

DIRECTOR'S OFFICE BUREAU OF SAFETY AND REGULATION

GENERAL INDUSTRY SAFETY STANDARDS COMMISSION

Filed with the Secretary of State on April 4, 2014

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 general industry safety standards commission** by sections 16 and 21 of **1974 PA Act No. 154** of the Public Acts of 1974, as amended, being ~~SS408.1016 and 408.1021 of the Michigan Compiled Laws~~) **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 408.13301, R 408.13302, R 408.13303, R 408.13304, R 408.13305, R 408.13306, R 408.13308, R 408.13309, R 408.13310, R 408.13311, R 408.13312, R 408.13369, R 408.13370, R 408.13372, R 408.13375, R 408.13376, R 408.13378, R 408.13383, R 408.13385, R 408.13386, R 408.13387, R 408.13390, R 408.13392, and R 408.13394 of the Michigan Administrative Code are amended and R 408.13301a, R 408.13310a, R 408.13312a, R 408.13387a, and R 408.13393 are added, and R 408.13398 is rescinded, as follows:

PART 33. PERSONAL PROTECTIVE EQUIPMENT

R 408.13301. Scope.

Rule 3301.(1) This standard shall apply to all places of **general industry** employment in this state and includes requirements ~~of~~ by the employer and use by the employee of personal protective equipment and provides reasonable and adequate means, ways, and methods for the proper selection and safe use of this equipment.

(2) Hearing protection shall be in compliance with Occupational Health Standard Part 380 "Occupational Noise Exposure," as referenced in R 408.13301a.

(3) Respiratory protection shall be in compliance with Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.13301a.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

R 408.13302. Definitions, A to E.

Rule 3302. (1) "Absorptive lens" means a filter lens whose physical properties are designed to attenuate the effect of glare, reflective, and stray light.

(2) "Apparatus" means electrical equipment.

(3) "Bare hand technique" means a method of working on energized conductors by isolating the employee from any ground potential and by placing the employee in continuous firm contact with the energized electric field.

(4) "Bump hat or cap" means a device worn on the head to protect the wearer from bumps or blows but which does not meet the requirements of class A, B, C, and D protective helmets.

(5) "Chin protector" means the portion of a device that offers protection to a wearer's chin, lower face, and neck.

~~(6)(5)~~ "Conductor" means a material, such as a bus bar, wire, or cable, suitable for carrying an electric current.

~~(7)(6)~~ "Corrective lens" means a lens ground to the wearer's individual prescription.

~~(8)(7)~~ "Cover lens" means a removable disc or colorless glass, plastic-coated glass, or plastic that covers a filter lens and protects it from weld spatter, pitting, or scratching when used in a goggle.

~~(9)(8)~~ "Cover plate" means a removable pane of colorless glass, plastic-coated glass, or plastic that covers a filter plate and protects it from weld spatter, pitting, or scratching when used in a helmet, hood, or goggle.

~~(9) "Electrical worker" means an operational or maintenance employee working on electrical conductors or equipment, except mining and construction operations.~~

(10) "Energized" also sometimes known as "live," means to be electrically charged, or that to which voltage is being applied.

(11) "Eye size" means a measurement expressed in millimeters and denoting the size of the lens-holding section of an eye frame.

R 408.13303. Definitions; F, G.

Rule 3303. (1) "Face shield" means a device worn in front of the eyes and a portion or all of the face, whose predominant function is protection of the eyes and face.

(2) "Filter lens" means **a lens that attenuates specific wavelengths** ~~removable disc in the eyecup of a goggle that absorbs varying proportions of the ultraviolet, visible, and infrared radiation rays~~ according to the composition and density of the lens.

(3) "Filter plate" means a removable pane in the window of a helmet, hood, or goggle that absorbs varying proportions of the ultraviolet, visible, and infrared rays according to the composition and density of the plate.

(4) "Foot or toe protection" means a device or equipment, such as, but not limited to, safety toe footwear, toe protectors, or foot guards, that protects an employee's foot or toes against injury.

(5) "Footwear" means apparel worn on the feet, such as shoes, boots, slippers, or overshoes, excluding hosiery.

(6) "Frame" means a device which holds the lens or lenses on the wearer.

(7) "Front" means the part of a spectacle or goggle frame that is intended to contain the lens or lenses.

(8)(5) "Goggle" means a device with contour-shaped eyecups or facial contact with glass or plastic lenses, worn over the eyes and held in place by a headband or other suitable means for the protection of the eyes and eye sockets.

R 408.13304. Definitions; H, I.

Rule 3304. (1) "Hair enclosure" means a hat, cap, or hair net specifically designed to protect the wearer from hair entanglement in moving machinery.

(2) "Handshield" means a hand-held welding helmet. See "welding helmet."

(3)(2) "Headband" means that part of a goggle, helmet, or hood suspension consisting of a supporting band that encircles the head.

(4)(3) "Headgear" means that part of a protective helmet, hood, or faceshield that supports the device on the wearer's head, usually consisting of a headband and crown strap.

(5) "Helmet" also called a hard hat or cap, means a device that is worn on the head that is designed to provide limited protection against impact, flying particles, or electric shock.

(6)(4) "Hood" means a device that is worn to provide protection against acids, chemicals, abrasives, and temperature extremes and entirely encloses the whole head including face, neck, and shoulders. Air line hoods and hoods used to protect wearers from inhalation or harmful atmospheres are not included in this part.

~~(5) "Interpupillary distance" means the distance in millimeters between the centers of the pupils of the eyes.~~

~~(6) "Inservice load" means an imposed physical load on a safety belt or harness from a free fall of more than 3 feet.~~

~~(7) "Insulated barrier" means a separation from another conducting surface by a dielectric substance or air space.~~

(7)(8) "Isolated" means that all energized conductors or the exposed energized parts of equipment are isolated from the work area by an insulated barrier. Conductors may be isolated by moving them out of reaching distance by use of hot line tools.

R 408.13305. Definitions; L to R.

Rule 3305. (1) "Lanyard" means a tether attached to a safety belt or harness at one end and to a lifeline or a fixed object at the other.

(2) "Lens" means the transparent part of a protective device through which the wearer sees, also referred to as a plate or window for some devices. Glass or plastic device through which a wearer of protective goggles or spectacles sees.

(3) "Lifeline" means a rope line, except where used in tree trimming, attached at one end to a fixed object or attended by a person and to which a safety belt or lanyard is secured.

(4) "Lift-front" means a type of mounting frame for a welding helmet, hood, or goggles which is made of 2 connected parts. The front part, which may be removed from the line of vision, contains the high density filter plate with its cover plate, and the back part, which is fixed to the helmet, contains a low density or clear impact resistant plate.

(5) "Light" means an optical radiation weighted by its ability to cause visual sensations.

(6) "Manufacturer" means a business entity that marks or directs the permanent marking of the components or complete devices as compliant with this standard, and sells them as compliant.

(7) "Metatarsal guards" means guards that are designed to protect the top of the foot from the toes to the ankle over the instep of the foot. These guards may be attached to the outside of shoes.

(8) "Non-removable lens" means a lens and holder that are homogeneous and continuous.

(9)(5) "Plano lens" means a lens which does not incorporate correction-a corrective prescription; this lens is not necessarily flat.

(10) "Prescription lens" means a lens manufactured to the wearer's individual corrective prescription.

(11) "Protective footwear" means footwear that is designed, constructed, and classified to protect the wearer from a potential hazard or hazards.

(12)(6) "Protective helmet," "protective hat or cap", or "safety hat or cap" means a rigid device, often referred to as a safety cap or hat, that is worn to provide protection for the head or portions thereof against impact, flying particles, or electric shock, or any combination thereof, and which is held in place by a suitable suspension.

(13)(7) "Protector" means a device that provides eye or face protection against the hazards of processes encountered in employment.

(14)(8) "Radiant energy or radiation" means the following kinds of radiant energy which are pertinent to this standard:

(a) Ultraviolet.

(b) Visible light.

(c) Infrared.

(15)(9) "Reaching distance" means the employee's reach as extended by a conductive material or equipment.

R 408.13306. Definitions; S to W.

Rule 3306. (1) "Safety belt" means a **device, usually worn around the waist which, by reason of its attachment to a lanyard and lifeline or a structure, will prevent a worker from falling.** ~~belt worn around the waist and capable of restraining a pull or fall of an employee.~~

(2) "Safety harness" means a belt with a shoulder strap worn around the waist and shoulder and capable of restraining a pull or fall of an employee.

(3) "Safety strap" means a restraining line secured at both ends to a safety belt or harness to hold an employee to a fixed object.

(4) "Safety toe footwear" means footwear containing a safety toe box of steel or equivalent material capable of meeting the requirements of this part.

(5) "Sanitizing" means an act or process of destroying organisms that may cause disease.

(6) "Shield" means a device to be held in the hand, or supported without the aid of the operator, whose predominant function is protection of the eyes and face.

(7) "**Shell**" means the portion of welding helmet or handshield that covers the wearer's face and is the part of a helmet which includes the outermost surface.

(8)(7) "Side shield" means a **part of, or attachment to, a spectacle that provides side impact resistance.** ~~device of metal, plastic, or other material fixed to a spectacle lens frame to protect an eye from side exposure.~~

(9)(8) "Snood" means a flexible attachment to the back of a hood or helmet for protection against injury to the back of the head and neck.

(10)(9) "Spectacles" also known as "**safety glasses**" means a **protective device intended to shield the wearer's eyes from certain hazards, depending on the spectacle type; also means a** device patterned after conventional-type spectacle eyewear, but of more substantial construction, with or without sideshields, and with plano or corrective impact resistant lenses of clear or absorptive filter glass or plastic.

(10) "~~Supplier~~" means ~~a manufacturer or an authorized dealer representative.~~

(11) "Temple" means ~~the~~ **that part of a spectacle frame commonly attached to the front and generally extending behind the ear of the wearer.** ~~or other protector extending to and dropping behind the ear of the wearer and intended to position the device before the eyes.~~

(12) "**Toe guards**" means the guards that fit over the toes of regular shoes to protect the toes from impact and compression hazards. These guards may be attached to the outside of shoes.

(12) "Temple length" means the measured length of a temple designated in inches.

(13) "~~Working gloves~~" means ~~gloves used as personal protective equipment to protect an employee from injuries on the job.~~

(13) "**Welding goggle**" means a goggle intended for limited welding applications.

(14) "**Welding faceshield**" means a faceshield intended for limited welding applications. Faceshields shall be used only in conjunction with spectacles or goggles or both.

(15) "**Welding helmet**" means a protective device intended to provide protection for the eyes and face against optical radiation and weld spatter, which shall be worn only in conjunction with spectacles or goggles.

(16) "**Window**" means the lens portion of a face shield (See definition of "lens" in R 408.13305(2).)

HAZARD ASSESSMENT

R 408.13308. **Personal protective hazard** Hazard assessment and equipment selection.

Rule 3308.(1) An employer shall assess the workplace to determine if hazards **are present, or are likely to be present,** that necessitate the use of personal protective equipment. ~~are present, or are likely to be present,~~ If the hazards are present or are likely to be present then the employer shall do all of the following:

(2) If the hazards are present or are likely to be present then the employer shall do all of the following:

(a) Select, and have each affected employee use, the types of personal protective equipment that will protect the affected employee from the hazards identified in the hazard assessment.

(b) Communicate selection decisions to each affected employee.

(c) Select the personal protective equipment that properly fits each affected employee.

(d) Select personal protective equipment that shall be designed and constructed to be safe for the work to be performed.

Note: Non-mandatory Appendix B contains an example of procedures that complies with the requirement for a hazard assessment.

(3)(2) An employer shall verify that the required workplace hazard assessment has been performed through a written certification which identifies ~~the document as certification of hazard assessment and which specifies~~ all of the following information:

(a) The workplace evaluated.

(b) The person **certifying** ~~who certifies~~ that the evaluation has been performed.

(c) The date ~~(s)~~ **or dates** of the **personal protective** hazard assessment.

(d) The document is a certification of hazard assessment.

(3) ~~Defective or damaged personal protective equipment shall not be used.~~

TRAINING

R 408.13309. **Personal protective equipment training.** ~~Training.~~

Rule 3309. (1) An employer shall provide training to each employee who is required by **these rules** ~~this part~~ to use personal protective equipment. **The training shall include all of the following:** ~~Each employee who is required by this part to use personal protective equipment shall be trained in all of the following areas:~~

- (a) When personal protective equipment is necessary.
- (b) What personal protective equipment is necessary.
- (c) How to properly don, doff, adjust, and wear the personal protective equipment.
- (d) The limitations of the **personal protective** equipment.
- (e) ~~The useful life of the equipment and the~~ **The** proper care, maintenance, **useful life**, and disposal of the **personal protective** equipment.

(2) Each affected employee shall demonstrate an understanding of the training specified in subrule (1) of this rule and the ability to use the equipment properly before being allowed to perform work requiring the use of personal protective equipment.

(3) When an employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by subrule (2) of this rule, the employer shall retrain the employee. **The occurrence** ~~existence~~ of any of the following circumstances requires retraining:

- (a) Changes in the workplace that render previous training obsolete.
- (b) Changes in the types of personal protective equipment to be used that render previous training obsolete.
- (c) Inadequacies in an affected employee's knowledge or use of assigned personal protective equipment which indicate that the employee has not retained the requisite understanding or skill.

~~(4) An employer shall verify that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained and the date of training and that identifies the subject of the certification.~~

R 408.13310. Employer's and employee's responsibilities.

Rule 3310. (1) An employer shall **not permit defective or damaged personal protective equipment to be used.** ~~provide to each employee, at no expense to the employee, the initial issue of the type of personal protective equipment which is suitable for the work to be performed as required by this standard or any other general industry safety standard, unless specifically indicated otherwise in these standards or any other general industry safety standard. The employer shall also provide replacement equipment if necessary due to wear and tear on the previous equipment or if the equipment is lost due to the work environment, unless covered by a collective bargaining agreement.~~

(2) An employee shall use all of the personal protective equipment provided by the employer.

PAYMENT FOR PERSONAL PROTECTIVE EQUIPMENT

R 408.13310a. Payment for personal protective equipment (PPE).

Rule 3310a. (1) An employer shall provide at no cost to employees the personal protective equipment necessary to protect against hazards that the employer is aware of as a result of any required assessments.

(2) An employer shall pay for replacement PPE, as necessary, under either of the following conditions:

- (a) When the PPE no longer provides the protection it was designed to provide.
- (b) When the previously provided PPE is no longer adequate or functional.

(3) When an employee has lost or intentionally damaged the PPE issued to him or her, an employer is not required to pay for its replacement and may require the employee to pay for its replacement.

(4) An employer is not required to pay for prescription safety eyewear with removable or permanent sideshields if the employer provides safety eyewear that fits over an employee's prescription lenses.

(5) An employer is not required to pay for non-specialty prescription safety eyewear, provided that the employer permits these items to be worn off the job-site.

(6) An employer is not required to pay for non-specialty safety-toe protective footwear, including steel-toe shoes or steel-toe boots, provided that the employer permits these items to be worn off the job-site.

(7) An employer shall provide, at no cost to employees, metatarsal guards attachable to shoes when metatarsal protection is necessary if both the following apply:

(a) If metatarsal protection is necessary and an employer requires employees to use metatarsal shoes instead of detachable guards, then the employer shall provide the metatarsal shoe at no cost to the employee.

(b) If an employer provides metatarsal guards and allows the employee, at his or her request, to use shoes or boots with built-in metatarsal protection, then the employer is not required to pay for the metatarsal shoes or boots.

(8) An employer is not required to pay for either of the following:

- (a) Everyday clothing, including any of the following:
 - (i) Long-sleeve shirts.

- (ii) Long pants.
- (iii) Street shoes.
- (iv) Normal work boots.
- (v) Ordinary clothing.
- (vi) Skin creams.
- (b) Other items used solely for protection from weather, including any of the following:

- (i) Winter coats.
- (ii) Jackets.
- (iii) Gloves.
- (iv) Parkas.
- (v) Rubber boots.
- (vi) Hats.
- (vii) Raincoats.
- (viii) Ordinary sunglasses.
- (ix) Sunscreen.

(9) An employer shall pay for protection when ordinary weather gear is not sufficient to protect an employee and special equipment or extraordinary clothing is needed to protect the employee from unusually severe weather conditions. Clothing used in artificially-controlled environments with extreme hot or cold temperatures, such as freezers, is not considered part of the weather gear exception.

(10) All of the following apply to upgraded and personalized PPE:

- (a) An employer is not required to pay for PPE requested by an employee that exceeds the PPE requirements, provided that the employer provides PPE that meets the standards at no cost to the employee.
- (b) If an employer allows an employee to acquire and use upgraded or personalized PPE, then the employer is not required to reimburse the employee for the equipment, provided that the employer has provided adequate PPE at no cost to the employee.

(c) An employer shall evaluate an employee's upgraded or personalized PPE to ensure that it complies with all of the following:

- (i) Is adequate to protect from hazards present in the workplace.
- (ii) Is properly maintained.
- (iii) Is kept in a sanitary condition.

(11) If the provisions of another MIOSHA standard specify that the employer shall pay for specific equipment, then the payment provisions of that standard prevails.

EYE AND FACE AND EYE PROTECTION

R 408.13311. **Eye and face protection; consensus standards. Certification.**

Rule 3311.(1) All **protective** eye and face protection devices, ~~purchased after July 5, 1994~~, shall be in compliance with **any of the following consensus standards:** ~~occupational and educational eye and face protection of the American national standards institute standard Z-87.1-1989, or the devices shall be demonstrated by the employer to be equally effective. The standard is adopted by reference in these rules and may be purchased from the American National Standards Institute, 11 West 42 Street, New York, New York 10036, or from the Safety Standards Division, Michigan Department of Consumer and Industry Services, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909, at a cost at the time of adoption of these rules of \$18.00~~

(a) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 2003 edition, as adopted in R 408.13301a.

(b) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 1989 (Revised 1998) edition, as adopted in R 408.13301a.

(c) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 1989 edition, as adopted in R 408.13301a.

(2) **Protective eye and face protection devices that the employer demonstrates are at least as effective as protective eye and face protection devices that are constructed in accordance with 1 of the consensus standards adopted in subrule (1) of this rule shall be considered to be in compliance with this rule.** ~~If it is impractical for eye and face protection devices to be marked in compliance with ANSI standard Z-87.1-1989, then the containers for eye and face protection shall be in compliance with the standard.~~

~~(3) Eye and face protection devices, purchased before July 5, 1994 shall be in compliance with the ANSI standard entitled "Occupational and Educational Eye and Face Protection," Z-87.1-1968, or the devices shall be demonstrated by the employer to be equally effective. The standard is adopted by reference in these rules and may be purchased from the American National Standards Institute, 11 West 42nd Street, New York, New York 10036, or from the Safety Standards Division, Michigan Department of Consumer and Industry Services, Box 30643, Lansing, Michigan 48909, at a cost at the time of adoption of these rules of \$18.00.~~

R 408.13312. **Use of eye and face protection.** ~~Face and eye protection, generally.~~

Rule 3312. (1) An employer shall ensure that each affected employee ~~uses~~ ~~shall use~~ appropriate eye or face protection, as prescribed in R 408.13311, if a ~~when exposed to eye or face hazards~~ ~~hazard exists due to~~ from any of the following:

- (a) Flying objects or particles.
- (b) Harmful contacts.
- (c) Exposures.
- (d) Molten metal.
- (e) Liquid chemicals.
- (f) Acids or caustic liquids.
- (g) Chemical fumes, gases or vapors.
- (h) Glare.
- (i) Injurious radiation.
- (j) Electrical flash.
- (k) A combination of **these hazards.** ~~the hazards specified in this subrule.~~

~~(2) Table 1 shall be used as a guide to select the proper eye and face protection. Each affected employee shall use eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors, such as clip-on or slide-on side shields, that are in compliance with the pertinent requirements of this rule are acceptable.~~

Note: Appendix B, Appendix Table 1, "Eye and Face Protector Selection Chart," and Appendix Figure 1, "Eye and Face Protective Devices Chart," which shall be used as a guide in the selection of the proper eye and face protection.

(2) An employer shall ensure that each affected employee uses eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors, such as clip-on or slide-on sideshields, that are in compliance with the pertinent requirements of this rule are acceptable.

~~(3) Contact lenses or federal Drug Administration (FDA) standard hardened or plastic lenses are not eye protection, as required by these rules.~~

(3)(4) A protector ~~A face or eye protector~~ shall be in compliance with all of the following minimum requirements:

- (a) **Provides adequate protection** ~~It shall protect~~ against the particular hazards for which it is designed.
- (b) **Fits** ~~It shall fit~~ snugly and **does** ~~shall~~ not unduly interfere with movements of the wearer.
- (c) ~~It shall be~~ **Is** capable of withstanding sanitizing.

(4)(5) An employer shall ensure that eye and face personal protective equipment is ~~A protector shall be~~ distinctly marked to **facilitate identification of** ~~identify~~ the manufacturer.

(5)(6) Limitations or precautions indicated by the manufacturer shall be transmitted to the user and care is taken to ensure ~~see that the~~ limitations or precautions are observed.

(7) Table 1 reads as follows:

**TABLE 1
FACE AND EYE PROTECTOR SELECTION CHART
PROTECTIVE DEVICES**

A.  Spectacle, No Sideshield	E.  Spectacle, Non-Removable Lens	I.  Cover Goggle, Direct Ventilation	N.  Faceshield
B.  Spectacle, Half Sideshield	F.  Spectacle, Lift Front	J.  Cup Goggle, Direct Ventilation	O.  Welding Helmet, Hand Held
C.  Spectacle, Full Sideshield	G.  Cover Goggle, No Ventilation	K.  Cup Goggle, Indirect Ventilation	P.  Welding Helmet, Stationary Window
D.  Spectacle, Detachable Sideshield	H.  Cover Goggle, Indirect Ventilation	L.  Spectacle, Headband Temple	Q.  Welding Helmet, Lift Front
M.  Cover Welding - Burning Goggles Indirect Ventilation			

*The illustrations shown are only representative of protective devices commonly available at the time of the writing of this standard. Protective devices do not need to take the forms shown, but must meet the requirements of the standard.

NOTES:

- (1) Care shall be taken to recognize the possibility of multiple and simultaneous exposure to a variety of hazards. Adequate protection against the highest level of each of the hazards must be provided.
- (2) Operations involving heat may also involve optical radiation. Protection from both hazards shall be provided.
- (3) Faceshields shall only be worn over primary eye protection.
- (4) Filter lenses shall meet the requirements for shade designations in Table 2.
- (5) Persons whose vision requires the use of prescription (Rx) lenses shall wear either protective devices fitted with prescription (Rx) lenses or protective devices designed to be worn over regular prescription (Rx) eyewear.
- (6) Wearers of contact lenses shall also be required to wear appropriate covering eye and face protection devices in a hazardous environment. It should be recognized that dusty and/or chemical environments may represent an additional hazard to contact lens wearers.
- (7) Caution should be exercised in the use of metal frame protection devices in electrical hazard areas.
- (8) Refer to Section 6.5, Special Purpose Lenses. (ANSI Z-87.1-1989)
- (9) Welding helmets or handshields shall be used only over primary eye protection.
- (10) Non-sideshield spectacles are available for frontal protection only.

		ASSESSMENT SEE NOTE (1)	PROTECTOR OR TYPE	PROTECTOR S	LIMITATIONS	NOT RECOMMENDED
I M P A C T	Chipping, grinding, machining, masonry, work, riveting, and sanding.	Flying fragments, objects, large chips, particles, sand, dirt, etc.	B, C, D, E, F, G, H, I, J, K, L, N	Spectacles, goggles, face shields. SEE NOTES (1)-(3) (5)-(6)-(10) For severe exposure add N	Protective devices do not provide unlimited protection. SEE NOTE (7)	Protectors that do not provide protection from side exposure. SEE NOTE (10) Filter or tinted lenses that restrict light transmittance, unless it is determined that a glare hazard exists. Refer to OPTICAL RADIATION.
H E A I	Furnace operations, pouring, casting, hot dipping, gas cutting, and welding.	Hot sparks	B, C, D, E, F, G, H, I, J, K, L, N,	Face shields, goggles, spectacles *For severe exposure Add N SEE NOTE (2) (3) *Face shields worn over goggles H, K Screen face shields, Reflective face shields. SEE NOTE (2) (3)	Spectacles, cup and cover type goggles not provide unlimited protection. SEE NOTE (2) SEE NOTE (3)	Protectors that do not provide protection from side exposure.
		Splash from molten metals	*N			
		High temperature exposure	N			

C H E M I C A L	Acid and chemicals handling, degreasing, plating.	Splash	G, H, K, *N	Goggles, eyecup, and cover types. *For severe exposure Add N.	Ventilation should be adequate but well-protected from splash entry.	
		Irritating mists	G	Special purpose goggles.	SEE NOTE (3)	
D U S T	Woodworking, buffing, general dusty conditions.	Nuisance dust	G, H, K	Goggles, eyecup and cover types	Atmospheric conditions and the restricted ventilation of the protector can cause lenses to fog. Frequent cleaning may be required.	
O P T I C A L R A D I A T I O N	WELDING: —Electric Arc		O, P, Q	TYPICAL FILTER LENS PRO- <u>SHADE</u> <u>TECTORS</u> SEE NOTE (9) 10-14 Welding Helmets Or Welding Shields	Protection from optical radiation is directly related to filter lens density. SEE NOTE (4). Select the darkest shade that allows adequate task performance.	Protectors that do not provide protection from optical radiation. SEE NOTE (4)
	WELDING: —Gas CUTTING TORCH BRAZING		J, K, L, M, N, O, P, Q	SEE NOTE (9) Welding Goggles Or Welding Faceshields 3-6 3-4	SEE NOTE (3)	
	TORCH SOLDERING		B, C, D, E, F, N	1-5-3 Spectacles Or Welding Faceshield		
	GLARE		A, B	Spectacle SEE NOTE (9)-(10)	Shaded or special Purpose lenses as suitable SEE NOTE (8)	

(8) Each affected employee shall use equipment that has filter lenses which have shade numbers appropriate for the work being performed for protection from injurious light radiation. Table 2 is a listing of appropriate shade numbers for various operations.

(9) Table 2 reads as follows:

TABLE 2
FILTER LENSES FOR PROTECTION AGAINST RADIANT ENERGY

OPERATIONS	ELECTRODE SIZE 1/32 INCH	ARC CURRENT	MINIMUM* PROTECTIVE SHADE
Shield metal arc welding	Less than 3	Less than 60	7
	3-5	60-160	8
	More than 5-8	161-250	10
	More than 8	251-550	11
Gas metal arc welding and flux cored arc welding		Less than 60	7
		60-160	10
		161-250	10
		251-500	10
Gas tungsten arc welding		Less than 50	8
		50-150	8
		150-500	10
Air carbon	(Light)	Less than 500	10
Air cutting	(Heavy)	500-1,000	11
Plasma arc welding		Less than 20	6
		20-100	8
		101-400	10
		401-800	11
Plasma arc cutting	(Light)**	Less than 300	8
	(Medium)**	300-400	9
	(Heavy)**	401-800	10
Torch brazing			3
Torch soldering			2
Carbon arc welding			14
OPERATIONS	PLATE THICKNESS (INCHES)	(MM)	MINIMUM*PROTECT IVE SHADE
Gas welding:			
Light	Under 1/8	Under 3.2	4
Medium	1/8 to 1/2	3.2 to 12.7	5
Heavy	Over 1/2	Over 12.7	6
Oxygen cutting:			
Light	Under 1	Under 25	3
Medium	1 to 6	25 to 150	4
Heavy	Over 6	Over 151	5

R 408.13312a. Filter lenses.

Rule 3312a.(1) An employer shall ensure that each affected employee uses equipment that has filter lenses which have shade numbers appropriate for the work being performed for protection from injurious light radiation.

(2) Table 1 is a listing of appropriate shade numbers for various operations.

(3) Table 1 reads as follows:

TABLE 1 FILTER LENSES FOR PROTECTION AGAINST RADIANT ENERGY			
OPERATIONS	PLATE THICKNESS (INCHES)	PLATE THICKNESS (MM)	MINIMUM* PROTECTIVE SHADE
Gas Welding: Light Medium Heavy	Under 1/8 1/8 to 1/2 Over 1/2	Under 3.2 3.2 to 12.7 Over 12.7	4 5 6
Oxygen Cutting Light Medium Heavy	Under 1 1 to 6 Over 6	Under 25 25 to 150 Over 150	3 4 5
OPERATIONS	ELECTRODE SIZE 1/32 IN.	ARC CURRENT	MINIMUM* PROTECTIVE SHADE
Shield metal Arc welding	Less than 3	Less than 60	7
	3 to 5	60 to 160	8
	more than 5 to 8	161 to 250	10
	more than 8	251 to 550	11
Gas metal arc welding and flux	cored arc welding	Less than 60	7
		60 to 160	10
		161 to 250	10
		251 to 500	10
Gas tungsten arc	welding	Less than 50	8
		50 to 150	8
		151 to 500	10
Air carbon Arc cutting	(Light)	Less than 500	10
	(Heavy)	500 to 1000	11
Plasma arc welding		Less than 20	6
		20 to 100	8
		101 to 400	10
		401 to 800	11
Plasma arc cutting	(Light)**	Less than 300	8
	(Medium)**	300 to 400	9
	(Heavy)**	401 to 800	10
Torch brazing			3
Torch soldering			2
Carbon arc welding			14

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

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

SPECTACLES

R 408.13369. **Spectacles.** ~~Metal, plastic, and combination metal and plastic spectacles.~~

Rule 3369.(1) Spectacles, **also known as safety glasses**, of metal, plastic, or a combination thereof, shall consist of 2 lenses in a frame ~~which~~ **that** supports the lenses around their entire periphery of suitable size and shape for the purpose intended connected by a nose bridge, and retained on the face by temples or other suitable means.

(2) The spectacles, **also known as safety glasses**, shall be furnished with or without sideshields depending upon their intended use.

(3) The frames, temples, and sideshields may be metal or plastic, and when made of plastic, shall be of the slow-burning type.

(4)~~(2)~~ Spectacles, **also known as safety glasses**, shall provide protection to the eye from flying objects, and, when required, from glare and injurious radiations.

(5) Spectacles, **also known as safety glasses**, without sideshields are intended to provide frontal protection.

(6) Where side as well as frontal protection is required, the spectacles, **also known as safety glasses**, shall be provided with sideshields. ~~See table 1.~~

Note: Appendix B, Appendix Table 1 "Eye and Face Protector Selection Chart," and Appendix Figure 1, "Eye and Face Protective Devices Chart," shall be used as a guide in the selection of the proper eye and face protection.

(7)~~(3)~~ Frames shall be designed for industrial exposure and shall bear a trademark identifying the manufacturer on both fronts and temples. The frame front shall carry a designation of the eye size and bridge size, where applicable. Temples shall be marked as to the overall length or fitting value.

(8)~~(4)~~ Temples may be of the cable or spatula type, as specified, and shall be of such design as to permit adjustment and fit comfortably and securely on the wearer. The size of the temples shall be clearly marked.

(9)~~(5)~~ Safety lens in frames which do not comply with this part shall not be worn.

HEAD PROTECTION EQUIPMENT

R 408.13370. **Use of head protection.** ~~Head protection. generally.~~

Rule 3370 (1) ~~An employer shall assure that each affected employee shall be provided with, and shall wear, head protection equipment and accessories when the employee is required to be present in areas where a hazard exists from falling or flying objects or from other harmful contacts or exposures or where there is a risk of injury from electric shock, hair entanglement, chemicals, or temperature extremes.~~

(1) An employer shall ensure that each affected employee is provided with, and wears, head protection equipment and accessories when the employee is required to be present in areas where a hazard exists from any of the following:

(a) Falling or flying objects.

(b) Other harmful contacts or exposures.

(c) Where there is a risk of injury from any of the following:

(i) Electric shock.

(ii) Hair entanglement.

(iii) Chemicals.

(iv) Temperature extremes.

(2) Service facilities shall be provided for the sanitizing and replacement of needed parts when necessary and before head protection equipment is re-issued.

(3) Head protection equipment that has been physically altered, or damaged shall not be worn or reissued to an employee.

(4) An employee shall not physically alter, and shall guard against damage to, the head protection equipment provided.

(5) An employee shall use the provided head protection equipment in accordance with the instructions and training received

R 408.13372. **Criteria for head protection.** ~~Head protection. adoption of standards by reference.~~

Rule 3372.(1) **An employer shall provide each employee with head protection that meets the specifications contained in any of the following consensus standards:** ~~Protective helmets purchased after July 5, 1994 shall be in compliance with American national standards institute standard Z-89.1-1986, entitled "Requirements for Protective Headwear for Industrial Workers," or shall be demonstrated to be equally effective. The standard is adopted by reference in these rules and may be purchased from the American National Standards Institute, 11 West 42nd Street, New York, New York 10036, or from the Safety Standards Division, Michigan Department of Consumer and Industry Services, Box 30643, Lansing, Michigan 48909, at a cost at the time of adoption of these rules of \$12.00.~~

(a) ANSI Z-89.1 "American National Standard for Industrial Head Protection," 2009 edition, as adopted in R 408.13301a.

(b) ANSI Z-89.1, "American National Standard for Industrial Head Protection," 2003 edition, as adopted in R 408.13301a.

(c) ANSI Z-89.1 "American National Standard for Personnel Protection—Protective Headwear for Industrial Workers—Requirements," 1997 edition, as adopted in R 408.13301a.

(2) Any head protection device that the employer demonstrates is at least as effective as a head protection device constructed in accordance with 1 of the consensus standards adopted in subrule (1) of this rule is considered to be in compliance with this rule. Protective helmets purchased before July 5, 1994, shall be in compliance with American national standards institute standard Z-89.1-1969, entitled "Requirements for Industrial Head Protection," or shall be demonstrated by the employer to be equally effective. The standard is adopted by reference in these rules and may be purchased from the American National Standards Institute, 11 West 42nd Street, New York, New York 10036, or from the Safety Standards Division, Michigan Department of Consumer and Industry Services, Box 30643, Lansing, Michigan 48909, at a cost at the time of adoption of these rules of \$12.00.

R 408.13375. Protective helmets.

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

(a) Impact type protective helmets shall be either of the following: ~~Class A—Limited voltage protection.~~

(i) Type I helmets shall be intended to reduce the force of impact resulting from a blow only to the top of the head.

(ii) Type II helmets shall be intended to reduce the force of impact resulting from a blow to the top or sides of the head.

(b) Electrical classes for protective helmets shall be 1 of the following: ~~Class B—High voltage protection.~~

(i) Class G, general protective helmets are intended to reduce the danger of contact with low voltage conductors. Test samples shall be proof-tested at 2200 volts (phase to ground). This voltage is not intended as an indication of the voltage at which the helmets protects the wearer.

(ii) Class E, electrical protective helmets are intended to reduce the danger of contact with higher voltage conductors. Test samples shall be proof-tested at 20,000 volts (phase to ground). This voltage is not intended as an indication of the voltage at which the helmet protects the wearer.

(iii) Class C, conductive protective helmets are not intended to provide protection against contact with electrical hazards.

~~(c) Class C—No voltage protection.~~

~~(d) Class D—Limited voltage protection—fire fighters service helmets with full brim.~~

(2) A class C helmet or any A metallic head device shall not be furnished by an employer or used by an employee for head protection, except where it has been determined that the use of other types of protective helmets or safety hats or caps is impractical, such as where chemical reaction will cause the deterioration of other types of head protection.

(3) A protective helmet furnished by an employer shall be identified on the inside of the shell with the name of the manufacturer.

(4) When used in conjunction with protective helmets, faceshields, welding helmets, and goggles shall be in compliance with the requirements set forth in R 408.13311 to R 408.13369 **these rules**, and Michigan department of consumer and industry services, division of occupational health standards for hearing protection **shall be in compliance with Occupational Health Standard Part 380 "Occupational Noise Exposure," as referenced in R 408.13301a.** ~~being R 325.60401.~~

(5) Winter liners and chin straps used in conjunction with class E B helmets for high-voltage protection shall not contain any metallic parts or other conductive materials. ~~Winter liners and chin straps used in areas where there is a danger of ignition from heat, flame, or chemical reaction shall be made of materials that are nonburning or flame retardant.~~

(6) Winter liners and chin straps used in areas where there is a danger of ignition from heat, flame, or chemical reaction shall be made of materials that are nonburning or flame retardant.

~~(7)(6) Bump hats or caps or other limited-protection devices shall not be used as a substitute for protective helmets for the hazards described in rule R 408.13370.~~

(8)(7) An employer shall ensure that protective ~~Protective~~ helmets designed to reduce electrical shock hazard shall be worn by **each affected** ~~an~~ employee who is near exposed electrical conductors that could come in contact with the employee's head.

R 408.13376. Hoods.

Rule 3376. (1) A hood shall be made of materials that combine mechanical strength and lightness of weight to a high degree, shall be nonirritating to the skin when subjected to perspiration and shall be capable of withstanding frequent cleaning and disinfection. Materials used in the manufacture of hoods shall also be suitable to withstand the hazards to which the user may be exposed.

(1) A hood shall be made of materials that combine all of the following:

(a) Have mechanical strength and lightness of weight to a high degree.

(b) Be non-irritating to the skin when subjected to perspiration.

(c) Be capable of withstanding frequent cleaning and disinfection.

(2) Materials used in the manufacture of hoods shall also be suitable to withstand the hazards to which the user may be exposed.

~~(3)~~ (2) A hood shall bear a permanent and legible marking by which the manufacturer may be readily identified.

~~(4)~~ (3) A hood shall be designed to provide adequate ventilation for the wearer.

~~Where air lines are used they shall be installed and used in accordance with Michigan department of consumer and industry services, division of occupational health standards.~~

~~(5)~~ (4) A protective helmet shall be used in conjunction with a hood where there is a head injury hazard and the hood shall be designed to accommodate such helmet.

R 408.13378. **Hair enclosures; face and head.** ~~Hair enclosures.~~

~~Rule 3378. A hat, cap, or net shall be used by a person where there is a danger of hair entanglement in moving machinery or equipment, or where there is exposure to means of ignition. It shall be designed to be reasonably comfortable to the wearer, completely enclose all loose hair, and be adjustable to accommodate all head sizes. Material used for a hair enclosure shall be fast dyed, nonirritating to the skin when subjected to perspiration, and capable of withstanding frequent cleaning. It shall not be reissued from one employee to another unless it has been thoroughly sanitized.~~

(1) A hat, cap, or net shall be worn by a person where there is a danger of hair entanglement in moving machinery or equipment, or where there is exposure to means of ignition.

(2) Hair enclosures include all of the following:

(a) Be designed to be reasonably comfortable to the wearer.

(b) Completely enclose all loose hair.

(c) Be adjustable to accommodate all head sizes.

(3) Be material used for hair enclosures of all of the following:

(a) Fast dyed.

(b) Non-irritating to the skin when subjected to perspiration.

(c) Capable of withstanding frequent cleaning.

(4) Hair enclosures shall not be reissued from 1 employee to another unless it has been thoroughly sanitized.

FOOT AND TOE PROTECTION

R 408.13383. **Criteria for protective footwear.** ~~Certification~~

~~Rule 3383. (1) Protective footwear shall comply with any of the following consensus standards:~~

~~(a) ASTM F-2412 "Standard Test Methods for Foot Protection," 2005 edition, as adopted in R 408.13301a,~~

~~(b) ASTM F-2413 "Standard Specification for Performance Requirements for Protective Footwear," 2005 edition, as adopted in R 408.13301a.~~

~~(c) ANSI Z-41 "American National Standard for Personal Protection -- Protective Footwear," 1999 edition, as adopted in R 408.13301a.~~

~~All protective footwear purchased after July 5, 1994, shall bear a permanent mark to show the manufacturer's name or trademark and certification of compliance with the provisions of ANSI standard Z-41-1991, entitled "Personal Protective Footwear," which is adopted by reference in these rules and which may be inspected at the Lansing office of the Michigan department of consumer and industry services. The standard may be purchased from the American National Standards Institute, 11 West 42nd Street, New York, New York 10036, or from the Michigan Department of Consumer and Industry Services, Safety Standards Division, Box 30643, Lansing, Michigan 48909, at a cost at the time of adoption of these rules of \$7.00.~~

~~(2) Protective footwear that an employer demonstrates is at least as effective as protective footwear that is constructed in accordance with 1 of the consensus standards adopted in subrule (1) of this rule, shall be considered to be in compliance with the requirements of this rule. Protective footwear purchased before July 5, 1994, shall bear a permanent mark to show the manufacturer's name or trademark and certification of compliance with American national standards institute standard Z-41.1-1967, entitled "Men's Safety-Toe Footwear," which is adopted by reference in these rules and which may be inspected at the Lansing office of the Michigan department of consumer and industry services. The standard may be purchased from the American National Standards Institute, 11 West 42nd Street, New York, New York 10036, or from the Michigan Department of Consumer and Industry Services, Safety Standards Division, Box 30643, Lansing, Michigan 48909, at a cost at the time of adoption of these rules of \$32.00.~~

R 408.13385. **Use of foot protection.** ~~Foot protection generally.~~

~~Rule 3385. (1) An employer shall assure that each affected employee shall wear protective footwear when working in areas where an employee's feet are exposed to electrical hazards or where there is a danger of foot injuries due to falling or rolling objects or a danger of objects piercing the sole of the shoe. The payment for protective footwear shall be determined between the employer and the employee or shall be as determined by a collective bargaining agreement.~~

~~(1) An employer shall ensure that each affected employee shall wear protective footwear when working in areas where any of the following occur:~~

~~(a) An employee's feet are exposed to electrical hazards.~~

(b) There is a danger of foot injuries due to falling or rolling objects.

(c) There is a danger of objects piercing the sole of the shoe.

(2) Safety shoes and boots which are not worn over shoes and which are worn by more than 1 employee shall be maintained, cleaned, and sanitized inside and out before being issued to another employee

R 408.13386. Foot protection; ~~specific requirements.~~

Rule 3386. ~~Where a hazard is created from a process, environment, chemical, or mechanical irritant which would cause an injury or impairment to the feet by absorption or physical contact, other than from impact, footwear, such as boots, overshoes, rubbers, wooden-soled shoes, or their equivalent shall be used.~~

If a hazard is created from a process, environment, chemical, or mechanical irritant which could cause an injury or impairment to the feet by absorption or physical contact, other than from impact, then the employer shall provide any of the following to the employee:

(a) Boots.

(b) Overshoes.

(c) Rubbers.

(d) Wooden-soled shoes.

(e) The equivalent to subdivisions (a) to (d) of this subrule.

ELECTRICAL PROTECTIVE EQUIPMENT

R 408.13387. Electrical protective equipment; design; **certification.** ~~certification; use, storage.~~

Rule 3387. (1) Insulating blankets, matting, covers, line hose, gloves, and sleeves made of rubber shall be in compliance with all of the following requirements as applicable:

(a) Blankets, gloves, and sleeves shall be produced by a seamless process.

(b) Each item shall be clearly marked as follows:

(i) Class 0 equipment shall be marked class 0.

(ii) Class 1 equipment shall be marked class 1.

(iii) Class 2 equipment shall be marked class 2.

(iv) Class 3 equipment shall be marked class 3.

(v) Class 4 equipment shall be marked class 4.

(vi) Non-ozone-resistant equipment other than matting shall be marked type 1.

(vii) Ozone-resistant equipment other than matting shall be marked type II.

(viii) Other relevant markings, such as the manufacturer's identification and the size of the equipment, may also be provided.

(c) Markings shall be nonconducting and shall be applied in a manner that does not impair the insulating qualities of the equipment.

(d) Markings on gloves shall be confined to the cuff portion of the glove.

(2) Equipment shall be capable of withstanding the alternating current proof test voltage specified in Table 3 4 or the direct current proof test voltage specified in Table 4 5. The proof test shall reliably indicate that the equipment can withstand the voltage involved. The test voltage shall be applied continuously for 3 minutes for equipment other than matting and shall be applied continuously for 1 minute for matting.

(3) Gloves shall also be capable of withstanding the alternating current proof test voltage specified in Table 3 4 after a 16-hour water soak. When the alternating current proof test is used on gloves, the 60-hertz proof test current may not be more than the values specified in Table 3 4 at any time during the test period. If the alternating current test is made at a frequency other than 60 hertz, the permissible proof test current shall be computed from the direct ratio of the frequencies. For the test, gloves(right side out) shall be filled with tap water and immersed in water to a depth that is in accordance with Table 5 6. Water shall be added to or removed from the glove, as necessary, so that the water level is the same inside and outside the glove. After the 16-hour water soak specified in this **subrule**, the 60-hertz proof test current may exceed the values specified in Table 3 4 by not more than 2 milliamperes.

(4) Equipment that has been subjected to a minimum breakdown voltage test may not be used for electrical protection. See subrule (3) of this rule.

(5) Material used for type II insulating equipment shall be capable of withstanding an ozone test without visible effects. The ozone test shall reliably indicate that the material will resist ozone exposure in actual use. Any visible signs of ozone deterioration of the material, such as checking, cracking, breaks, or pitting, is evidence of failure to meet the requirements for ozone-resistant material. See subrule (3) of this rule.

(6) Equipment shall be free of harmful physical irregularities that can be detected by the tests or inspections required under this rule. Surface irregularities that may be present on all rubber goods because of imperfections on forms or molds or because of inherent difficulties in the manufacturing process and that may appear as indentations, protuberances, or imbedded foreign material are acceptable if both of the following conditions are satisfied:

(a) The indentation or protuberance blends into a smooth slope when the material is stretched.

(b) Foreign material remains in place when the insulating material is folded and stretches with the insulating material surrounding it.

(7) The standards listed in Table 2 3 are adopted by reference in **R 408.13301a**. ~~these rules and may be inspected at the Lansing office of the department of consumer and industry services. The ANSI standards may be purchased from the American National Standards Institute, 11 West 42nd Street, New York, New York 10018, and the ASTM standards may be purchased from the American Society of Test and Materials, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428, or any of the standards may be purchased from the Michigan Department of Consumer and Industry Services, Safety Standards Division, Box 30643, Lansing, Michigan 48909, at a cost at the time of adoption of these rules as listed in Table 3.~~

**TABLE 2
AMERICAN SOCIETY OF TESTING MATERIALS STANDARDS**

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

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

**TABLE 3
ITEM ANSI-ASTM COST**

~~Rubber insulating globes D 120-87e1 \$16.50
 Rubber Manning for use around electrical apparatus D 178-88 \$16.50
 Rubber insulating blankets D 1048-88Ae1 \$16.50
 Rubber insulating covers D 1049-88 \$16.50
 Rubber insulating line hose D 1050-90 \$16.50
 Rubber insulating sleeves D 1051-87 \$16.50
 In-service care - line hose and covers F 478-92 \$15.00
 In-service care - insulating blankets F479-88a \$15.00
 In-service care of insulating gloves and sleeves F 496-91 \$12.00~~

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

~~(8) Electrical protective equipment shall be maintained in a safe, reliable condition.~~

~~(9) All of the following specific requirements apply to insulating blankets, covers, line hose, gloves, and sleeves made of rubber as applicable:~~

~~(a) Maximum use voltages shall conform to the voltages listed in table 7.~~

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

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

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

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

- (iii) An embedded foreign object.
- (iv) Any of the following texture changes:
 - (A) Swelling.
 - (B) Softening.
 - (C) Hardening.
 - (D) Becoming sticky or inelastic.
- (v) Any other defect that damages the insulating properties.
- (d) Insulating equipment found to have other defects that might affect its insulating properties shall be removed from service and returned for testing under subdivisions (h) and (j) of this subrule.
- (e) Insulating equipment shall be cleaned as needed to remove foreign substances.
- (f) Insulating equipment shall be stored in a location and in a manner to protect it from all of the following:
 - (i) Light.
 - (ii) Temperature extremes.
 - (iii) Excessive humidity.
 - (iv) Ozone.
 - (v) Other injurious substances and conditions.
- (g) Protector gloves shall be worn over insulating gloves, except that protector gloves need not be used with class 0 gloves under limited-use conditions or where small equipment and parts manipulation necessitate unusually high finger dexterity. Any other class of glove may be used for similar work without protector gloves if the employer can demonstrate that the possibility of physical damage to the gloves is small and if the class of glove is 1 class higher than that required for the voltage involved. Insulating gloves that have been used without protector gloves shall not be used at a higher voltage until they have been tested under the provisions of subdivision (h) and (i) of this subrule. Extra care shall be taken when visually examining gloves and to avoid handling sharp objects.
- (h) Electrical protective equipment shall be subjected to periodic electrical tests. Test voltage and the maximum intervals between tests shall be in accordance with table 7 and table 8.
- (i) The test method used in this rule shall reliably indicate whether the insulating equipment can withstand the voltages involved. The standard electrical test methods considered as meeting this requirement are listed in table 3.
- (j) Only insulating equipment that passes inspection or electrical tests may be used by employees, except that rubber insulating line hose may be used in shorter lengths if the defective portion is cut off. Rubber insulating blankets may be repaired using a compatible patch that results in physical and electrical properties equal to those of the blanket. Rubber insulating blankets may be salvaged by severing the defective area from the undamaged portion of the blanket. The resulting undamaged area may not be less than 22 inches by 22 inches (560mm by 560mm) for class 1, 2, 3, and 4 blankets. Rubber insulating gloves and sleeves that have minor physical defects, such as small cuts, tears, or punctures, may be repaired by applying a compatible patch. Also, rubber insulating gloves and sleeves that have minor surface blemishes may be repaired with a compatible liquid compound. The patched area shall have electrical and physical properties equal to those of the surrounding material. Repairs to gloves are permitted only in the area between the wrist and the reinforced edge of the opening.
- (k) Repaired insulating equipment shall be retested before it may be used by employees.
- (l) An employer shall certify that equipment has been tested in accordance with the requirements of R-408.13387(9)(h), (i), and (k) of this subrule. The certification shall identify the equipment that passed the test and the date it was tested. The marking of equipment and entering the results of the tests and the dates of testing onto logs are acceptable means of equipment identification.
- (10) Material other than rubber that offers protection equivalent to or greater than rubber may be used if the material is certified to meet the appropriate ANSI-ASTM standard tests.
- (11) An insulated blanket, glove, or sleeve shall be capable of withstanding the voltage to which it may be subjected.
- (12) Exposed conductors or equipment, or both, except for conductors or equipment being directly worked on, which is energized from 750 volts to 28,000 volts phase to ground and which an employee may reach into or touch shall be isolated or covered with at least 1 of the following:
 - (a) An insulating blanket.
 - (b) An insulating hood.
 - (c) An insulating line hose.
 - (d) An insulating barrier.
- (13) An employee shall use insulating gloves and sleeves capable of withstanding the imposed voltage when performing any of the following activities:
 - (a) Working directly on, or within reaching distance of, a conductor or equipment at a nominal 750 volts or more phase to ground, except when using bare-handed techniques or a hot stick. Sleeves are not required for an employee who performs routine switching operations in a substation or powerhouse. An employee who uses gloves and sleeves and works directly on or within reaching distance of a conductor or equipment energized at more than 5,000 volts phase to ground shall do so from an insulated platform or board or an aerial device that has an insulated basket.

(b) Connecting or disconnecting primary neutrals, pole ground wires, or other conductors normally connected to static wires or energized equipment, except that gloves and sleeves need not be worn while connecting and disconnecting a service neutral or secondary neutral.

(c) Working on a de-energized conductor that extends into an area in which contact may be made with an energized conductor or exposed parts of energized equipment, unless the conductor is grounded or isolated. Insulating sleeves are optional at voltages of less than 750 volts phase to ground.

(14) An employee shall use insulating gloves capable of withstanding the imposed voltage when performing either of the following activities:

(a) When working with a powered or manual hole digger while using booms or using winch lines to install or remove poles or equipment where the hole digger may contact conductors or equipment energized at a voltage of 300 volts or more phase to ground. An employee need not use the gloves while in the enclosed cab of the equipment.

(b) When working directly on a conductor or equipment energized at a voltage of more than 240 volts phase to ground. This does not include the use of test equipment.

TABLE 4
ALTERNATING CURRENT PROOF TEST REQUIREMENTS
MAXIMUM PROOF TEST CURRENT, Ma (Gloves Only)

CLASS OF EQUIPMENT	PROOF TEST			
	267MM	356MM	406MM	475MM
	RMS V (10.5 in) (14 in) (16 in) (15 in)			
0-5000	8	12	14	16
1-10,000	14	16	18	
2-20,000	16	18	20	
3-30,000	18	20	22	
4-40,000	22	24		

TABLE 5
DIRECT CURRENT PROOF TEST REQUIREMENTS
CLASS OF EQUIPMENT PROOF TEST VOLTAGE

0-20,000
1-40,000
2-50,000
3-60,000
4-70,000

NOTE: The direct current voltages listed in this table are not appropriate for proof testing rubber insulating line hose or covers. For this equipment, direct current prove tests shall use a voltage high enough to indicate that the equipment can be safely used at the voltage is listed in table 6. See ASTM D1050-90 and ASTM D1049-88 for further information on prove tests for rubber insulating line hose and covers.

TABLE 6
GLOVE TESTS - WATER LEVEL 1, 2
CLASS OF GLOVE ALTERNATING CURRENT DIRECT CURRENT
PROOF TEST PROOF TEST

	mm. Inches		mm. Inches	
0-38	1.5	38	1.5	
1-38	1.5	38	2.0	
2-64	2.5	76	3.0	
3-89	3.5	102	4.0	
4-127	5.0	153	6.0	

1. The water level is given as the clearance from the cuff of the glove to the waterline, with the tolerance of +/- 13 mm (+/- 0.5 inches).

2. If atmospheric conditions make the specific clearances impractical, the clearance may be increased by a maximum of 25 mm (1 inch).

TABLE 7
RUBBER INSULATING EQUIPMENT VOLTAGE REQUIREMENTS
CLASS OF MAXIMUM USE RETEST VOLTAGE RETEST VOLTAGE
EQUIPMENT VOLTAGE ALTERNATING CURRENT DIRECT CURRENT
ROOT MEAN SQUARE AVERAGE

0-1000	5000	20,000
1-7,500	10,000	40,000
2-17,000	20,000	50,000

3-26,500-30,000-60,000
4-36,000-40,000-70,000

1. The maximum use voltage is the alternating current voltage (root mean square) classification of the protective equipment that designates the maximum nominal design voltage of the energized system that may be safely worked. The nominal voltage is equal to the phase-to-phase voltage on multiphase circuits. However, the phase-to-around potential is considered to be the nominal design voltage in either the following situations:

- (a) If there is no multiphase exposure in a system area and if the voltage exposure is limited to the phase-to-ground potential.
- (b) Electrical equipment and devices are insulated or isolated, or both, so that the multiphase exposure on a grounded wye circuit is removed.

2. The proof tests listed shall be applied continuously or not less than 1 minute, but not more than 3 minutes.

TABLE 8 RUBBER INSULATING EQUIPMENT TEST INTERVALS	
TYPE OF EQUIPMENT WHEN TO TEST	
RUBBER INSULATING LINE HOSE	UPON INDICATION THAT INSULATING VALUE IS SUSPECT.
RUBBER INSULATING COVERS	UPON INDICATION THAT INSULATING VALUE IS SUSPECT.
RUBBER INSULATING BLANKETS	BEFORE FIRST ISSUE AND EVERY 12 MONTHS THEREAFTER.
RUBBER INSULATING GLOVES	BEFORE FIRST ISSUE DAY AND EVERY 6 MONTHS THEREAFTER.
RUBBER INSULATING SLEEVES	BEFORE FIRST ISSUE DAY AND EVERY 12 MONTHS THEREAFTER.

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

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

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

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

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

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

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

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

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

(iii) An embedded foreign object.

(iv) Any of the following texture changes:

(A) Swelling.

(B) Softening.

(C) Hardening.

(D) Becoming sticky or inelastic.

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

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

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

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

(i) Light.

(ii) Temperature extremes.

(iii) Excessive humidity.

(iv) Ozone.

(v) Other injurious substances and conditions.

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

subdivisions (h) and(i) of this subrule. Extra care shall be taken when visually examining gloves and to avoid handling sharp objects.

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

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

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

(k) Repaired insulating equipment shall be retested before use by employees.

(l) An employer shall certify that equipment has been tested in accordance with the requirements of subrule (2)(h),(i), and (k) of this rule. The certification shall identify the equipment that passed the test and the date it was tested. The employer may mark equipment and enter the results of the tests and the dates of testing, logs are acceptable means of equipment identification.

(3) Material other than rubber that offers protection equivalent to or greater than rubber may be used if the material is certified to meet the appropriate ASTM standard tests.

(4) An insulated blanket, glove, or sleeve shall be capable of withstanding the voltage to which it may be subjected.

(5) Exposed conductors or equipment, or both, except for conductors or equipment being directly worked on, that is energized from 750 volts to 28,000 volts phase to ground and that an employee may reach into or touch shall be isolated or covered with at least 1 of the following:

- (a) An insulating blanket.
- (b) An insulating hood.
- (c) An insulating line hose.
- (d) An insulating barrier.

(6) An employee shall use insulating gloves and sleeves capable of withstanding the imposed voltage when performing any of the following activities:

(a) Working directly on, or within reaching distance of, a conductor or equipment at a nominal 750 volts or more phase to ground, except when using barehanded techniques or a hot stick. Sleeves are not required for an employee who performs routine switching operations in a substation or powerhouse. An employee who uses gloves and sleeves and works directly on or within reaching distance of a conductor or equipment energized at more than 5,000 volts phase to ground shall do so from an insulated platform or board or an aerial device that has an insulated basket.

(b) Connecting or disconnecting primary neutrals, pole ground wires, or other conductors normally connected to static wires or energized equipment, except that gloves and sleeves need not be worn while connecting and disconnecting a service neutral or secondary neutral.

(c) Working on a de-energized conductor that extends into an area in which contact may be made with an energized conductor or exposed parts of energized equipment, unless the conductor is grounded or isolated. Insulating sleeves are optional at voltages of less than 750 volts phase to ground.

(7) An employee shall use insulating gloves capable of withstanding the imposed voltage when performing either of the following activities:

(a) When working with a powered or manual hole digger while using booms or using winch lines to install or remove poles or equipment where the hole digger may contact conductors or equipment energized at a voltage of 300 volts or more phase to ground. An employee need not use the gloves while in the enclosed cab of the equipment.

(b) When working directly on a conductor or equipment energized at a voltage of more than 240 volts phase to ground. This does not include the use of test equipment.

**TABLE 3
ALTERNATING CURRENT PROOF-TEST REQUIREMENTS**

CLASS OF EQUIPMENT	PROOF-TEST VOLTAGE RMS V	MAXIMUM PROOF-TEST CURRENT, Ma (Globes Only)			
		267mm (10.5 in.) Glove	356mm (14 in.) Glove	406mm (16 in.) Glove	457mm (18 in.) Glove
0	5,000	8	12	14	16
1	10,000	-	14	16	18
2	20,000	-	16	18	20
3	30,000	-	18	20	22
4	40,000	-	-	22	24

**TABLE 4
DIRECT CURRENT PROOF-TEST REQUIREMENTS**

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

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

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

**TABLE 5
GLOVE TESTS – WATER LEVEL 1, 2**

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

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

**TABLE 6
RUBBER INSULATING EQUIPMENT VOLTAGE REQUIREMENTS**

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

1. The maximum use voltage is the alternating current voltage (root mean square) classification of the protective equipment that designates the maximum nominal design voltage of the energized system that may be safely worked. The nominal voltage is equal to the phase-to-phase voltage on multiphase circuits. However, the phase-to-ground potential is considered to be the nominal design voltage in either of the following situations:
 - (a) If there is no multiphase exposure in a system area and if the voltage exposure is limited to the phase-to-ground potential.
 - (b) If the electrical equipment and devices are insulated or isolated, or both, so that the multiphase exposure on a grounded wye circuit is removed.

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

**TABLE 7
RUBBER INSULATING EQUIPMENT TEST INTERVALS**

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

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

FALL PROTECTION SAFETY BELTS, HARNESSSES, LIFELINES, AND LANYARDS

R 408.13390. **Fall protection.** General requirements; safety belts, safety harnesses, lifelines, and lanyards generally.

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

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

- (a) Guardrail systems.
- (b) Safety net systems.
- (c) Personal fall arrest systems.

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

~~(1) Unless a safety net is used as prescribed in Construction Safety Standard, Part 45 "Fall Protection," as referenced in R 408.13301a, or an employee is protected by a perimeter guardrail or is working on a portable ladder, the employee shall be safeguarded by a safety belt or safety harness secured to a lifeline or structure capable of sustaining the imposed load, if the employee's work station is more than 25 feet above the ground, floor, water, or other surface. The safety belt and harness and any lifeline or lanyard shall be used only for safeguarding the employee. A safety belt, safety harness, lifeline, or lanyard subjected to in-service loading, rather than static loading, shall be removed from service and shall not be used again for employee safeguarding.~~

~~(2) Safety belt, safety harness, and lanyard hardware shall be made of cadmium plated, drop forged or pressed steel or metal of equivalent strength with edges free of sharp edges. The safety belt and lanyard hardware shall withstand a tensile load of 4,000 pounds without cracking, breaking, or permanent deformation. A lineman's body belt "D" ring and snaps shall withstand 5,000 pounds tensile test and the buckle 2,000 pounds tensile test.~~

~~(3) A lifeline shall be secured above the employee's workplace to an anchorage or structural member capable of supporting a dead weight of not less than 5,400 pounds~~

~~(4) A lifeline shall not be less than 3/4 inch manila rope or a material of equivalent strength, having a breaking strength of not less than 5,400 foot pounds except where the lifeline is used on rock scaling operation or in areas where the lifeline may be subject to cutting or abrasion, the line shall be not less than 7/8-inch manila rope with a wire core.~~

~~(5) A lanyard or safety strap shall be not less than 1/2 inch nylon rope or its equivalent with a maximum length to provide a free fall of not more than 6 feet. The breaking strength of the lanyard shall be not less than 5,400 pounds.~~

~~(6) A safety belt, safety strap, safety harness, lanyard, or lifeline, including the hardware, shall be inspected before using each day.~~

~~(7) A safety belt, safety harness, lifeline, or lanyard shall be stored in a clean dry area away from excessive heat or other deteriorating conditions.~~

~~(8) A lifeline or lanyard made of synthetic fibers shall not be kinked, run over sharp corners, used when frozen, left in freezing temperatures when wet, or exposed to sources of ignition or flame.~~

HAND PROTECTION

R 408.13392. Hand protection. generally.

Rule 3392. (4) An employer shall select and require employees to use appropriate hand protection when employees' hands are exposed to hazards, **such as those from** ~~that may cause~~ any of the following:

- (a) Skin absorption of harmful substances.
- (b) Severe cuts or lacerations.
- (c) Severe abrasions.
- (d) Punctures.
- (e) Chemical burns.
- (f) Thermal burns.
- (g) Harmful temperature extremes.

~~(2) An employer shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection relative to all of the following:~~

- ~~(a) The task to be performed.~~
- ~~(b) Conditions present.~~
- ~~(c) Duration of use.~~
- ~~(d) The hazards and potential hazards identified.~~

~~(3) Hand protection interiors shall be kept free of corrosive or irritating contaminants.~~

~~If more than 1 employee wears a pair of gloves, the gloves shall be sanitized before reissuance.~~

R 408.13393. Hand protection; selection.

Rule 3393. (1) An employer shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection related to all of the following:

- (a) The task or tasks to be performed.
- (b) Conditions present.
- (c) Duration of use.
- (d) The hazards and potential hazards identified.

(2) Hand protection interiors shall be kept free of corrosive or irritating contaminants.

(3) If more than 1 employee wears a pair of gloves, the gloves shall be sanitized before re-issuance.

BODY PROTECTION

R 408.13394. **Body protection.** ~~Body protection.~~

~~Rule 3394. (1) An employer shall assure that an employee who is required to work so that his or her clothing becomes wet due to a condition other than the weather or perspiration shall use such aprons, coats, jackets, sleeves, or other garments that will keep his or her clothing dry. The material shall be unaffected by the wetting agent.~~

~~The provision of dry, clean, acid-resistant clothing, in addition to rubber shoes or short boots and an apron, shall be considered a satisfactory substitute where small parts are cleaned, plated, or acid-dipped in an open tank.~~

~~(1) An employer shall ensure that each employee who is required to work so that his or her clothing becomes wet due to a condition other than the weather or perspiration uses any of the following:~~

~~(a) Aprons.~~

~~(b) Coats.~~

~~(c) Jackets.~~

~~(d) Sleeves.~~

~~(e) Other garments that will keep his or her clothing dry.~~

~~(2) The material shall be unaffected by the wetting agent.~~

~~(3) The provision of dry, clean, acid-resistant clothing, in addition to rubber shoes or short boots and an apron, shall be considered a satisfactory substitute where small parts are cleaned, plated, or acid-dipped in an open tank.~~

~~(4)(2) When abrasive blasting is not protected by an enclosure, the operator shall use heavy canvas or leather gloves and aprons or equivalent protection to provide protection from the impact of abrasives.~~

R 408.13398. **Rescinded.** ~~Rescission.~~

~~Rule 3398. The following general industry safety standards promulgated by the general industry safety standards commission pursuant to Act No. 154 of the Public Acts of 1974, as amended, being §408.1001 et seq. of the Michigan Compiled Laws, are rescinded:~~

~~(a) R 408.13101 to R 408.13135 of the Michigan Administrative Code, appearing on pages 3,717 to 3,721 of the 1979 Michigan Administrative Code and pages 136 and 137 of Quarterly Supplement No. 6 to the 1979 Code.~~

~~(b) R 408.13201 to R 408.13241 of the Michigan Administrative Code, appearing on pages 3,724 to 3,738 of the 1979 Michigan Administrative Code.~~

~~(c) R 408.13501 to R 408.13569 of the Michigan Administrative Code, appearing on pages 3,724 to 3,738 of the 1979 Michigan Administrative Code.~~