

SAFE WORK PRACTICE – WELDING (PPE)

PURPOSE

To provide a reminder of the hazards that require welders to wear suitable protective equipment. In general, Personal Protective Equipment (PPE) must protect against hazards such as burns, sparks, spatter, electric shock, and radiation. The use of PPE is a good safe practice and may be required by regulatory agencies.

POTENTIAL HAZARDS

Welding and cutting can produce hazards such as sparks, spatter, radiation (infrared, ultraviolet, and blue light), slag, heat, hot metal, fumes and gases, and even electric shock may cause burns, injury, or death.

EYE AND FACE PROTECTION

- Wear a helmet with filter lens and cover plate for protection from radiant energy, flying sparks, and spatter.
- Helmets and hand shields shall protect the face, forehead, neck, and ears to a vertical line behind the ears, from the direct radiant energy from the arc and from direct weld spatter.
- Wear approved safety glasses with side shields (or goggles) under your helmet to protect against flying metal, slag chips, grinding fragments, wire wheel bristles, and similar hazards, which can ricochet under the helmet.

HEAD AND EAR PROTECTION

- Wear a fire-resistant welder's cap or other head covering under your helmet to protect your head and hair from flying sparks, spatter, burns, and radiation.
- When working out of position, such as overhead, wear approved earplugs or muffs to prevent sparks, spatter, and hot metal from entering your ears and causing burns.
- If loud noise is present, wear approved earplugs or muffs to protect your hearing and prevent hearing loss.

FOOT PROTECTION

- Select boots that meet CSA requirements. Look for a compliance mark inside your boot.
- Wear leather, steel-toed, high-topped boots in good condition to protect your feet and ankles from injury.
- In heavy spark or slag areas, use fire resistant boot protectors or leather spats strapped around your pant legs and boot tops to prevent injury and burns.
- Do not wear pants with cuffs. Wear the bottoms of your pants over the tops of your boots to keep out sparks and flying metal. Do not tuck pant legs into your boots.

HAND PROTECTION

- Wear dry, hole-free, insulated welding gloves in good condition to help protect your hands from burns, sparks, heat, cuts, scratches, and electric shock.

- Wear protective flame-resistant gloves, such as leather welder’s gloves to provide the heat resistance and general hand protection needed for welding.

BODY PROTECTION

- Wear oil-free protective clothing made of wool or heavy cotton. Heavier materials work best. They are harder to ignite and resist wear and damage. Do not wear synthetic (man-made) fabrics because they may burn easily, melt, stick to your skin, and cause serious burns.
- Choose clothing that allows freedom of movement and covers all areas of exposed skin to minimize skin burns caused by sparks, spatter, or radiation.
- Wear long sleeved shirts (no t-shirts), and button the cuffs, pockets, and collar to protect your arms and neck from radiation exposure and skin burns (caused by ultraviolet radiation from the arc).
- Wear heavy, durable, long pants (no shorts) without cuffs that overlap the tops of your boots.
- Be aware that any cuffs or open pockets can catch flying sparks and start on fire easily. Unroll cuffs and button pockets to prevent spark entry.
- Keep clothing dry. Change it when needed (this reduces the possibility of electric shock).
- Keep clothing clean (free of oil, grease, or solvents which may catch fire and burn easily). Keep it in good repair (no holes, tears, or frayed edges). Always follow the manufacturer’s directions for their use, care, and maintenance.
- Remove all flammables and matches and cigarette lighters from your pockets.
- Wear leather aprons, leggings, capes and sleeves as needed for the application. Leather protects better than most materials.

RESPIRATORY PROTECTIVE EQUIPMENT

- Respirators must be of an approved type, suitable for the hazard, selected and fit tested according to CSA Standards.
- Take into consideration any prior medical conditions that may worsen if you use a respirator.
- Air-purifying masks will protect you from low levels of metal fumes, welding gases and organic vapours, but only if the correct filtration cartridge is selected. Contact the respirator supplier for help in choosing an appropriate cartridge.
- Supplied-air respirators provide the best all-around protection from gases, fumes and vapours.
- Check that the respirator provides clear and unrestricted views up, down and sideways and fits under the welding helmet.
- Where communication with co-workers is required, ensure that others can make out what you are saying when communicating through the respirator.