

## **Welding Protection Equipment and Safety**

Due to the temperatures and elements involved welding is highly dangerous and can be lethal if done incorrectly. Before you set up to weld you must make sure you have the correct equipment and that it is in good repair. By good repair I mean there is no physical damage. Make sure there is no damaged cord with exposed wires which can lead to electrocution. Electric welding can be particularly hazardous to persons who have had some particular medical procedures. Consultation with your health care professional is advised.

The Personal Protection Equipment or PPE is essential. You will need a welding helmet, safety glasses for grinding to protect against slag chips, boots or enclosed footwear so that molten slag does not drip down and burn your feet. Burning flesh does not smell nice. Leather gloves to protect your sensitive hands from the intense heat and other damage. Exposed skin can suffer burns due to the intense ultraviolet light. **Do not wear** plastic or non natural fiber clothing as it can melt and stick to your skin, if you can get hold of an old leather apron that is even better. I use fire proof overalls which are excellent. Appropriate PPE is available from reputable suppliers. The welding helmet is the most important part of your equipment. The ultra violet light produced by the electrical arc can cause burns to the cornea of the eye, similar to extremely bad sun burn called welding flash. It typically occurs when you just look away when tack welding rather than using your helmet. The message is to protect your eyes from flash burns and metal foreign bodies, imbedded corneal foreign bodies rust and are also painful and can cause permanent scarring, you only have one set of eyes.

There are 2 types of helmet on the market, one is the old flip type with the permanent dark shield lens. They sell for around \$15, but what I use is an auto shield. These are the ones to have, once an arc or spark occur the screen darkens instantly, so you have a clear view of the job to be welded before welding starts. I use one both at work and at home. They range in price from \$60 to \$1,500. The expensive ones have an air pump supplying fresh air to the welder in environments where there is air contamination, typically in ship building situations.

Next article I will discuss getting started with a stick welder, electrodes, welding wire & gas bottles and their hire costs for MIG & TIG Welding.

Cheers from the **Fitter Dude**.

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