

PHYSICS DIVISION

ESH BULLETIN 11-03

Replaces ESH BULLETIN 01-3

**EYE and FACE PROTECTION CHART**

(Dept. of Administration, State of Wisconsin)

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**SELECTION CHART FOR EYE AND FACE PROTECTION**

The following chart provides general guidance for the proper selection of eye and face protection for hazards associated with the listed hazard “source” operations.

| <b>SOURCE</b>  | <b>TYPE OF HAZARD</b>   | <b>PROTECTION</b>  |
|--|---|--|
| <b>IMPACT</b> – Chipping, grinding, machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and 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. See notes (1), (3), (5), (6), (10). |
| <b>HEAT</b> – Furnace operations, pouring, casting, hot dipping, and welding.  | Hot sparks  | Face shields, goggles, spectacles with side protection. For severe exposure use a face shield. See notes (1), (2), (3).                                      |
|  | Splash from molten metals   | Face shields worn over goggles. See notes (1), (2), (3).   |
|  | High temperature exposure   | Screen face shields, reflective face shields. See notes (1), (2), (3).   |
| <b>CHEMICALS</b> – Acid and chemical handling, use of cleaning products, paint use and clean-up products, pesticide and herbicide use.           | Splash  | Chemical splash goggles, eyecup and cover types. For severe exposure, use face shield. See notes (3), (11).  |
|  | Irritating mists  | Special-purpose goggles.   |
| <b>DUST</b> – Woodworking, buffing, general dusty conditions.  | Nuisance dust   | Goggles or spectacles with side protection. See note (8).  |
| <b>LIGHT and/or RADIATION</b> –<br>Welding: Electric Arc.  | Optical radiation   | Welding helmets or welding shields. Typical shades: 10-14. See notes (9), (12).  |
| <b>WELDING:</b> Gas  | Optical radiation   | Welding goggles or welding face shield. Typical shades: gas welding 4-8, cutting 3-6, brazing 3-4.   |

|  |                   |  |
|--|-------------------|--|
|  |                   | See note (9).  |
| <b>WELDING:</b> Torch brazing,<br>Torch soldering. | Optical radiation | Spectacles or welding face shield. Typical shades: 1.5-3. See notes (3), (9).  |
| <b>GLARE</b>                                       | Poor vision       | Spectacles or welding face shield. Spectacles with shaded or special-purpose lenses, as suitable. See notes (9), (10). |

## NOTES TO EYE AND FACE PROTECTION SELECTION 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.
2. Operations involving heat may also involve light radiation. When necessary, protection from other hazards must be provided.
3. Face shields should only be worn over primary eye protection (spectacles or goggles).
4. Filter lenses must meet the requirements for shade designations as outlined in the OSHA regulations and ANSI standards. Tinted and shaded lenses are not filter lenses unless they are marked or identified as such.
5. As required by the standard, persons whose vision requires the use of prescription lenses must wear either protective devices fitted with prescription lenses or protective devices designed to be worn over regular prescription eyewear.
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 eye protection for the sources and operations listed for "impact".
11. Must provide adequate ventilation (indirect ventilation holes) and also protect the wearer from splash entry. Eye and face protection should be designed and used so that it provides both adequate ventilation (indirect ventilation holes) and protects the wearer from splash entry.
12. Protection from light radiation is directly related to filter lens density. See note (4). Select the darkest shade that allows the task to be performed.