(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 these rules plus \$20.00 for shipping and handling.

(4) The following Michigan Occupational Safety and Health Administration (MIOSHA) standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at the following website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.

(a) General Industry Safety and Health Standard Part 2. "Walking-Working Surfaces," R 408.10201 to R 408.10241.

(b) General Industry Safety and Health Standard Part 33. "Personal Protective Equipment," R 408.13301 to R 408.13398.

(c) General Industry Safety Standard Part 72. "Automotive Service Operations," R 408.17201 to R 408.17253.

(d) General Industry Safety and Health Standard Part 380 "Occupational Noise Exposure in General Industry," R 325.60101 to R 325.60128.

(e) Occupational Health Standard Part 451. "Respiratory Protection," R 325.60051 to R 325.60052.

(f) Occupational Health Standard Part 472. "Medical Services and First Aid," R 325.47201.

R 408.17411. Duties of employer.

Rule 7411. (1) An employer shall comply with all of the following requirements:

(a) Provide initial and continuing training to an employee commensurate with and specific to the duties and functions that the employee is expected to perform. The training shall be provided before the employee is permitted to perform emergency operations.

(b) Assure that prospective fire service personnel are physically fit and have the ability to perform assigned emergency operations.

(c) Assure that job-required equipment and tools are maintained free of recognized defects that could cause an injury.

(d) Develop a basic procedure that covers the treatment and transport of injured employees from the emergency scene to a medical facility.

(e) Provide in the workplace first aid supplies/kits appropriate for the hazard history, to minimally comply with the requirements of the Occupational Health Standard Part 472 "Medical Services and First Aid," as referenced in R 408.17405.

(f) Comply with the requirements of this part, review with, and make available a copy of this part for employees.

(2) An employer shall prepare and maintain a statement or written policy which establishes its basic organizational structure and which establishes the type, amount, frequency of training to be provided to fire service personnel, and maintain training records. The organizational statement and training records shall be available for inspection by the director of the department of licensing and regulatory affairs or his or her authorized representative and by an employee or his or her authorized representative.

R 408.17412. Duties of employee.

Rule 7412. An employee shall do all of the following:

(a) Use personal protective equipment as prescribed by this part.

(b) Report defective equipment, tools, and hazardous conditions to a supervisor.

(c) Not remove safeguards from equipment except when necessary to service. The safeguard or equivalent shall be replaced before returning the equipment to operation.

(d) Not use equipment and tools unless trained in their use and authorized to do so.

(e) Only perform those duties that he or she is trained to do.

R 408.17415. Fire station safety.

Rule 7415. (1) The area within 3 feet of the slide pole on all sides shall be maintained free of any obstruction. A floor-to-ceiling wall shall not be construed to be an obstruction.

(2) A cushioned mat, not less than 3 feet in diameter, shall be located around the base of the slide pole at all times.

(3) A dormitory and any means of egress from the dormitory, apparatus bay, and aiseways shall be equipped with an emergency lighting system which shall be automatically activated in case of power failure. The system may be operated by battery or generator.

(4) Switches and electrical equipment located in the shower or other areas subject to hazards created by moisture shall be approved for the location or removed to a nonhazardous area.

(5) All sleeping quarters shall be equipped with an operational smoke detection device and an operational carbon monoxide detection device.

(6) All new construction or significantly remodeled facilities (50% or more area) that house fire apparatus shall install a controlled process exhaust ventilation system that will effectively control exhaust emissions created by the fire apparatus and will assure that employee exposures to the exhaust emissions do not exceed applicable MIOSHA exposure limits.

If a general mechanical exhaust ventilation system is utilized, then a mechanical air supply system shall be provided if its absence will result in building negative pressures sufficient to cause back drafting of vents from fuel-fired equipment.

(7) All equipment used for the control of exhaust emissions from fire apparatus shall be used, inspected, and maintained in accordance with the manufacturer's recommendations.

CONSTRUCTION AND USE OF EQUIPMENT

R 408.17421. Fire apparatus generally.

Rule 7421. (1) Fire apparatus shall be able to stop within 30 feet after application of the brakes at 20 miles per hour.

(2) Fire apparatus shall be equipped with all of the following items:

(a) Windshield wipers.

(b) Head, tail, stop, and backup lights and a backup alarm.

(c) Horn and siren.

(d) Slip-resistant steps, tailboard, and work platforms.

(e) Seat belts for all seated employees. Seat belts shall be used while the apparatus is in motion.

(f) If an employee is allowed by the employer to ride the apparatus in an unseated position while the apparatus is in motion, then the employer shall provide for, and enforce the use of, a safety harness.

(3) New fire apparatus that is manufactured and purchased after the effective date of these rules shall comply with the requirements of the NFPA 1901: standard for "Automotive Fire Apparatus," 2009 edition, as adopted in R 408.17405.

(4) Except on instructions of a designated signalperson, an operator of fire apparatus shall not move the equipment when his or her vision is obstructed.

(5) A minimum distance of 10 feet from unprotected energized equipment or high-voltage transmission lines, as distinguished from low voltage secondary lines and series streetlight construction, shall be maintained when using fire apparatus. The training of fire service personnel shall include development of the ability to recognize and identify primary, high-voltage transmission lines and series street lighting construction

R 408.17422. Fire apparatus tires and rims.

Rule 7422. (1) A thorough visual inspection of the tread and sidewall areas of fire apparatus tires for cuts, cracks, splits, or bruises, including a tread depth measurement, shall be made at least annually. A record of this inspection shall be maintained for a minimum of 10 years.

(2) A tire shall be replaced if 1 of the following occurs:

(a) The average tread depth is worn to 5/32 of an inch or less.

(b) The tread depth at any 1 location is 2/32 of an inch, or less.

(c) A cut or crack exposes the cord fabric.

(3) A replacement tire shall meet or exceed the standards of the original tire furnished with the apparatus.

(4) Fire apparatus tires and rims shall be inspected inside at least once every 10 years.

(5) All breakdown of fire apparatus tires shall comply with General Industry Safety Standard Part 72 "Automotive Service Operations," as referenced in R 408.17405

R 408.17423. Fire apparatus with elevating platforms.

Rule 7423. (1) When an aerial apparatus platform is elevated, parking brakes shall be set and stabilizing jacks or outriggers and safety locks shall be used. When needed, ground plates shall be used under the jack or outriggers.

(2) An instructional information plate, which is clearly visible to the operator, shall be located at the operator's control station. If the aerial is equipped with a platform, then a plate shall also be located at the platform control station. The plate shall contain all of the following information:

(a) Rated capacity of the aerial tip or platform.

(b) Operating controls identified for motion.

(c) Cautions or restrictions of operation.

(3) An operator shall comply with all of the following provisions:

(a) Remain at the primary control station when the aerial ladder or platform is occupied.

(b) Not move the apparatus unless the ladder or platform is in the bed of the apparatus.

(c) Maintain clearances as required in R 408.17421(5).

R 408.17424. Aerial apparatus.

Rule 7424. (1) An aerial apparatus that is equipped with a ladder shall not have the ladder extended or retracted when an employee is positioned on the ladder.

(2) While working from an aerial apparatus, an employee shall be secured with a safety belt system as referenced in NFPA 1983: standard on "Fire Service Life Safety Rope and System Components," 1995 edition, as adopted in R 408.17405.

(3) The tip of the aerial ladder shall not be forcefully extended against a solid object or used to support the ladder.

(4) The steps and rungs of an aerial apparatus shall have a slip-resistant surface.

(5) Jacks, outriggers, and safety locks shall be used as required in R 408.17423 (1).

(6) The rated capacity for an aerial apparatus shall not be exceeded.

(7) The operator of an aerial ladder shall comply with all of the following provisions:

(a) Remain at the primary control station when the ladder is occupied.

(b) Communicate to occupant of ladder prior to movement.

(c) Not move the apparatus unless the ladder is in the bed.

(8) The operator of an aerial ladder shall maintain clearances as required in R 408.17421(5).

(9) The controls for the operation of an aerial apparatus shall be of a type that returns to a neutral position when released.

(10) Tools or equipment shall not be mounted or installed on the turntable.

(11) A 2-way voice communication system shall be provided between the employee on the raised portion of the equipment and the operator control station.

(12) Detachable ladder pipes shall be operated in the direction the ladder is facing.

(13) Ladder pipes shall be secured to the ladder so that the pipe cannot be accidentally dislodged while in operation.

(14) An employer shall follow the manufacturer's instructions and recommendations for the use, testing, and maintenance of aerial apparatus.

R 408.17426. Portable ladders.

Rule 7426. (1) Except as otherwise required by these rules, a portable ladder must be constructed, used, and maintained in compliance with General Industry Safety and Health Standard Part 2. "Walking-Working Surfaces," as referenced in R 408.17405.

(2) The rung spacing must be not less than 12 inches nor more than 16 inches.

(3) The rungs of a metal ladder must have a slip-resistant surface.

(4) A roof ladder assembly shall be capable of supporting a direct load of not less than 500 pounds.

(5) Stay poles or tormenters must be furnished on any wood ladder that extends more than 36 feet. The spikes on stay poles must not project beyond the end of the ladder when nested. The locking pins on stay poles must be securely attached to the ladders.

(6) Portable ladders that are mounted more than 4 feet in height and less than 7 feet in height on a fire apparatus, and that have ends that extend beyond the ladder's mounting surface or compartment must be protected from contact.

R 408.17427. Line throwing guns.

Rule 7427. (1) A line throwing gun shall:

(a) Be loaded just prior to firing time.

(b) Not be pointed, loaded or unloaded, at any person.

(c) Not be left unattended or stored while loaded.

(d) Be stored in a box with the cleaning kit and breakdown tools.

(2) The storage box shall have the words, "Explosive Tool", conspicuously printed on the top of the box.

R 408.17428. Storage of equipment.

Rule 7428. All equipment shall be stored in or on the fire apparatus in a safe manner.

PROTECTIVE EQUIPMENT

R 408.17431. Personal protective equipment.

Rule 7431. (1) An employer shall assure that all emergency service personnel use personal protective equipment appropriate for the exposure involved when performing emergency operations.

(2) Personal protective equipment shall be provided by the employer at no cost to the employee and shall comply with the requirements of this part.

(3) An employer shall assure that personal protective equipment protects the head, body, and extremities and consists of at least all of the following components:

(a) Foot and leg protection.

(b) Hand protection.

(c) Body protection.

(d) Face, eye, and head protection.

(4) Personal protective equipment that is required by these rules to comply with the requirements of a nationally recognized standard shall either bear an approved label of, or be certified in writing by, the manufacturer as being in compliance with the applicable standard.

(5) Head protection and eye protection shall be provided for, and used by, persons who ride in cabs or tiller seats that are not enclosed.

(6) Personal protective equipment that is used by more than 1 employee shall be cleaned or sanitized before reassignment.

(7) Personal protective equipment shall be inspected by the user after each use.

(8) An employer shall implement procedures for inspecting and servicing personal protective equipment, particularly following fires or other emergency usage. The procedures employed for such servicing, such as product washing or other cleaning, shall comply with the manufacturer's recommendations.

(9) An employer shall implement a procedure for determining whether personal protective equipment shall be repaired or replaced. All repairs shall be made in compliance with the manufacturer's recommendations.

(10) Respiratory equipment devices shall be inspected by the user after each use. Malfunctioning or damaged components or units shall be repaired by the manufacturer or a person who is certified by the manufacturer or shall be replaced.

R 408.17432. Protective clothing for emergency operations.

Rule 7432. An employer shall provide both protective coats and protective trousers, or a protective coverall to all employees who engage in or are exposed to fire hazards of emergency operations. The protective coat, trouser, and coverall shall meet the applicable requirements of NFPA 1971: standard on "Protective Ensemble for Structural Fire Fighting," 2007 edition, as adopted in R 408.17405.

R 408.17433. Head, eye, and face protection.

Rule 7433. (1) An employer shall do all of the following:

(a) Provide primary head, face, and eye protection appropriate for a given specific hazard to all employees exposed, or potentially exposed, to the specific hazard. An employer shall assess potential emergency operation scenes to determine what hazards requiring head, face, and eye protection are present, or likely to be present, and match the protective device to the particular hazard. An employer shall have and implement written operational procedures specific to the type of hazard to which an employee may be exposed.

(b) Maintain head, face, and eye protection in a location of readiness for immediate response to structural fires or other emergency operations.

(c) Ensure that protective eye and face devices that comply with General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.17405, are used by emergency service personnel when performing operations where the hazards of flying or falling materials that might cause eye and face injuries are present.

(2) While conducting emergency operations, the requirement of face and eye protection shall be met by helmet face shield, if equipped, and primary eye protection, or breathing apparatus face piece, or primary eye protection and secondary means of face protection. An employer shall provide helmets to all employees who engage in or are exposed to the hazards of structural fire fighting. The helmets shall meet the requirements of NFPA 1971 "Protective Ensemble for Structural Fire Fighting," 2007 edition, as adopted in R 408.17405.

(3) An employer shall provide protective hoods to all employees who engage in or are exposed to fire hazards of emergency operations. The protective hoods shall meet the applicable requirements of NFPA 1971 "Protective Ensemble for Structural Fire Fighting," 2007 edition, as adopted in R 408.17405.

R 408.17434. Foot and leg protection.

Rule 7434. An employer shall provide foot and leg protection to all employees who engage in or are exposed to the hazards of emergency operations. The foot and leg protection shall meet the applicable requirements of NFPA 1971 "Protective Ensemble for Structural Fire Fighting," 2007 edition, as adopted in R 408.17405.

R 408.17435. Hand protection.

Rule 7435. An employer shall provide hand protection to all employees who engage in or are exposed to the hazards of emergency operations. The hand protection shall meet the applicable requirements of NFPA 1971 "Protective Ensemble for Structural Fire Fighting," 2007 edition, as adopted in R 408.17405.

R 408.17436. Respirator protection devices.

Rule 7436. (1) An employer shall have a written respiratory protection program to address the safe use of respirators in dangerous atmospheres that may be encountered in emergency operations, that complies with Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.17405.

(2) An employer shall assure that self-contained breathing apparatus for use by fire service personnel is of the positive pressure type. All breathing apparatus that is purchased after the effective date of these rules shall comply with NFPA 1981 "Open Circuit Self-Contained Breathing Apparatus for Fire Fighters," 1997 edition, as adopted in R 408.17405.

(3) Subrule (2) of this rule does not prohibit the use of a self-contained breathing apparatus where the apparatus can be switched from a demand mode to a positive pressure mode when an employee is performing emergency operations.

R 408.17437. Hearing protection.

Rule 7437. An employer shall comply with Occupational Health Standard Part 380 "Occupational Noise Exposure," as referenced in R 408.17405.

R 408.17440. Personal alert safety system (PASS).

Rule 7440. An employer shall provide and enforce the use of a Personal Alert Safety System (PASS) device to each employee utilizing a self-contained breathing apparatus while engaged in structural fire fighting operations. "PASS" devices shall meet the requirements of NFPA 1982 "Personal Alert Safety System (PASS) for Fire Fighters," 1998 edition, as adopted in R 408.17405.

TOOLS

R 408.17441. Explosive devices.

Rule 7441. (1) An explosive device shall not be used in an explosive or flammable atmosphere.

(2) A fire service which uses an explosive device shall develop a procedure for protecting the employees and general public.

R 408.17442. Using, covering, or protecting tools.

Rule 7442. (1) Chain saws that are specifically designed for firefighting operations to cut holes in roofs, floors, and walls shall be used where cutting operations are performed. If a chain saw is not in use, then the cutting teeth of the chain saw shall be covered to prevent inadvertent contact.

(2) An axe or other sharp-edged or pointed tool shall be protected when stored or carried on the apparatus. A rounded tipped pike pole is excluded from the requirements of this subrule.

R 408.17443. Air moving equipment.

Rule 7443. Air moving equipment exposed to flammable or explosive fumes, dust, or vapors shall be powered by an explosion proof motor and labeled as such.

OPERATIONS

R 408.17451. Management of emergency operations.

Rule 7451. (1) Each fire department shall establish and implement written procedures for emergency operations. The written procedures shall include all of the following:

(a) A requirement that a nationally recognized incident management system be implemented at each emergency.

(b) A requirement that a personnel accountability system be implemented at each emergency.

(c) A statement that the procedures apply to all employees who are operating at the emergency.

(d) A requirement for initial training and annual refresher training in emergency operations and the incident management system.

(e) A requirement that the procedures shall comply with the "two in/two out" rules as found in R 1910.134(g)(4), as adopted in Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.17405.

(2) A trained employee shall function as the incident commander at each emergency.

INSPECTIONS

R 408.17461. Inspection of fire apparatus and equipment; record of repair or replacement; lifeline guns and explosive devices; apparatus and equipment involved in accident; equipment testing.
Rule 7461. (1) All of the following items of the fire apparatus, if so equipped, shall be inspected for proper operation and for defects at least once a month:

- (a) Windshield washers and wipers.
- (b) Defroster and heater.
- (c) Head, tail, stop, backup, and flasher lights.
- (d) Backup alarm.
- (e) Horn and siren.
- (f) Slip-resistant steps and platforms.
- (g) Tires, rims, and suspension system.
- (h) Steering mechanism.
- (i) Braking system.
- (j) Operational controls.

Inspection records shall be maintained for a minimum period of 24 months for the apparatus.

(2) Records of repair or replacement shall be maintained for the life of the apparatus.

(3) Lifeline guns and explosive devices shall be cleaned and made ready for operation after each use.

(4) All portable equipment carried on a fire apparatus shall be inspected for operation and for defects at least monthly and within 24 hours after any use. Inspection records shall be maintained for a minimum period of 24 months for portable equipment.

(5) All equipment carried on fire apparatus or designated for training shall be tested at least annually in accordance with manufacturers' instructions and applicable standards.

(6) Fire fighting apparatus and equipment found to be defective or in unserviceable condition shall be removed from service or repaired or replaced.

R 408.17463. General utility ropes, life safety ropes, harnesses, and hardware.

Rule 7463. (1) All life safety ropes, harnesses, and hardware used by employees shall meet the requirements of NFPA 1983 "Fire Service Life Safety Rope and System Components," 1995 edition, as adopted in R 408.17405.

(2) During fall arrest or repelling operations, an employee shall ensure that life safety harnesses are used as specified in NFPA 1983 "Fire Service Life Safety Rope and System Components," 1995 edition, as adopted in R 408.17405.

(3) Natural fiber ropes shall be inspected visually after each use for all the following conditions:

(a) Externally for abrasions, cut or broken fibers, decay, burns, lack of strength, softness, variation in size or roundness of the strands, and for mildew or mold.

(b) Internally annually, by separating the strands at 3-foot intervals, for broken fibers, presence of grit, mildew or mold, color change of the fibers, or powdering and short, loose fibers.

(4) A natural fiber rope that has any of the conditions described in subrule (3)(a) and (b) of this rule shall be replaced or repaired.

(5) Synthetic rope shall be inspected visually after each use for all of the following conditions:

(a) Abrasions.

(b) Cut or broken fibers.

(c) Burns.

(d) Melted fibers.

(e) Variations in the size or roundness of the strands.

(6) A synthetic rope that has any of the conditions specified in subrule (5) of this rule shall be replaced or returned to the manufacturer for repair.

**APPENDIX A
NON-MANDATORY TRAINING REFERENCE**

The following appendix is a guideline listing training provisions from a number of state requirements and is intended to assist employers and employees in complying with these requirements.

<u>TRAINING / REFERENCE</u>	<u>JOB DUTY</u>			<u>COMMAND PERSONNEL</u>		
	<u>FIRE FIGHTER (FULL-TIME)</u>	<u>FIRE FIGHTER (PART-TIME; FOR PAY OR VOLUNTEER)</u>	<u>APPARATUS DRIVER/OPERATOR</u>	<u>COMPANY OFFICER</u>	<u>SUPERVISORY OFFICER</u>	<u>ADMINISTRATIVE OFFICER</u>
Personal Protective Equipment – MIOSHA OH Part 33 and GI Part 74						
Initial Training: Provide basic training for understanding, knowledge, and skills	X	X	X	X	X	X
Continuing Education: As often as necessary	X	X	X	X	X	X
Respiratory Protection - MIOSHA OH Part 451 and GI Part 74						
Initial Training: Evaluation required to ensure safe usage	X	X	X	X	X	X
Continuing Training: At least annually	X	X	X	X	X	X
Hazardous Waste Operations and Emergency Response – MIOSHA OH Part 432						
Initial Training: 24 hours	X	X	X	X	X	X
Annual Training: As required to maintain competency	X	X	X	X	X	X
Bloodborne Infectious Diseases - MIOSHA OH Part 554						
Initial Training: As required	X	X	X	X	X	X
Annual Training: As required	X	X	X	X	X	X
Fire Fighter I - 1966 Public Act 291 29.369 (6)						
Initial Training: 152 hours	X	X	X	X	X	X
Fire Fighter II - 1966 Public Act 291 29.369 (5)						
Initial Training: 75 hours	X			X	X	X
Federal OSHA Respiratory Protection Standard, 29 CFR 1910.134(g)(4) and 29 CFR 1910.155(c)(26): Two-in/Two-out Rule						
Initial Training: As required	X	X	X	X	X	X
Annual Training: As required	X	X	X	X	X	X

TRAINING / REFERENCE

JOB DUTY	LINE PERSONNEL			COMMAND PERSONNEL		
	FIRE FIGHTER (FULL-TIME)	FIRE FIGHTER (PART-TIME: FOR PAY OR VOLUNTEER)	APPARATUS DRIVER/OPERATOR	COMPANY OFFICER	SUPERVISORY OFFICER	ADMINISTRATIVE OFFICER
Fire Fighting – MIOSHA GI Part 74, Rule 408.17411						
Initial Training: Fire Fighter I / Fire Fighter II	X	X	X	X	X	X
Continued training to cover all expected duties on a 3 year cycle, unless otherwise specified	X	X	X	X	X	X
MFFTC Drivers Training - ACT 300 of 1949 and Act 346						
Initial Training: 6 hrs. + practical road test + 10 hrs. supervised driving			X	X	X	X
Annual Training: As needed to maintain competency			X	X	X	X
NIMS IS 700						
Initial Training: 3 hours	X	X	X	X	X	X
NIMS IS 800						
Initial Training: 3 hours	X	X	X	X	X	X
NIMS 300						
Initial Training: 24 hours				X	X	X
NIMS 400						
Initial Training: 20 hours					X	X
NIMS ICS for the Fire Service						
Initial Training: 16 hours.	X	X	X	X	X	X
Annual Training: As required to maintain competency	X	X	X	X	X	X
MFFTC Company Officer I and II Program						
Initial Training: As required and prerequisites				X	X	X
Annual Training: As needed				X	X	X
MFFTC Fire Officer III Program						
Initial Training: As required					X	X
Annual Training: As needed					X	X

TRAINING / REFERENCE

JOB DUTY	LINE PERSONNEL			COMMAND PERSONNEL		
	FIRE FIGHTER (FULL-TIME)	FIRE FIGHTER (PART-TIME: FOR PAY OR VOLUNTEER)	APPARATUS DRIVER/OPERATOR	COMPANY OFFICER	SUPERVISORY OFFICER	ADMINISTRATIVE OFFICER
MFFTC Fire Officer IV Program						
Initial Training: As adopted						X
Annual Training: As adopted						X
Recognition of High Voltage						
Initial Training: As necessary	X	X	X	X	X	X
Annual Training: Yes	X	X	X	X	X	X
Review of NFPA Safety Standards - NFPA 1500						
Initial Training: As necessary for safety					X	X
Annual Training: As necessary for safety					X	X
Michigan Fire Prevention Code - Public Act 207 of 1941						
Initial Training: General review					X	X
Annual Training: General review					X	X
Permit-Required Confined Spaces – MIOSHA GI Part 90						
Initial Training: Provide basic training for understanding, knowledge, skills and locations	X	X	X	X	X	X
Annual Training: As needed	X	X	X	X	X	X
Review of MIOSHA General Industry Safety Part 74						
Initial Training: Knowledge and review	X	X	X	X	X	X
Annual Training: As needed	X	X	X	X	X	X
Hazard Materials Site Specific Response Plan - Hazwoper 1910.120, PA 154, Sara Title III						
Initial Training: If applicable, on all sites	X	X	X	X	X	X
Annual Training: As required	X	X	X	X	X	X
Terrorism Awareness						
Initial Training: 4 hours	X	X	X	X	X	X
Annual Training: As needed	X	X	X	X	X	X

TRAINING / REFERENCE

JOB DUTY	LINE PERSONNEL			COMMAND PERSONNEL		
	FIRE FIGHTER (FULL-TIME)	FIRE FIGHTER (PART-TIME; FOR PAY OR VOLUNTEER)	APPARATUS DRIVER/OPERATOR	COMPANY OFFICER	SUPERVISORY OFFICER	ADMINISTRATIVE OFFICER
Hazard Communication – MIOSHA OH Part 430 - Employee Right to Know						
Initial Training: As required	X	X	X	X	X	X
Annual Training: As needed	X	X	X	X	X	X
Hazard Communication – MIOSHA OH Part 430 – Fire Fighter Right to Know						
Initial Training: As required – See Fire Marshal Bulletin 9	X	X	X	X	X	X
Annual Training: As needed	X	X	X	X	X	X
CPR and AED						
Initial Training: As required	X	X	X	X	X	X
Annual Training: As needed for recertification	X	X	X	X	X	X

Job Duties Defined:

- Fire Fighter (Full-Time) An individual who is a career fire fighter.
- Fire Fighter (Part-Time; For Pay or Volunteer) An individual who is not a career fire fighter.
- Apparatus Driver/Operator..... An individual who drives, operates, or both emergency apparatus.
- Company Officer is a supervisor of a crew or company of personnel.
- Supervisory Officer is responsible for assuming command to allow company officers to directly supervise personnel.
- Administrative Officer..... this duty involves general administrative functions and the development, implementation, or both, of departmental policies and procedures.



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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

GENERAL INDUSTRY SAFETY STANDARDS

Filed with the Secretary of State on February 15, 1984 (as amended December 3, 1999)
(as amended April 22, 2013) (as amended May 21, 2015)

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 408.17310, R 408.17312, R 408.17314, R 408.17315, R 408.17316, R 408.17317, R 408.17318,
and R 408.17320, of the Michigan Administrative Code are amended
and R 408.17302 of the Code is added, as follows:

PART 73. FIRE BRIGADES

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GENERAL PROVISIONS

R 408.17301. Scope.

Rule 7301. This standard is applicable to fire brigades, industrial fire departments, and private or contractual-type fire departments when established by an employer, and provides for the organization, training, and personal protective equipment to be used. This standard does not apply to airport crash rescue operations or forest fire fighting operations.

R 408.17302. Adopted and referenced standards,

Rule 7302. (1) The National Fire Protection Association Standard NFPA 1971 "Standard on protective ensemble for structural fire fighting and proximity fire fighting," 1997 edition is adopted by reference in these rules and is available from IHS Global, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at website: www.global.ihs.com; at a cost as of the time of adoption of these rules, of \$27.00.

(2) The standards adopted in these rules are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.

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

(4) The following Michigan occupational safety and health standards (MIOSHA) are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/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 8 "Portable Fire Extinguishers," R 408.10801 to R 408.10839.

(b) General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.

(c) Occupational Health Standard Part 451 "Respiratory Protection," R 325.60051 to R 325.60052.

R 408.17303 Definitions; A to E.

Rule 7303. (1) "Approved" means approval by the director of the department of licensing and regulatory affairs or his or her duly designated representative.

(2) "Approved label" means a label or other identifying mark of a nationally recognized testing laboratory, such as underwriters laboratory, inc. or factory mutual research corp., that maintains a periodic inspection of production of labeled equipment or materials and by whose labeling indicates compliance with nationally recognized standards or tests to determine suitable usage in a specified manner.

(3) "Education" means the process of imparting knowledge or skill through systematic instruction. "Education" does not require formal classroom instruction.

(4) "Enclosed structure" means a structure that has a roof or ceiling and not less than 2 walls that may present fire hazards to employees, such as accumulations of smoke, toxic gases, and heat similar to those found in buildings.

R 408.17305 Definitions; F to I.

Rule 7305. (1) "Fire brigade" means a private or industrial fire department consisting of an organized group of employees who are knowledgeable, trained, and skilled in at least basic fire fighting operations.

(2) "Flame resistance" means the property of materials, or combinations of component materials, that retards ignition and restricts the spread of flame.

(3) "Helmet" means a head protective device consisting of a rigid shell, energy absorption system, and chin strap intended to be worn to provide protection of the head, or portion thereof, against impact, flying or falling objects, electric shock, penetration, heat, and flame.

(4) "Incipient stage fire" means a fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers, class II standpipe, or small hose systems.

(5) "Interior structural fire fighting" means the physical activity for fire suppression or rescue, or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage.

R 408.17307 Definitions; L to P.

Rule 7307. (1) "Lining" means a material permanently attached to the inside of the outer shell of a garment for the purpose of thermal protection and padding.

(2) "Maintenance" means the performance of services on fire protection equipment and systems and fire fighting equipment to assure that they will perform as expected in the event of fire. Maintenance differs from inspection in that maintenance requires the checking of internal fittings, devices, and agent supplies.

(3) "Outer shell" means the exterior layer of material on the fire coat and protective trousers which forms the outermost barrier between the fire fighter and the environment. The outer shell is attached to the vapor barrier and lining and is usually constructed with a storm flap, suitable closures, and pockets.

(4) "Positive-pressure breathing apparatus" means a self-contained breathing apparatus in which the pressure in the breathing zone is positive in relation to the immediate environment during inhalation and exhalation.

R 408.17309 Definitions; Q to V.

Rule 7309. (1) "Quick disconnect valve" means a device which starts the flow of air by inserting the hose from the facepiece into the regulator of the self-contained breathing apparatus and stops the flow of air by disconnecting the hose from the regulator.

(2) "Training" means the process of making proficient through instruction and hands-on practice in the operation of equipment that is expected to be used and in the performance of assigned duties.

(3) "Vapor barrier" means the material used to prevent or substantially inhibit the transfer of water, corrosive liquids, or steam or other hot vapors from the outside of the garment to the wearer's body.

R 408.17310. Employer responsibilities.

Rule 7310. (1) The employer having a fire brigade shall prepare and maintain a statement or written policy that establishes the existence of a fire brigade; and the basic organizational structure; the type, amount, and frequency of training to be provided to fire brigade members; the expected number of members in the fire brigade; and the functions that the fire brigade is to perform at the workplace. The organizational statement shall be available for inspection by the director of the department of licensing and regulatory affairs and by employees or their designated representatives.

(2) The employer shall assure that employees who are expected to do structural fire fighting are physically capable of performing duties that may be assigned to them during emergencies. The employer shall not permit employees with known heart disease, epilepsy, or emphysema to participate in fire brigade emergency activities unless a physician's certificate of the employees' fitness to participate in such activities is provided.

For employees assigned to fire brigades before September 15, 1980, this rule is effective on September 15, 1985. For employees assigned to fire brigades after September 15, 1980, this rule applies.

(3) The employer shall provide training and education for all fire brigade members commensurate with those duties and functions that fire brigade members are expected to perform. Such training and education shall be provided to fire brigade members before they perform fire brigade emergency activities. Fire brigade leaders and training instructors shall be provided with training and education that is more comprehensive than that provided to the general membership of the fire brigade.

(4) The quality of training and education programs for fire brigade members shall be similar to the training and programs conducted by such fire training schools as any of the following:

- (a) Maryland fire and rescue institute.
- (b) Iowa fire service extension.
- (c) West Virginia fire service extension.
- (d) Georgia fire academy.
- (e) New York state department, fire prevention and control.

(f) Louisiana state university firemen training program.

(g) Michigan's Macomb community college, fire and emergency services training center.

(h) Washington state's fire service training commission for vocational education.

(5) The training and education program for oil refinery industry fire brigade members shall be similar in quality to the training and education program conducted by any of the following:

- (a) Macomb community college of Michigan, fire and emergency services training center.
- (b) Texas A & M university.
- (c) Lamar university.
- (d) Reno fire school.
- (e) Delaware state fire school.

(6) Training for incipient fires shall be similar to the training provided by the fire training schools listed in subrule (4) of this rule or to the fire training for incipient fires offered by the school of labor and industrial relations at Michigan state university.

(7) An employer shall assure that training and education is conducted frequently enough to ensure that each member of the fire brigade is able to perform the member's assigned duties and functions satisfactorily and in a safe manner so as not to endanger fire brigade members or other employees. All fire brigade members shall be provided with training at least annually. In addition, fire brigade members who are expected to perform interior structural fire fighting shall be provided with an education session or training at least quarterly.

(8) An employer shall inform fire brigade members about special hazards, such as the storage and use of flammable liquids and gases, toxic chemicals, radioactive sources, and water reactive substances, to which they may be exposed during a fire and other emergencies.

The fire brigade members shall also be advised of any changes that occur in relation to the special hazards.

(9) An employer shall develop written procedures that describe the actions to be taken in situations involving special hazards and shall include these written procedures in the training and education program. An employer shall make the procedures available for inspection by fire brigade members.

R 408.17312. Fire fighting equipment,

Rule 7312. (1) The employer shall maintain and inspect, at least annually, fire fighting equipment to assure the safe operational condition of the equipment.

(2) The employer shall ensure that portable fire extinguishers are inspected, at least monthly, in accordance with General Industry Safety Standard Part 8 "Portable Fire Extinguishers," as referenced in R 408.17302.

(3) The employer shall ensure that fire fighting equipment that is in damaged or unserviceable condition is removed from service and replaced.

R 408.17314. Personal protective equipment generally.

Rule 7314. (1) The requirements in these rules apply to those employees who perform interior structural fire fighting. The requirements do not apply to employees who use fire extinguishers or standpipe systems to control or extinguish fires only in the incipient stage.

(2) An employer shall provide, and ensure the use of protective clothing that is in compliance with the requirements of this part. An employer shall provide the clothing without cost to an employee. An employer shall assure that protective clothing ordered or purchased after March 1, 1984, meets the requirements contained in this part. As new equipment is provided, an employer shall assure that all fire brigade members wear the equipment when performing interior structural fire fighting. An employer shall provide foot and leg protection. An employer shall ensure that protective shoes or boots that are worn in combination with protective trousers meet the requirements of R 408.17316.

(3) The employer shall assure that protective clothing protects the head, body, and extremities, and consists of at least the all of the following components:

- (a) Foot and leg protection.
- (b) Hand protection.
- (c) Body protection.
- (d) Face, eye, and head protection.

R 408.17315. Foot and leg protection.

Rule 7315. (1) Foot and leg protection shall be provided and may be achieved by either of the following methods:

(a) Fully extended boots which provide protection for the legs.

(b) Protective shoes or boots worn in combination with protective trousers that meet the requirements of R 408.17316.

(2) An employer shall ensure that protective footwear meets the requirements of NFPA 1971 "Standard on protective ensemble for structural fire fighting and proximity fire fighting," 1997 edition, as adopted in R 408.17302.

R 408.17316. Body protection.

Rule 7316. (1) Body protection shall be coordinated with foot and leg protection to ensure full body protection for the wearer, which shall be achieved by 1 of the following methods:

(a) Wearing of a fire-resistive coat meeting the requirements of subrule (2) of this rule in combination with fully extended boots meeting the requirements of R 408.17315.

(b) Wearing of fire-resistive coat in combination with protective trousers both of which meet the requirements of subrule (2) of this rule.

(2) The performance, construction, and testing of fire-resistive coats and protective trousers shall be at least equivalent to the requirements of NFPA 1971 "Standard on protective ensemble for structural fire fighting and proximity fire fighting," 1997 edition, as adopted in R 408.17302.

R 408.17317. Hand protection.

Rule 7317. Hand protection shall consist of protective gloves or a glove system that will provide protection against cuts, punctures, and heat penetration. Gloves or a glove system shall meet the requirements of NFPA 1971 "Standard on protective ensemble for structural fire fighting and proximity fire fighting," 1997 edition, as adopted in R 408.17302.

R 408.17318. Head, eye, and face protection.

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

(2) Protective eye and face devices that comply with General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.17302, shall be used by fire brigade members when performing operations where the hazards of flying or falling materials are present and might cause eye and face injuries.

(3) Full facepieces, helmets, or hoods of breathing apparatus that meet the requirements of General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.17302, are acceptable as meeting the eye and face protection requirements of this part.

(4) Protective eye and face devices provided as accessories to protective head devices, face shields are permitted if the devices meet the requirements of General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.17302.

R 408.17320. Respiratory protection devices.

Rule 7320. (1) An employer shall ensure that respirators are provided to, and used by, each fire brigade member, and that the respirators meet the requirements of Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.17302, for each employee required to use a respirator.

(2) Self-contained breathing apparatus shall be provided with an indicator that automatically sounds an audible alarm when the remaining service life of the apparatus is reduced to within a range of 20% to 25% of its rated service time.

(3) An employer shall ensure that self-contained breathing apparatus ordered or purchased after July 1, 1981, for use by fire brigade members performing interior structural fire fighting operations, are of the pressure-demand or other positive-pressure type. Effective July 1, 1983, only pressure-demand or other positive-pressure self-contained breathing apparatus shall be worn by fire brigade members performing interior structural fire fighting.

(4) Subrule (3) of this rule does not prohibit the use of a self-contained breathing apparatus if the apparatus can be switched from a demand mode to a positive-pressure mode. However, such apparatus shall be in the positive-pressure mode when fire brigade members are performing interior structural fire fighting operations.

R 408.17322. Rescinded.



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