

PPE: Eye and Face Protection Requirements

Department: Industrial Hygiene and Information Management

Program: Personal Protective Equipment

Owner: Program Manager

Authority: ES&H Manual, Chapter 19, Personal Protective Equipment¹

Federal Occupational, Safety, and Health Administration (OSHA) standards state that eye protection is “required where there is a reasonable probability of injury that can be prevented by such equipment”.

SLAC recognizes that appropriate safety practices include providing eye protection to personnel who are at risk of eye injury. Areas where eye protection is required will be posted with a sign. Sample wording is

CAUTION – EYE HAZARD AREA – DO NOT ENTER WITHOUT EYE PROTECTION

All personnel who work in such an area must wear eye protection. Managers and supervisors responsible for eye hazard areas must make eye protection available to all personnel, including visitors, who enter the area.

Potential eye hazards include operations that

- Produce flying particles, such as those created when using machining equipment or portable power tools
- Involve the handling of hazardous liquids, for example, chemicals, plating baths, or epoxies where there is a potential for a chemical splash hazard
- Involve exposure to intense light, such as working with UV or lasers. For lasers, the system laser safety officer (SLSO) will determine which protective eyewear personnel will use by considering the following:
 - Wavelength(s) of laser output
 - Power (Watts per cm² or Joules)
 - Beam divergence
- Produce molten metal by welding or brazing
- Produce an electric arc, such as by grounding a charged capacitor
- Could expose workers to electrical arc flash
- Use pressure systems, such as compressed air or hydraulic systems
- Involve exposure to cryogenics

Personnel are required to wear eye protection when performing any task that presents an eye-injury hazard. The ES&H Division and the Medical Department are available to assist in defining eye-hazard operations and in selecting appropriate eye protection. The following table presents some common tasks, hazards, and PPE.

¹ *SLAC Environment, Safety, and Health Manual* (SLAC-I-720-0A29Z-001), Chapter 19, “Personal Protective Equipment”, <http://www-group.slac.stanford.edu/esh/general/ppe/policies.htm>

PPE: Eye and Face Protection Requirements

Task	Hazard	Eye and Face Protection
Chipping, grinding machining, drilling, chiseling, riveting, sanding	Flying fragments, objects, large chips, particles, sand, dirt, etc.	Spectacles with side protection, goggles, face shields. For severe exposure, use face shield over primary eye protection
Overhead chipping, grinding, sanding	Flying fragments, objects, large chips, particles, sand, dirt, etc.	Goggles
Acid and chemicals handling	Splash, irritating mists	Goggles, eyecup and cover types. For severe exposure, use face shield over primary eye protection. Special-purpose goggles
Woodworking, buffing, general dusty conditions	Nuisance dust	Goggles, eyecup, and cover types
Welding – electric arc Welding – gas Cutting, torch brazing, torch soldering	Optical radiation, poor vision, glare	Welding helmets or welding shields. Typical shades: 10-14. Welding goggles or welding face shield. Typical shades: gas welding 4-8, cutting 3-6, brazing 3-4. Spectacles or welding face shield. Typical shades: 1.5-3 Spectacles with shaded or special-purpose lenses, as suitable.
Lasers	Optical radiation	Laser safety eyewear (ANSI Z136.1-2000)

See PPE: Prescription Safety Glasses Purchase and Reimbursement Procedure for steps to follow to purchase prescription safety glasses eligible for reimbursement.² See also PPE: Prescription Safety Glasses Approval Form.³

2 PPE: Prescription Safety Glasses Purchase and Reimbursement Procedure (SLAC-I-730-0A21C-018), <http://www-group.slac.stanford.edu/esh/eshmanual/references/PPEProcedReimburseGlasses.pdf>

3 PPE: Prescription Safety Glasses Approval Form (SLAC-I-730-0A21J-001), <http://www-group.slac.stanford.edu/esh/eshmanual/references/PPEFormGlasses.pdf> | [.doc \(Word\)](#)