

Personal Protective Equipment (PPE)



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6201 S Street, Sacramento, CA 95817-1888

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Regulations :

- ★ Title 8, Sections:
 - ★ 3380-3390
 - ★ (General Industry Safety Orders)



Hazard Examples

- ✱ Chemicals
- ✱ Electrical
- ✱ Flying Particles
- ✱ Harmful Dust- Inhalation Hazards
- ✱ Heat/Cold
- ✱ Impact- Falling Objects
- ✱ Motion
- ✱ Noise
- ✱ Sharp Objects



Before Using PPE



- ✱ Engineering Controls
 - ✱ Example: Dust Collection System in Carpenter Shop
- ✱ Administrative Controls
 - ✱ Example: Task Rotation (Time)
- ✱ Work Practices
 - ✱ Example: Minimize Number of Employees Completing Specialized Tasks



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PPE Examples

- ✱ FR Clothing
- ✱ Gloves
- ✱ Goggles
- ✱ Safety Glasses
- ✱ Hard Hats
- ✱ Respirators
- ✱ Shoes



Everyone's Responsibility

- ✱ **Communication:**
- ✱ Identify & Control Health Hazards through various controls, if possible
 - ✱ Engineering
 - ✱ Administrative
 - ✱ Work Practice
- ✱ Identify & Provide Appropriate PPE
- ✱ Train Employee's in the Use & Care of PPE
- ✱ Replace worn or damaged PPE
- ✱ Review, Update, & Evaluate effectiveness of PPE Program



End User's Responsibility

- ★ **Communication:**
- ★ Advise of Previously Unrecognized Hazards
- ★ Participate in Training Sessions on PPE
- ★ Wear PPE Properly
- ★ Care for & maintain PPE
- ★ Go to Tool Room if need to repair or replace PPE- *immediately*



PPE Selection:

- ✱ ANSI-
 - ✱ American National Standards Institute
- ✱ Eye and Face Protection- Z87.1-2003
- ✱ Foot Protection- F2412-2005
- ✱ Head Protection- Z89.1-2003

- ✱ Hand Protection- No ANSI Standard
 - ✱ OSHA Recommends obtain for tasks being performed



Requirements:

- ✱ Protective equipment shall be distinctly marked so as to facilitate the identification of the manufacturer.
- ✱ Employer shall assure the employee is instructed and uses protective equipment in accordance with the manufacturer's instructions.



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- ✱ Employer shall assure that all PPE, whether employer-provided or employee-provided, complies with the applicable Title 8 standards for the equipment.
- ✱ The employer shall assure this equipment is maintained in a safe, sanitary condition.



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- ✱ Protectors shall be of such design, fit and durability as to provide adequate protection against the hazards for which they are designed.
- They shall be reasonably comfortable and shall not unduly encumber the employee's movements necessary to perform his work.



FR Clothing (NFPA70E)

Significantly reduces burn injuries (2nd degree)

- ✱ Increasing chances of survival if caught in flash fire or electric arc
- ✱ Provides Wearer escape time
- ✱ Replacement is dependent on use
 - ✱ 9-18 months, some up to 5 yrs
 - ✱ Beyond repair-holes which compromise protection; contaminated; thread-bare





3382 Eye and Face Protection

- ✱ Employees working in location where there is a risk of receiving eye injuries such as punctures, abrasions, contusions, or burns as a result of contact with flying particles, hazardous substances, projections or injurious light rays which are inherent in the work or environment, shall be safeguarded by means of face or eye protection.
 - ✱ Suitable screens or shields isolating hazardous exposures may be considered adequate safeguarding for nearby employees.



- ★ Where eye protection is required and the employee requires vision correction, such eye protection shall be provided as follows:
 - ★ Safety spectacles with suitable corrected lenses,
 - ★ Safety goggles designed to fit over spectacles
 - ★ Protective goggles with corrective lenses mounted behind the protective lenses.



- ✱ Wearing of contact lens is prohibited in working environments having harmful exposure to materials or light flashes, except when special precautionary procedures, which are medically approved, have been established for the protection of the exposed employee.



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Eye & Face Protect. Z87.1-2003

✱ Examples

- ✱ Glasses, Goggles, Face Shields, Welding-Helmets, Full Face-Piece Respirators
 - ✱ **Prescription Eye Safety Protection is available**

✱ Performance Testing

- ✱ High Impact
- ✱ Low Impact

✱ Replace when:

- ✱ Cracked Broken frames or lenses
- ✱ Scratches which minimize visibility



3383 Body Protection

- ✱ Body protection may be required for employees whose work exposes parts of their body, not otherwise protected as required by other orders in this article, to hazardous or flying substances or objects.
- ✱ Clothing appropriate for the work being done shall be worn. Loose sleeves, tails, ties, lapels, cuffs, or other loose clothing which can be entangled in moving machinery shall not be worn.
- ✱ **Clothing saturated or impregnated with flammable liquids, corrosive substances, irritants, or oxidizing agents shall be removed and shall not be worn until properly cleaned.**



3384 Hand Protection

- ✱ Hand protection shall be required for employees whose work involves unusual and excessive exposure of hands to cuts, burns, harmful physical or chemical agents or radioactive materials which are encountered and capable of causing injury or impairments.
- ✱ NOTE: Wrist watches, rings, or other jewelry should not be worn while working with or around machinery with moving parts in which such objects may be caught, or around electrically energized equipment.



Hand Protection

- ✱ No ANSI Standard specifically for hand protection
- ✱ OSHA recommends obtain for tasks being performed



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3381 Head Protection

- ✱ Employees working in locations where there is a risk of receiving head injuries from flying or falling objects and/or electric shock and burns shall wear approved head protection.
- ✱ When head protection is required, the employer shall ensure that approved protective helmets are selected and used in accordance with their demonstrated resistance to impact and electrical hazards.



Head Protection Z89.1- 2003

- ✱ After October 30, 2004, shall comply with American National Standards Institute (ANSI) Z89.1-2003 Industrial Head Protection
- ✱ **Class A** - impact & penetration resistance along with limited voltage protection (up to 2,200 volts).
- ✱ **Class B** - Highest level of protection against electrical hazards, with protection up to 20,000 volts. Also protect from impact & penetration hazards by flying/falling objects.
- ✱ **Class C, E, or G** -No risk of contact w/electrical conductors; Protection only to reduce injury from flying/falling objects.



- ✱ What to look for:
 - ✱ Perforation, cracking, or deformity of the brim or shell
 - ✱ Indication of exposure of the brim or shell to heat, chemicals or ultraviolet light and other radiation (in addition to a loss of surface gloss, such signs include chalking or flaking)
- ✱ **Always replace a hard hat if it sustains an impact, even if damage is not noticeable**



- ✱ Each approved protective helmet shall bear the original marking required by the ANSI standard under which it was approved.
 - ✱ At a minimum, the marking shall identify the manufacturer, ANSI designated standard number and date, and ANSI designated class of helmet.
- ✱ Where there is a risk of injury from hair entanglements in moving parts of machinery, combustibles or toxic contaminants, employees shall confine their hair to eliminate the hazard.



3385 Foot Protection

- ★ Footwear which is defective or inappropriate to the extent that its ordinary use creates the possibility of foot injuries shall not be worn.



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★ Shoes May Become Compromised if:

- ★ They become wet
- ★ The soles become worn through
- ★ Metal particles become embedded in the sole or heel
- ★ Workers touch conductive or grounded items



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Donning Equipment

- ✱ Inspect before each use
- ✱ Maintain in operable condition
 - ✱ Adhere to Manufacturer's Instructions
 - ✱ No Modifications
 - ✱ Clean
- ✱ Ensure Proper Fit
 - ✱ Stay In Place
 - ✱ Wear Properly
- ✱ Replace as Needed
- ✱ **KNOW IT'S LIMITATIONS!**

