

PARTICIPATI N

Welding Safety

● by Steven Kirk Nelson, Team Kiss

Welding is really safe for the most part. Welding is also fun. But you always have to pay attention to what you are doing and the environment you are doing it in.

What to Do

● Always wear a welding helmet or goggles with the correct shade of lens.

● Wear protective clothing made from 100% cotton or leather or Nomex weld-jackets and pants.

● Always wear welding gloves made from leather or Nomex.

● Remove anything that can burn or catch fire from your welding area.

● Remove all gas cans and fuel tanks, solvents

or paint cans from your welding area.

● Remove all electrical cords, power tools, and circuit boards from your welding area.

● Keep all high pressure cylinders

ALWAYS WEAR EYE PROTECTION! *Recommended Helmet Shade Levels for Welding or Cutting*

Type	Shade Level (1)(2)
Gas welding	4-8
Gas cutting	3-6
Plasma cutting	5
Arc welding	10-14
MIG welding	10-13
TIG welding	11-14

(1) The low shade number is good up to about 1/4 inch thick material.

(2) There is a basic rule of thumb that says you should always pick a shade level that allows you to see the welding puddle without noticeable eye strain, but try different lens shades because each person is different. I like an 11 or 12 shade lens for arc or MIG welding steel.



Willy the Welder added some extra protection to the welding glove on his left hand using a reflective pad. Photo courtesy of Steven Kirk Nelson and Pete Maxham.

in the upright position and chain them to a stand or something solid and stable.

- Always remove the regulator and install the safety cap before transporting cylinders.
- Communicate with people and other critters or children around you before you strike an arc.
- Keep an ABC fire extinguisher and a steel bucket full of water handy.
- Totally clean your metal before welding. Oil, dirt, paint, and galvanizing contaminates welds and produces toxic gasses.
- Provide good ventilation in your welding area.
- Move the project to a position that is comfortable and easy for you to



Pyrotechnic Pete figures he's okay, since he's just doing a tack weld. Photo courtesy of Steven Kirk Nelson and Pete Maxham.

run a bead on.

What Not to Do

- Weld without protecting your eyes. (Even tack welding for an instant without a proper lens can sunburn your eyes.)
- Weld without covering all your skin and fur with proper protective clothing.
- Wear polyester, nylon, or any other oil-based clothing material.
- Lift or carry high pressure cylinders by their valve or regulator.
- Weld on gas tanks, high pressure cylinders, oil tanks, or anything that has had flammable chemicals in it.
- Drip hot steel onto your torch hoses. (Hose fires are bad.)

“Build Safe, Build Mean, Build Strong”

Steven adds some bonus wisdom along with his buddy Mat Maxham (Team Plumb Crazy). We were just comparing burn scars last weekend. We've both done it wrong several times. Many of our bots have left a lasting impression on our frail human bodies. It's easy to be safe when you're not in a hurry. The period of time required to inspect a recent weld, using you bare hands, is directly proportional to the heat applied to the weld. The hotter it is, the shorter the inspection time. Pass on what you have learned.

- Panic if you start a fire. (Put the fire out while it is still small.)
- Try fighting a big fire. (If an extinguisher or five gallons of water won't put it out quickly, leave the shop and call 911).
- Breathe the toxic smoke. (The breathable air is usually *better* on the floor. Crawl out of the shop quickly if the air gets bad.)

If you have any questions about welding or want to learn how to weld, take a welding class. Most junior colleges or adult education programs offer them. **SV**