

Why we use 110V on site

About 5 minutes · Read it out, then ask the questions at the end.

Why it matters. Construction sites use 110V centre-tapped to earth (CTE) for portable tools and lighting. If something goes wrong, a shock is far less dangerous than from 230V.

The hazards

- Using 230V tools on site without approval
- Damaged leads and plugs
- Overloaded transformers
- Missing or bypassed protection

Stay safe

- Use 110V tools and lighting on site, supplied from a site transformer
- With 110V CTE the most you can get from one live conductor to earth is 55V on single-phase, or about 63.5V on three-phase
- Yellow plugs and sockets are 110V; blue is 230V; red is 400V/415V
- Don't mix up connectors or use adaptors to get round them
- Where 230V is unavoidable, it must have RCD protection and the site's approval
- Don't overload transformers or outlets
- Check leads and plugs before use

Ask the team

1. Why is 110V safer than 230V?
2. What colour is a 110V plug?
3. What would you do if you found a damaged transformer?

The law and guidance

Electricity at Work Regulations 1989. HSE HSG141, Electrical safety on construction sites.

General guidance to help you give a toolbox talk. It doesn't replace your site's risk assessments, method statements, permits or training. Check it against your own site rules before you give it.

Free toolbox talk from EW Group, 110V site temps specialists. www.ewgroup.co.uk · Bristol 0117 982 0005 · London 020 7476 0001

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Site: _____ Date: _____

Given by: _____ Company: _____

By signing, I confirm I attended this toolbox talk and understood it.

Name (print)	Company	Signature	Time

Keep this record with your site's training and briefing records.