

TOOLBOX TALK: ELECTRICAL SAFETY

Job or site _____

Date _____

Led by _____

Open with this

Question for everybody before we start. Is there anything on this site you are going to touch today that you assume is not live? Say it out loud, because that assumption is the whole talk.

The talk

Electricity is one of the Focus Four, the four hazards that account for most construction deaths: falls, struck by, caught in between, and electrocution. Electrocution is the one that gives you the least warning.

It does not take much. Fifty milliamps across the chest is enough to stop a heart, which is a fraction of what a single power tool draws. The voltage that kills people on residential jobs is the ordinary one hundred and twenty volts coming out of every outlet in the house.

The rule is assume everything is live until you have tested it yourself with a meter you trust. Not because somebody told you, not because the breaker is labeled, not because the tag is on the panel. Labels on residential panels are wrong often enough that treating them as fact is a coin toss.

Overhead lines are the outdoor version. Ladders, scaffold frames, gutters being carried by two people, a load on a boom. Ten feet is the minimum clearance for lines up to fifty kV, and a service drop to a house is not something to duck under with an aluminum ladder on your shoulder.

Panels get covers. Open panels, missing breaker knockouts and open junction boxes are how a screwdriver, a piece of wire or a finger finds a bus bar. If the cover is off because work is in progress, the area is barricaded and somebody owns it.

And water changes everything. Wet hands, wet boots, standing in a puddle, working in a crawl space after rain. Water drops your resistance and turns a shock you would have walked away from into a shock that does not let go.

Point at these before anybody starts

- The panel or panels on this job, and whether the covers are on
- Overhead service drops and lines above anywhere we are carrying long material
- Any temporary wiring, and how it is supported and protected

- Open junction boxes, missing knockouts and exposed conductors
- Wet areas, crawl spaces and anywhere standing water meets a cord
- Who has a working voltage tester on them right now

The rules that apply

- Treat every conductor as energized until you personally verify it is dead with a tester, then verify the tester on a known live source.
- Only qualified persons work on or near exposed energized parts.
- Keep at least 10 feet of clearance between any part of the body, tool, ladder or load and overhead lines up to 50 kV.
- Panel covers, box covers and knockouts stay in place except while work is in progress, and the area is guarded while they are off.
- Never work on energized circuits in wet conditions, and keep temporary wiring out of water and off the ground where it can be.
- Report any shock, however small, immediately. A tingle from a tool is a fault, not a quirk.

Ask the crew

- If you get a small shock off a tool today, what are you going to do about it?
- What is the longest thing we are carrying today, and what is above where we are carrying it?
- Which circuits on this job have we actually tested, as opposed to assumed?

Close with this

Nothing is dead until you tested it yourself. Ten feet from anything overhead. Covers back on before you walk away.

Attendance

Everybody who was present signs, including subcontractors and anybody visiting the site.

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This talk is general safety information for a crew briefing, not legal advice and not a substitute for the training your employees are required to have. Standards are quoted for orientation only. Check the current text of the standard and your own state plan, which may be stricter than the federal rule.