

Section 3

PERSONAL PROTECTIVE EQUIPMENT (PPE)

General Requirements

Employers shall ensure that personal protective equipment (for eyes, face, head, and extremities), protective clothing, respiratory devices, protective shields and barricades, are provided, used and maintained in a sanitary and reliable condition. **All employees shall have necessary personal protective equipment with them at all times.**

Employees shall inspect PPE each time before use to ensure that it is in good working order and replace as necessary (if damaged or per manufacturers' recommendation).

To assist in evaluating required PPE for individual jobsites, the Job Hazard Assessment Form is to be used. See Section 18.

Employee-Owned Equipment

Where employees provide their own protective equipment, the employer shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

3.1 Proper Clothing

- (a) Do not wear shorts, tank tops or trousers with cuffs. Long-sleeve shirts are recommended.
- (b) Hand tools and other objects shall not be placed in the pockets of trousers due to the possibility of snagging on moving objects or contacting energized equipment.
- (c) Finger rings, loose jewelry and torn clothing are hazardous and shall not be worn.
- (d) When working around energized equipment, finger rings, metal-framed glasses, large belt buckles and watches shall be removed or protected to prevent contacting live components.
- (e) Personal protective equipment shall not be traded or exchanged unless sanitized.

- (f) Oil free clothing shall be worn when performing welding or cutting operations.
- (g) Always wear appropriate clothing when welding, grinding or working around an open flame.

3.2 Eye and Face Protection

OSHA standards require employers to provide suitable eye and face protection.

- (a) Types of protection
 - (1) Safety glasses with side protection (used for most situations).
 - (2) Goggles (used when dust or chemical splash hazards exist).
 - (A) Welder's Goggles
Used for gas cutting and welding operations. (See filter lens chart for proper shade and number in Figure 3a.)
 - (B) Welder's Shield
Used for electric arc-welding work. Lens shade chosen as above and protected by a clear cover glass.
 - (C) Face Shields
Shall be worn when entire face needs protection, (i.e.: flying sparks; chemical splash; etc.)
- (b) Employees shall wear eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical, or radiant agents, (i.e.: grinding; drilling; chiseling; babbiting; welding; dusty and windy atmosphere; etc.)
- (c) Eye and face protection shall meet the requirements specified in American National Standards Institute, "ANSI Z87.1-1989 (R1998), Practice for Occupational and Educational Eye and Face Protection."

- (d) Eye and face protection equipment shall be kept clean and in good repair. The use of this type equipment with structural or optical defects shall be prohibited.
- (e) Protection shall meet the following minimum requirements:
 - (1) Be adequate for the hazard.
 - (2) Fit snugly.
 - (3) Not interfere with the wearer's movements.
 - (4) Be durable, easy to clean, and capable of being disinfected.
 - (5) Be kept in good repair.
- (f) The user shall be instructed regarding any limitations or precautions indicated by the manufacturer.
- (g) Non-metallic eye protection shall be worn while working on or near electrical circuits or electrical apparatus.

Figure 3a

Filter lens shade numbers for protection against Radiant Energy	
Welding Operation	Shade Number
Shielded metal-arc welding 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	10
Gas-shielded arc welding (nonferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	11
Gas-shielded arc welding (ferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	12
Shielded metal arc welding (ferrous) 3/16-, 7/32-, 1/4-inch diameter electrodes	12
5/16-, 3/8-inch diameter electrodes	14
Atomic hydrogen welding	10-14
Carbon-arc welding	14
Soldering	2
Torch brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, over 6 inches	5 or 6
Gas welding (light), up to 1/8-inch	4 or 5
Gas welding (medium), 1/8-inch to 1/2-inch	5 or 6
Gas welding (heavy), over 1/2-inch	6 or 8

*General Note: 1 in. = 25.4 mm

- (h) **Tinted (except yellow) and shaded eye protection shall not be worn indoors except for welding and cutting operations.**
- (i) Contact lenses are not recommended at work.

3.3 Occupational Head Protection

OSHA standards require employers to provide suitable head protection.

- (a) Employees working in areas where there is a possible danger of head injury from impact, falling or flying objects, or from electric shock and burns shall be protected by hard hats.
- (b) Hard hats are to be worn at all times during all phases of construction. For modernization and repair tasks in the hoistway, hard hats are required (unless in a finished car).
- (c) Hard hats shall be worn with the suspension properly fitted.
- (d) Before using your hard hat, inspect it for cracks, etc.
- (e) Don't store hard hat where it is exposed to direct sunlight.
- (f) The application of decals, stickers, etc. is not recommended unless required by the jobsite General Contractor. Painting of hard hats is not permitted.

3.4 Occupational Foot Protection

Employers shall assess their employees' needs based on the type of work they perform to determine the proper work shoe for each employee. Work shoes purchased after June 1, 2006, shall meet ASTM F2412-05 and ASTM F2413-05. In addition Personal Protection-Protective Footwear shall conform to the following requirements:

- (a) Leather uppers
- (b) Oil resistant soles

- (c) Class 75 for impact and compression protection; where protective toe caps are required.
- (d) Employees working around live electrical equipment shall have electrically rated soles (EH rating).

3.5 Hearing Protection

OSHA standards require employers to provide suitable hearing protection. Hearing protection will be provided and used whenever it is not feasible to reduce the noise levels or duration of exposure below 85 dB on a time-weighted average.

- (a) There is no cure for noise-induced hearing loss.
- (b) Clean non-disposable earplugs after each use.
- (c) Earmuffs need to make a perfect seal around the ear to be effective.
- (d) For extremely noisy situations, wear earplugs and earmuffs.

As a rule of thumb if you must raise your voice to speak to others at a distance of 5 ft (1.5 m) or less - hearing protection should be worn.

3.6 Personal Fall Arrest Equipment

OSHA standards require employers to provide suitable fall arrest equipment.

- (a) Personal fall arrest equipment shall be worn and lanyards attached to lifelines at all times when working in or within 6 ft (1.8 m) of an open hoistway where there is the potential to fall more than 6 ft (1.8 m).
- (b) Personal fall arrest equipment shall be used only for employee safeguarding.
- (c) Any lifeline, harness, anchor, or lanyard actually subjected to shock loading, as distinguished from static loading, shall be immediately removed from service and shall not be used again for employee safeguarding.

- (d) Lifelines shall be secured above the point of operation to an anchorage or structural member capable of supporting a minimum dead weight of 5,000 lb (2268 kg).
- (e) Each employee is to be properly trained on the proper use, maintenance and inspection of personal fall arrest systems.
- (f) Lanyards shall be attached to lifeline or suitable anchorage such that an employee cannot free fall more than 6 ft (1.8 m), exceed calculated forces, nor contact any lower level.
- (g) See Section 4 on Fall Protection.

3.7 Hand Protection (Gloves)

- (a) Gloves shall be worn when potential hazards exist that could cause injuries to the hands, (i.e.: cuts; abrasions; burns; hazardous chemical exposure; etc.).
- (b) Gloves SHALL NOT be worn when working near moving machinery.

3.8 Respiratory Protection

In general, industry work environments do not pose a health risk from breathing contaminated air. However, respiratory protection may occasionally be required by job site conditions or building owner requirements. Contact your supervisor for more information if needed.

To control those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to eliminate the atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, appropriate respirators shall be used or completely avoid area depending on company policy.

If approved by the company, NIOSH approved dust respirators (non-sealing) can be used without the following requirements as long as the employee has no known medical condition which would put them at risk (i.e., heart condition, respiratory difficulties, etc.) and the mask is discarded when contaminated.

- (a) Only physically qualified employees will be trained and authorized to use respirators. A pre-authorization and annual certification by a physician will be required and maintained.
- (b) Any changes in an employees' health or physical characteristics which may affect their ability to wear a respirator (i.e., 20% weight gain or loss, heart condition, respiratory problems, etc.) shall be reported to their supervisor and will be evaluated by a physician.
- (c) Only authorized and trained employees shall use respirators. Those employees may use only the respirator that they have been trained on and properly fitted to use. The training is required initially and shall reoccur annually. This training shall include:
 - (1) How to select the proper type of respirator and/or cartridge.
 - (2) How to inspect and maintain the respirator.
 - (3) How and when to use the respirator.
 - (4) Limitations and capabilities of the respirator.
- (d) Before an employee is required to use any respirator, the employee shall be clean shaven where the respirator meets the face, fit tested with the same make, model, style, and size of respirator that will be used on the job. The fit testing is required initially and shall reoccur annually.