

**4123:1-5-17 Personal protective equipment.**

(A) Reserved.

(B) Reserved.

(C) Specific requirements of general application.

- (1) Personal protective equipment furnished by the employer shall be issued to the employee in sanitary and proper condition so that it will effectively protect against the hazard involved.
- (2) Where employees provide their own protective equipment, such equipment shall give equal or greater protection than that furnished by the employer.

(D) Eye and face protection.

(1) Responsibility.

The employer shall provide eye protection for all employees engaged in the operations listed in paragraph (D)(2) of this rule and exposed to an eye hazard. Eye protection shall also be provided for any other employees in the immediate area and who are exposed to the hazards of the operations listed. It shall be the responsibility of the employee to use the eye protection provided by the employer (see appendix to this rule for eye and face protector selection guide).

(2) Operations requiring eye protection.

(a) Eye protection shall be provided to employees performing the following operations:

- (i) When using hand tools or mechanical equipment to cut, chip, drill, clean, buff, grind, polish, shape, or surface masonry, brick, concrete, plaster, stone, plastics, or other hardened substances. This also covers demolition work where the material listed are part of the operation;
- (ii) Where acids, sand, or shot blast are used in building cleaning operations;
- (iii) Welding, brazing, soldering, or cutting operations involving the use of gas flames or electric arc. (See appendix to this rule);
- (iv) Where portland cement is taken from an elevated bin, hopper or similar structure by a chute;
- (v) All spray paint operations where the operator's eyes are exposed to paint mist in the atmosphere;
- (vi) All sand or shot blast operations where the operator's eyes are exposed to the blasting;
- (vii) The opening or closing of the tap holes of cupolas or melting furnaces;
- (viii) In the handling of molten metal, molten glass, and molten plastic;
- (ix) Metal and plastic chipping, cutting, cleaning, grinding, conditioning, or machining where there is danger of flying particles;
- (x) Dressing grinding wheels;
- (xi) Cleaning operations where wire wheels are used;
- (xii) In handling injurious acids, alkalis, or other chemicals;

- (xiii) Cutting, drilling, turning, planing, jointing, and sanding of wood with power tools;
- (xiv) Operation of portable powder-actuated, pneumatically powered, and other powered fastening tools;
- (xv) Operations requiring the use of compressed air;
- (xvi) When working in close proximity to a laser beam in excess of five milliwatts;
- (xvii) Pruning trees or cutting underbrush.

(b) This rule does not apply where a shield or exhaust equipment provides adequate eye protection for employees otherwise exposed to the hazards covered in paragraphs (D)(2)(a)(i) to (D)(2)(a)(xvii) of this rule.

(3) Face shields.

(a) Face shields may be provided in lieu of other forms of eye protection if they provide the required protection against the particular hazards for which they are designed.

(b) Face shields, in addition to eye protection, shall be provided where danger to the face exists, such as in the following operations:

- (i) Welding operations;
- (ii) All sand or shot blast operations;
- (iii) Cleaning operations where wire wheels are used;
- (iv) Metal and plastic chipping, cutting, cleaning, grinding, conditioning, or machining where there is danger of flying particles;
- (v) The handling of molten metal, molten glass, and molten plastic;
- (vi) The handling of injurious acids, alkalis, or other chemicals.

(4) Material requirements for eye protection shall meet ANSI Z87.1 - 1968.

(E) Foot (toe) protection.

Foot protection shall be worn by the employee where an employee is exposed to machinery or equipment that presents a foot hazard or where an employee is handling material which presents a foot hazard.

(F) Respiratory protection.

(1) Where there are air contaminants as defined in rule 4123:1-5-01 of the Administrative Code, the employer shall provide respiratory equipment approved for the hazard. It shall be the responsibility of the employee to use the respirator or respiratory equipment provided by the employer, guard it against damage and report any malfunction to the employer. Note: See appendix to this rule for basic guides for the selection of respirators.

(2) This requirement does not apply where an effective exhaust system (see rule 4123:1-5-18 of the Administrative Code) or where other means of equal or greater protection have been provided.

(G) Head and hair protection.

(1) Responsibility.

(a) Employer.

- (i) Whenever employees are required to be present where the potential hazards to their head exists from falling or flying objects, or from physical contact with rigid objects, or from exposures where there is a risk of injury from electric shock, employers shall provide employees with suitable protective headgear.

Where required, head protection shall meet the requirements of ANSI Z89.1 - 1969.

- (ii) When head protection is required employers shall provide accessories designed for use with the headgear.
- (iii) Damaged parts of protective headgear shall be replaced. Protective helmets and bump caps or parts thereof and hair enclosures shall be sanitized before reissue.

(b) Employees.

Employees shall not alter any head or hair protective equipment and shall use such equipment in accordance with instructions and training received.

(c) Hair enclosures.

- (i) A hat, cap or net shall be provided where there is danger of hair entanglement in moving parts of machinery or equipment, or where there is exposure to means of ignition. It shall be designed to enclose all loose hair and be adjustable to accommodate all head sizes. Material used for a hair enclosure shall be durable, fast-dyed, nonirritating to the skin, and capable of withstanding frequent cleaning. It shall not be reissued from one employee to another unless it has been thoroughly sanitized.
- (ii) Hair enclosures used in areas where there is exposure to sparks, hot or molten metals, or ignition from heat, flames, or chemical reaction shall be made of materials that are nonburning or flame retardant and do not melt.

(H) Hearing protection.

Employees exposed to continuous noise levels of ninety or more decibels (dBA) slow response shall be provided with approved ear protection. (If variations in noise level involve maxima at intervals of one second or less, the noise is considered continuous.) If ear plugs that require fitting are provided, they shall be fitted to the individual employees by a competent person.

(I) Protection of the body and exposed parts and other protective equipment.

- (1) All persons required to work in such a manner that their clothing may become wet with acids caustics or other injurious liquids shall be provided with such gloves, aprons, coats, jackets, sleeves, or other garments made of rubber, or other materials impervious to such liquids as are required to keep their clothing dry. Aprons shall extend well below the top of boots to prevent such liquid from splashing into the boots. Provision of dry clean cotton clothing along with rubber shoes or short boots and an apron impervious to such liquids shall be considered a satisfactory substitute where small parts are cleaned, plated, or acid-dipped in open tanks and rapid work is required.
- (2) Facilities for quick drenching or flushing of the eyes and body shall be provided within the work area,

where employees are exposed to injurious corrosive materials. Where plumbing is not available and where storage batteries of the enclosed type with explosion-proof vents are serviced exclusively, portable, self-contained eyewash equipment may be provided in lieu of the quick drenching or flushing facilities. Where portable self-contained eyewash equipment is used in lieu of drenching or flushing facilities, it shall be capable of delivering to the eye no less than 1.5 liters (0.4 gallons) per minute for a minimum of fifteen minutes.

(3) Welding, cutting, brazing, and molten metal exposures.

All employees exposed to the hazards created by welding, cutting, brazing, or molten metal operations shall be protected by protective clothing. This includes:

- (a) Flameproof gauntlet gloves.
- (b) Flameproof aprons made of leather, or other material which provides equivalent protection.
- (c) Exterior clothing made of wool, cotton, or other material chemically treated to reduce combustibility.
- (d) Capes or shoulder covers made of leather or other material which provides equivalent protection.
- (e) Protection for the ears from the overhead welding and cutting or welding and cutting in extremely confined spaces.

(4) Working by hand on energized circuits.

When an employee is required to work on, or in proximity to, energized lines, the employer shall provide and the employee shall use protective equipment approved for the hazard involved.

(5) Climbers.

- (a) Where employees are required to climb poles or trees, the employer shall provide climbers, the appropriate gaffs (spurs). Pole gaffs shall measure at least one and seven-sixteenth inches (36.5 mm) on the underside. Tee gaffs shall measure no more than three and one half inches (88.9 mm) nor less than two and one-fourth inches (57.2 mm) on the underside.

(b) Storage.

Storage facilities shall be provided so that the sharp points of the climber gaffs will not cause damage to other equipment or cause injury to employees.

(6) Safety belts, harness, lifelines and lanyards.

- (a) Lifelines, safety belts or harnesses and lanyards shall be provided by the employer, and it shall be the responsibility of the employee to wear such equipment when exposed to hazards of falling where the operation being performed is more than six feet above the ground or above a floor or platform, except as otherwise specified in this chapter, and when required to work on stored material in silos, hoppers, tanks, and similar storage areas. Lanyards and vertical lifelines shall have a minimum breaking strength of five thousand pounds. Anchorage used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least five thousand pounds per employee attached.

- (b) Where the lifeline may be subjected to cutting or abrasion, a minimum seven-eighths-inch wire core

manila rope, or equivalent, shall be provided. For all other lifeline applications, a minimum of three-fourths-inch manila rope, or equivalent, shall be provided.

- (c) Safety belt, harness, or strap lanyards shall be a minimum of one-half inch nylon, or equivalent, with a maximum length to provide for a fall of no more than six feet. The lanyard shall have a breaking strength of no more than five thousand pounds.
- (d) All safety belt, harness, or strap and lanyard hardware shall be drop-forged or pressed steel, cadmium plated. Surface shall be smooth and free from sharp edges.
- (e) All safety belt, harness, or strap and lanyard hardware shall be capable of withstanding a tensile loading of five thousand pounds without cracking, breaking, or becoming permanently deformed.

(7) Safety nets.

- (a) Safety nets shall be provided when workplaces are more than thirty feet above the ground, water, or other surface where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety belts is impractical.
- (b) Where safety net protection is required by this rule, operations shall not be undertaken until the net is in place and has been tested.
- (c) Nets shall extend outward from the outermost projection of the work surface in accordance with the following table to this rule and shall be installed as closed under the work surface as practical but in no case more than thirty feet below such work surface with the exception of bridge construction where only one level of nets is required. Nets shall be hung with sufficient clearance to prevent the falling employee's contact with the surface or structures below. Such clearance shall be determined by impact load testing.

Table

Vertical distance from working level to horizontal plane of the net.	Minimum required horizontal distance of net from the edge of the working surface.
Up to five feet	eight feet
More than five feet up to ten feet	ten feet
More than ten feet	thirteen feet

- (d) The mesh size of nets shall not exceed six inches. All new nets shall meet accepted performance standards of seventeen thousand five hundred foot-pounds minimum impact resistance as determined and certified by the manufacturer, and shall bear a label of proof test. Edge ropes shall provide a minimum breaking strength of five thousand pounds.
- (e) Forged steel safety hooks or shackles shall be used to fasten the net to its supports. Attachment of safety nets to the working platform is prohibited.
- (f) Connections between net panels shall maintain the full strength of the net.

(8) Working over or near water.

- (a) Where employees are working over or near water, and where the depth or current of the water creates a danger of drowning, the employer shall provide U.S. coast guard-approved life jackets or buoyant work vests for each employee.
- (b) Ring buoys with no less than ninety feet of line attached shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed two hundred feet.
- (c) At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water.
- (d) In cribs and cofferdams where employees are exposed to danger of falling inside of the enclosure containing water, a life raft shall be provided.

(9) Night work.

When working at night, spotlights or portable lights for emergency lighting shall be provided as needed to perform the work safely.

(10) Barriers and warning devices.

The employer shall provide barriers and effective warning devices such as flasher lights, "Men Working" signs, cones, flares, lanterns, flags and reflectors, for the protection of employees when work is performed in congested areas and where employees are exposed to traffic hazards or other working conditions where a hazard may exist.

(J) Employee's responsibility.

It shall be the responsibility of the employee to properly use the equipment provided by the employer as required in this rule.

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