

Personal Protective Equipment

# Selecting the Best Shade for the Job

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According to OSHA, the intensity of visible light and radiant energy produced by operations varies depending on the task, the electrode size, and the arc current. Workers involved in welding, cutting, and brazing operations must use appropriate welding protection depending on specific welding operations.

Only filter lenses with the appropriate shade number will provide protection against optical radiation. Filter lenses must coincide to specific radiant energy exposure. Welding protectors are constructed of heat-resistant material such as vulcanized fiber or fiberglass and fitted with a filtered lens to protect workers' eyes from burns caused by infrared or other intense radiant energy. These devices protect the eyes and face from flying sparks, metal spatter, and slag chips produced during welding, brazing, soldering, and cutting.

Welding helmets are secondary protectors intended to shield the eyes and face from optical radiation, heat, and impact. Use welding helmets in addition to primary protection such as safety spectacles or goggles to provide adequate protection.

Use the chart below to help you find the right shade for your welding process.

**ANSI Z49.1 Welding Shade Selector Chart**

WELDING PROCESS	A (Ampère)	0.5	1	2.5	5	10	15	20	30	40	50	60	70	80	90	100	125	150	160	175	200	225	250	275	300	350	400	450	500	550+		
	Stick (SMAW)															10						12										14
MIG (GMAW)															11							12										
TIG (GTAW)																																
Plasma Welding																																
Plasma Cutting																																

Shade numbers are given as a guide only and may be varied to suit individual needs. As a rule of thumb, start with a shade that is too dark then go to a lighter shade without going below the minimum.

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