

Safety Meeting
Welding and Cutting



Company: _____ Presenter: _____ Date: _____

Protecting yourself when performing welding operations depends on your understanding of the hazards involved and the proper way to control them. Control of welding hazards include avoiding eye injury, respiratory protection, ventilation of the work area, protective clothing and having safe equipment to use.

Eye hazards include exposure to ultraviolet and infrared light. Welders and their helpers should wear filter glasses with shades ranging from 2 to 14, depending on the type of welding being done, to protect their eyes. Unless a welding arc is behind a screen, not only the welder, but also people nearby may need eye protection. Other employees should be excluded within a 30 foot radius from gas or low powered arc welding, or also be protected with appropriate filter lenses. Heavy welding requires a 100 foot radius. Inert gas welding produces 5 to 30 times as much ultraviolet light as arc welding and requires shielding for even greater distances. Keep in mind that ordinary untreated plastic lenses absorb ultraviolet light very poorly and should not be relied on for protection.

Virtually all welding processes generate gases, fume and dusts. Gases generated include carbon monoxide, carbon dioxide, ozone, and nitrous gases. Other gases may also be formed in the presence of chemicals which may be on the material being welded. For example 1,1,1 Trichloroethane generates phosgene gas when exposed to the heat of welding. Welding and cutting can also generate fumes from cadmium, lead, cyanide, beryllium, arsenic, fluorides, nickel, cyanide, and other materials when can be hazardous if inhaled. Proper respiratory protection should always be worn when cutting or welding. The best type of protection to use can be determined by reading the Material Safety Data Sheet for the material being welded, or the manufacturer of the rod or flux being used.

Mechanical ventilation at the rate of 2,000 cubic feet per minute per welder is required if the area is more crowded than 10,000 cubic feet per welder; has a ceiling height of less than 16 feet; or in confined spaces where structural barriers significantly obstruct cross ventilation. Additional specific ventilation requirements are necessary for fluorine compounds, zinc, lead, beryllium, cadmium, mercury, and for stainless steel that is oxygen cut using either a chemical flux or iron powder or gas shielded arc cutting. Where it is not possible to provide this ventilation, airline respirators, hose masks, or self contained units must be used. Oxygen should never be used for ventilation.

All parts of the body should be protected from radiant energy, sparks, and molten metal splashes. Clothing made from wool, or wool blends, is generally better than cotton. Some cutting operations such as inert-gas metal arc welding will cause exposed cotton clothing to rapidly deteriorate. Leather capes, jackets, leggings, and aprons provide additional protection especially in vertical, or overhead operations. Use of dark clothing will help

reduce reflected light.

All welding equipment should be inspected each day prior to use. Report any defects found in regulators, torches or electrical components to a person that is qualified to make the necessary repairs.

Employee Signatures
