

to some chemicals but satisfactorily stop splashes and protect the eyes

- Whereas fogging occurs on both glass and plastic, it usually takes longer for plastic to fog

Frames should be rigid enough to hold the lenses in the proper position in front of the eyes. Most manufacturers make spectacles with a bridge designed to fit the majority of faces. Frames should be constructed of corrosion-resistant material that will neither irritate nor color the skin. The simpler the design, the easier the goggle is to clean.

Cup goggles should have cups large enough to protect the eye socket and to distribute the impact over a wide area of the facial bones. Cups should be flame-resistant (as should be the frames), corrosion resistant, and nonirritating to the skin.

If lenses are to be exposed to pitting from grinding wheel sparks, a transparent and durable coating may be applied to them. Welding lenses should be protected by a cover lens of glass or plastic.

Lenses must not have appreciable distortion or prism effect. ASI Standard Z87 and Federal Specification GGG-G-501b (*Federal Standard Stock Catalog*) limits the non-parallelism between the two faces to $\frac{1}{16}$ prism diopter (4 minutes of arc) and both the re-

fraction in any meridian and the difference in refraction between any two meridians to $\frac{1}{16}$ diopter.

Both when supported in the eye cups of goggles and when supported on a rubber gasket on a wood tube, lenses are required to withstand the impact test described earlier in this section.

Comfort and fit

To be comfortable, eye protective equipment must be properly fitted. Corrective spectacles should be fitted only by members of the ophthalmic profession. An employee can be trained to fit, adjust, and maintain eye protective equipment, however, and each employee can be taught the proper care of the device he uses.

To give the widest possible field of vision, goggles should be fitted as close to the eyes as possible, without bringing the eyelashes in contact with the lenses.

Various defogging materials are available. Before a selection is made, test to determine the most effective type for a specific application.

In areas where goggles or other types of eye protection are used extensively, goggle cleaning stations can be conveniently located. Defogging materials and wiping tissues can be provided there along with a receptacle for



FIG 38-15 — Three types of face shields. Left: Metal-screen face shield affords protection to furnacemen and others exposed to radiant heat. Center: Chemical-resistant full-face shield stopped a splash of boiling caustic. Right: Sturdy, nonflammable helmet with specified cover and filter plates protects welder from sparks, flying particles, and injurious rays.