



August 18 — Electricity Always Finds a Path

I was helping a welder fitter team tack up a piece of pipe. The welder struck an arc and I received a shock. We discovered that he had his ground clamp on a different pipe than the one that was being welded on. This happened to be the pipe I was leaning on to steady myself while helping with the fit up. A combination of wet sweaty gloves and poor ground placement contributed to a decent shock for me as I completed the circuit for him.

We asked the welder to make sure he has proper ground clamp placement before striking an arc, to protect equipment and personnel. I will also try to bring extra gloves when helping in the field.

Electricity doesn't know who's welding...

...it only knows the easiest path to travel.

While helping position a piece of pipe for fit-up, an employee received an electrical shock the moment the welder struck an arc. After investigating, the crew discovered the welding ground clamp had been attached to a different section of pipe than the one being welded. Because the employee was leaning against that pipe with wet, sweaty gloves, his body became part of the electrical path.

This incident is a reminder that electricity follows the path of least resistance—it doesn't recognize job titles, experience, or intentions. Something as simple as an incorrectly placed ground clamp or wet PPE can create conditions where current travels through an unexpected path. That's why proper grounding and maintaining awareness of where current can flow are critical before striking the first arc.

Good planning involves more than inspecting the welding machine. It means asking, "Where will the electricity travel?" Taking a few extra moments to verify ground clamp placement, inspect cables and connections, and ensure no one is in the potential current path can prevent an incident before welding even begins.

Hazards

- Electrical shock
- Improper grounding
- Wet gloves or damp working conditions
- Unexpected electrical current paths
- Burns
- Loss of balance or secondary injuries following a shock

Words of Wisdom

Electricity always completes a circuit. Make sure that circuit never includes you.

Pause and Think

- Before welding, do you verify that the ground clamp is attached to the correct workpiece?
- Could your body accidentally become part of the electrical path?
- How do wet gloves, sweaty clothing, or damp conditions increase electrical hazards?
- What should you check before striking the first arc?
- How can crews communicate to make sure everyone understands where welding current will travel?

Closing Thought

Every weld begins with more than striking an arc—it begins with understanding where the electrical current will go. Taking a moment to verify the setup protects everyone working around the job, not just the person holding the stinger.

See Something • Say Something • Do Something