



Physics Division ESH Bulletin 01-3

EYE AND FACE PROTECTION CHART

Source	Assessment of Hazard	Protection
IMPACT	Flying fragments, objects, large chips, particles of sand, dirt, etc.	Spectacles with side protection, goggles, face shields. See notes (1), (3), (5), (6), and (10). For severe exposure, use face shield.
HEAT	Hot sparks	Face shields, goggles, spectacles with side protection. for severe exposure, use face shield. See notes (1), (2), and (3).
	Splash from molten metals	Face shields worn over goggles. See notes (1), (2), and (3).
	High-temperature exposure	Screen face shields, reflective face shields. See notes (1), (2), and (3).
CHEMICALS	Splashing liquids	Goggles, eyecup and cover types. For severe exposure, use face shield. See notes (3) and (11).
	Irritating mists	Special purpose goggles.
DUST	Nuisance dust	Goggles, eyecup and cover types. See note (8).
LIGHT and/or RADIATION- Welding: Electric Arc	Optical radiation	Welding helmets or welding shields. Typical shades: 10-14. See notes (9) and (12).
Welding: Gas	Optical radiation	Welding goggles or welding face shield. Typical shades: gas welding 4-8, cutting 3-6, brazing 3-4. See note (9).
Cutting, Torch brazing, Torch soldering	Optical radiation	Spectacles or welding face shield. Typical shades: 1.5-3. See notes (3) and (9).
Glare	Poor vision	Spectacles with shaded or special-purpose lenses, as suitable. See notes (9) and (10).

Notes to Eye and Face Protection Chart:

1. Care should 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 should be provided. Protective devices do not provide unlimited protection. Shaded lenses are not filter lenses unless they are marked or identified as such protection.
2. Operations involving heat may also involve light radiation. As required by the standard, protection from both hazards must be provided.
3. Face shields should only be worn over primary eye protection (spectacles or goggles).
4. As required by the standard, filter lenses must meet the requirements for shade designations in 1910.133(a)(5). Tinted and shaded lenses are not filter lenses unless they are marked as such.
5. As required by the standard, persons whose vision requires the use of prescription (Rx) lenses must wear either protective devices fitted with prescription (Rx) lenses or protective devices designed to be worn over regular prescription (Rx) eye wear.
6. Wearers of contact lenses must also wear appropriate 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 protective devices in electrical hazard areas.
8. Atmospheric conditions and the restricted ventilation of the protector can cause lenses to fog. Frequent cleansing may be necessary.
9. Welding helmets or face shields should be used only over primary eye protection (spectacles or goggles).
10. Non-sideshield spectacles are available for frontal protection only, but are not acceptable protection for the sources and operations listed for "impact".
11. Ventilation should be adequate, but well protected from splash entry. Eye and face protection should be designed and used so that it provides both adequate ventilation and protects the wearer from the splash entry.
12. Protection from light radiation is directly related to filter lens density. See note (4). Select the darkest shade that allows task performance.