


Burn Protection

NATURE OF THE HAZARD

Sparks and spatter fly off from the welding arc. Hot metal and sparks blow out from the cutting flame or arc. The workpiece and equipment get hot. The flying sparks and hot metal, slag, spatter, hot workpiece, and hot equipment can cause burns. Additionally, arc rays can cause radiation burns (see Fact Sheet No. 2).

HOW TO PREVENT BURNS

- Use approved helmets or hand shields that provide protection for the face, neck, and ears, and wear a head covering.
- Wear approved safety goggles or safety glasses with side shields, even under your helmet.
- If laser welding, wear appropriate laser safety eyewear.
- Wear dry, hole-free, flame-resistant, non-melting insulating gloves.
- Wear flame-resistant ear plugs or ear muffs to keep sparks out of ears when welding or cutting overhead or in confined spaces.
- Wear oil-free flame-resistant, non-melting protective garments such as leather gloves, heavy shirt, cuffless pants, leather welding boots, and a cap.
- Wear leather or aluminized personal protective equipment (PPE), as needed.
- In cold climates heavy clothing may prevent awareness of clothing fires.
- Use dry, hole-free, flame-resistant, non-melting aprons, cape-sleeves, leggings, shoulder covers, and bibs approved for welding and cutting service.
- Remove any combustibles, such as a butane lighter or matches, from your person before doing any welding or cutting.
- Touching hot equipment such as electrode holders, gun tips, and nozzles can cause burns. Always wear dry, hole-free, flame-resistant, non-melting insulating gloves. Allow a cooling period before touching these and other parts of equipment that are near the actual welding or cutting operation.
- Do not wear pants with cuffs, shirts with open pockets, or any clothing that can trap molten metal or sparks.
- Keep clothing free of grease, oil, solvents, or any flammable substances.
- If flammable substances spill on protective clothing, change to clean clothing before doing any welding or cutting.

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- Use sheet metal screens for extra protection when unusually heavy welding or cutting is involved.

- For highly hazardous processes or jobs, consider automation.

- Do not attempt to repair or disconnect electrical equipment under load. Disconnecting under load produces arcing of the contacts and may cause burns or shocks.

HOW TO PROTECT OTHERS FROM BURNS

- Use nonflammable screens or barriers to protect nearby persons or observers.

- Mark hot work pieces to alert others of the burn and fire hazards.

- If the job requires several persons, have all wear proper PPE and follow all required procedures.

INFORMATION SOURCES

ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes,* American Welding Society, <www.aws.org>.

ANSI Z87.1, *Practice for Occupational and Educational Eye and Face Protection,* American National Standards Institute, <www.ansi.org>.

ASTM F2412, *Test Methods for Foot Protection*, ASTM International, <www.astm.org>.

ASTM, F2413, *Specification for Performance Requirements for Protective Footwear*, ASTM International, <www.astm.org>.

AWS, *Safety and Health Fact Sheets,* American Welding Society, <www.aws.org>.

MSHA, *Title 30 Mineral Resources, Parts 1 to 199*, Mine Safety and Health Administration, Code of Federal Regulations (CFR), <www.msha.gov>.

NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work,* National Fire Protection Association, <www.nfpa.org>.

OSHA, *Title 29 Labor, Parts 1910.1 to 1910.1450*, Occupational Safety and Health Administration, Code of Federal Regulations (CFR), <www.osha.gov>.

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