Toolbox talk

Power tools and abrasive wheels

Right tool, right disc, checked before you start

10 minutes

For: Anyone using grinders, cut-off saws, drills or other power tools

Why it matters

Power tools and abrasive wheels cause serious cuts, eye injuries and electric shocks. A disc spun faster than it's rated for can burst, and cutting stone or concrete makes harmful silica dust.

Key points

1. Only someone properly trained and appointed should fit or change an abrasive wheel or disc.
2. Check the disc's maximum speed. It must be at least the tool's spindle speed, never less.
3. Keep the guard on and adjusted so only the part of the disc you need is exposed.
4. Check discs for damage before use. Don't use a chipped or cracked disc.
5. Before using any tool, check the plug, cable and casing. No tape repairs or bare wires.
6. A single-phase 110 V centre-tapped-to-earth supply has 55 V from either live conductor to earth. Reduced voltage lowers, but does not remove, shock risk.
7. Cutting stone, concrete and blocks needs water suppression or on-tool extraction, plus a suitable mask.
8. Wear eye protection, avoid loose clothing and jewellery, and tie back long hair.

Sources: HSE: Work using electrically powered equipment; HSENI: Abrasive wheels information sheet; HSE: Safety in the use of abrasive wheels (HSG17); HSE: Construction dust, cutting paving blocks, kerbs and flags.
This talk supports, but does not replace, your site-specific risk assessment, method statement, training and supervision. Free to copy and use. **tradefoxapp.com/toolbox-talks/power-tools**

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Do

- Check the tool and lead before every use, and report faults.
- Use the right disc for the material and the tool.
- Switch off and unplug before changing discs, bits or blades.
- Test plug-in RCDs with the test button before each use.
- Store discs somewhere dry, where they can't roll or fall.

Don't

- Don't remove or tie back the guard to get a better cut.
- Don't fit a disc unless you're trained and appointed to do it.
- Don't use a tool with a damaged plug, cable or casing.
- Don't bypass an RCD that keeps tripping. Get the fault found.
- Don't dry-cut stone or concrete without dust controls.

Ask the group

- Who on this site is trained and appointed to change discs?
- Where do we get our tools and leads checked, and how often?
- What dust controls do we use when cutting blocks or kerbs?
- Have you seen a guard removed or a tape-repaired lead this week?

If it goes wrong: If a disc bursts or someone is cut, switch off and unplug the tool, call 999 for serious injuries and get a first aider. If someone gets an electric shock, switch off the supply before touching them. Keep the tool and disc aside for checking and tell your supervisor.

On this site

Nearest first aider _____

Emergency assembly point _____

Site-specific hazards and controls _____

_____

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Attendance register

Power tools and abrasive wheels

Site / project _____ Date and time _____

Presented by _____ Company _____

	Name (print)	Company	Signature
1			
2			
3			
4			
5			
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7			
8			
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10			
11			
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13			
14			

By signing, attendees confirm they took part in this toolbox talk and understood the key points. Keep this record with your site safety file.

Presenter signature _____ Follow-up actions _____

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Go further: How to cut bricks cleanly: tools and safety

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Quick check

Power tools and abrasive wheels

Tick one answer for each question. Your presenter has the answers.

Name _____ Date _____

1. Who should fit or change an abrasive wheel?

- [ ] Anyone who uses the grinder
- [ ] Someone properly trained and appointed
- [ ] The apprentice

2. How should the disc's maximum speed compare with the tool's speed?

- [ ] It can be lower
- [ ] It must be at least the tool's spindle speed
- [ ] It doesn't matter

3. What does a 110 V centre-tapped transformer do?

- [ ] 55 V from each live conductor to earth
- [ ] Makes tools faster
- [ ] Stops dust

4. What should you use when cutting concrete with a cut-off saw?

- [ ] Nothing if it's a quick cut
- [ ] Water suppression or on-tool extraction, plus a suitable mask
- [ ] A dust sheet

5. An RCD keeps tripping. What do you do?

- [ ] Bypass it
- [ ] Stop and get the fault checked
- [ ] Use a different socket and carry on

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For the presenter

Answers and sources

Quick check answers

1. Someone properly trained and appointed

Abrasive wheels must be mounted by someone who has been properly trained and appointed to do it.

2. It must be at least the tool's spindle speed

The spindle speed must never exceed the maximum speed marked on the wheel, or it could burst.

3. 55 V from each live conductor to earth

For a single-phase 110 V centre-tapped supply, each live conductor is 55 V to earth. The risk of electric shock remains.

4. Water suppression or on-tool extraction, plus a suitable mask

HSE advises water suppression or on-tool extraction, with RPE such as an FFP3 mask as back-up.

5. Stop and get the fault checked

Never bypass an RCD. If it trips, the system should be checked for a fault before it's used again.

Sources

- HSE: Work using electrically powered equipment
  https://www.hse.gov.uk/electricity/electricequip.htm
- HSENI: Abrasive wheels information sheet
  https://hseni.gov.uk/sites/hseni.gov.uk/files/abrasive-wheels-information-sheet-2018.pdf
- HSE: Safety in the use of abrasive wheels (HSG17)
  https://www.hse.gov.uk/pubns/books/hsg17.htm
- HSE: Construction dust, cutting paving blocks, kerbs and flags
  https://www.hse.gov.uk/construction/healthrisks/hazardous-substances/cutting-paving-blocks-kerbs-and-flags.htm

> **Presenting tips:** keep it to about 10 minutes, use real examples from your site, ask the group questions rather than reading everything out, and record attendance on the register.

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Guard on. Right disc. Checked.

1. Only trained people change discs
2. Check plugs, leads and casings
3. Control the dust when cutting

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3. **Control the dust when cutting**

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Sources and qualifications

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Scope: Great Britain safety legislation unless a nation is identified. Northern Ireland has separate legislation. Site rules can be stricter than minimum legal duties; use the site assessment, instructions and competent supervision.

A4 interface: equipment supply/protection and correct isolation. Single-phase 110 V centre-tapped-to-earth is 55 V to earth. The current standard and site design govern the actual installation.

A4 basis: published IET guidance on BS 7671:2018+A4:2026. The full licensed standard was not available for clause-by-clause verification. This is an editorial/source review, not installation certification. IET: current edition.

S1. HSE HSG17: Abrasive wheels

Training, disc mounting, speed ratings, guards, checks and personal protection; key points 1-5/8, quiz and Do/Don't.

https://www.hse.gov.uk/pubns/books/hsg17.htm

S2. HSE HSG141: Electrical safety on construction sites

Single-phase 110 V centre-tapped-to-earth 55 V supply, suitability, inspections and isolation; key point 6, emergency and quiz 3/5.

https://www.hse.gov.uk/pubns/priced/hsg141.pdf

S3. HSE: Cutting paving blocks, kerbs and flags

Water/extraction plus suitable RPE for silica cutting; key point 7 and quiz 4.

https://www.hse.gov.uk/construction/healthrisks/hazardous-substances/cutting-paving-blocks-kerbs-and-flags.htm