

## PERSONAL PROTECTIVE EQUIPMENT

esses also emit ultraviolet radiations. Gas welding presents problems mostly in the control of infrared and visible radiations. Heavy amperage arc welding also presents problems in the control of ultraviolet

Welders may choose the shade of lenses they prefer within one or two shade numbers. Following are shades commonly used

SHADES NO 15 to NO 30 are intended for glare from snow, ice, and reflecting surfaces, and for stray flashes and reflected radiation from cutting and welding operations in the immediate vicinity (for goggles or spectacles with side shields worn under helmets in arc welding operations, particularly gas shielded arc welding operations)

SHADE NO 4, the same as shades 15 to 30, but for greater radiation intensity

For welding, cutting, brazing, or soldering operations, the guide for the selection of the proper shade numbers of filter lenses or windows in Chapter 29, "Welding and Cutting," should be used (Recommendations are also in the *American Standard Safety Code for Head, Eye, and Respiratory Protection*, Z21-1959)

To protect filter lenses against pitting, they should be worn with a replaceable plastic or glass cover plate

For protection against visible glare only, safety spectacles having mild filter shade lenses or polarizing lenses and having opaque side shields are adequate. For conditions where hot metal may spatter and visible glare must be reduced, a plastic face shield worn over mild filter shade spectacles with opaque side shields should be specified

It is permissible and often desirable to combine the shade of the plate in the welder's helmet with the shade of the goggle or spectacle worn underneath the helmet in order to produce the desired total shade. This has the advantage of providing some protection to the eyes from other welding operations or from an accidental arc when the helmet is raised for inspection.

To protect against ultraviolet and infrared radiation, as well as against visible glare, protective lenses should be installed in a hand shield or welder's helmet. The shield should be made of a nonflammable material opaque to the dangerous radiation and a poor conductor of heat. A metal shield is not desirable, for it heats under infrared radiation

Some tinted lenses used in special work afford no protection from infrared and ultraviolet radiations. For instance, most

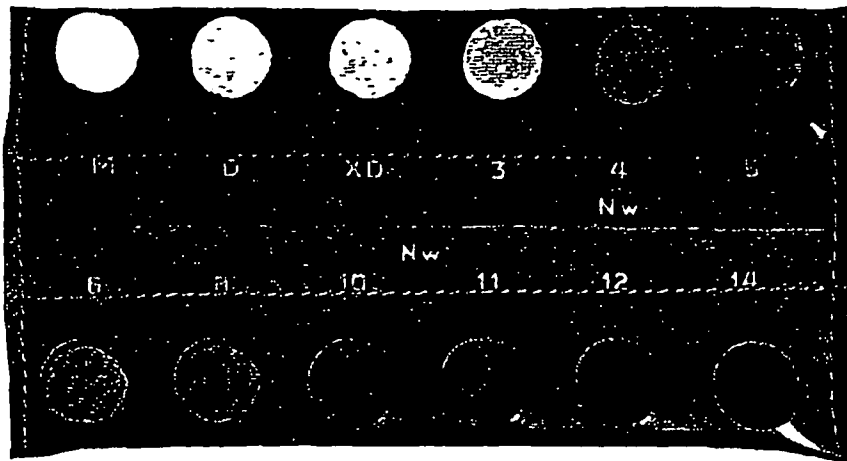


Fig 36-10 Various filter lens shades