

Safety Note #99

BASIC ARC-WELDING SAFETY



*Photograph Courtesy of UC Hansen
Agricultural Learning Center*

Data available from the Consumer Products Safety Commission indicates approximately 21,000 welding injuries requiring hospital treatment occurred during 2004. Of this total, about 75% of the injuries were flash burns to the eyes. California Code of Regulations (CCR) Title 8, Section 4851 addresses safe operating procedures for arc welding. CCR Title 8, Section 3203 (7) requires employees be trained on the equipment they use in the workplace.

Pre-Use Activities

- Thoroughly review and understand information provided in the arc-welding operator's manual with particular attention given to descriptions of safety procedures.
- Before using, always inspect the input power cord, grounding connections, welding cables, and welding gun or electrode holder for damage or disrepair and assure the welding machine frame is grounded properly.
- If any cords, cables, connections, and/or other mechanisms fail the pre-use inspection, notify your supervisor and remove the welding equipment from service by attaching a red tag that states "DO NOT USE." Complete red tag with appropriate information.

Operating Precautions

- Always wear a welding hood with safety glasses, fire-resistant gauntlet gloves, rubber-soled shoes, leather apron, and appropriate protective clothing (non-synthetic fiber) when using arc-welding equipment. Eye protection requires at least a No.10 lens shade for arc welding. Use hearing protection during noisy welding tasks.
- Never use wet arc-welding equipment or perform arc welding in wet or damp locations.
- Always conduct arc welding in well ventilated areas. Avoid breathing welding fumes.
- Do not arc weld on coated metals (galvanized, lead, or cadmium plated steel) unless the coating is completely removed from the area to be welded and the welding area is well ventilated.
- When operating an arc welder, do not touch electrical connections, wires, or other electrically charged machine parts.
- Do not arc weld where flying sparks can reach flammable materials. Keep flammable materials at least 35 feet from arc welding operations.
- Remove combustible items, such as matches or a lighter, from your pockets before beginning to arc weld. Make sure a fire blanket and extinguisher are present in the arc-welding work area.
- Always keep compressed gas cylinders away from arc-welding work areas. Never arc weld on a compressed gas cylinder.
- Never dip hot electrode holders in water.
- When electrode holders are left unattended, electrodes shall be removed and holders placed to prevent employee injuries.
- Avoid having electrode cables wrap around your body when arc welding.
- When possible, use vises or clamps to secure work pieces while arc welding.
- Turn off inverter, disconnect power cord, and discharge capacitors before performing any arc-welder maintenance.