Toolbox talk

Silica dust

Stop the dust getting into the air

10 minutes

For: Anyone who cuts, drills, grinds, chases or cleans up concrete, stone, brick, block, tile or mortar

Why it matters

HSE estimates over 500 construction workers die each year from silica exposure. Fine respirable dust may be invisible in normal light. Silica can cause lung cancer, silicosis and COPD; other construction dusts can cause asthma. Under COSHH, employers must control hazardous dust. Use the controls every time.

Key points

1. Silica is in sand, sandstone, granite, concrete, mortar, bricks and tiles.
2. Cutting, drilling, grinding, chasing and polishing these materials creates fine, harmful dust you cannot see.
3. High-energy tools like cut-off saws and grinders make a lot of dust very quickly.
4. First choice: plan the dust out, for example pre-cut materials or a block splitter instead of a saw.
5. Next: control dust at source with water suppression for the whole task, or on-tool extraction.
6. On-tool extraction should use an H or M class unit, not a general vacuum.
7. RPE is the last line of protection. For high dust levels, HSE says FFP3 is the most advisable disposable mask.
8. Tight-fitting masks only work if face fit tested and you are clean shaven where the mask seals.

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Go further: Read the Tradefox guide to FFP2 vs FFP3 masks and face fit

Sources: HSE: Construction dust; HSE: Construction dust (CIS36); HSE: Construction dust FAQs; HSE: Construction dust - dry sweeping.

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/silica-dust**

Silica dust

Do

- ✔ Keep water flowing for the whole cut. Wetting first is not enough.
- ✔ Check on-tool extraction is fitted, switched on and working before you start.
- ✔ Wear the RPE you have been face fit tested for, and wear it the whole time.
- ✔ Damp down debris and use an H or M class vacuum to clean up.
- ✔ Report blocked filters, broken extraction or worn-out masks straight away.

Don't

- ✖ Don't dry sweep dust. It throws fine dust back into the air.
- ✖ Don't cut or grind dry when water or extraction should be used.
- ✖ Don't rely on a mask alone for high-dust tasks.
- ✖ Don't wear a tight-fitting mask over stubble or a beard.
- ✖ Don't let people who aren't needed stand near a dusty task.

Ask the group

- Which tasks on this job create the most dust, and how are we controlling each one?
- Is our extraction kit working? When were the filters last changed?
- Who here has been face fit tested, and for which mask?
- How can we stop dust from one trade reaching people working nearby?

If it goes wrong: If dust controls fail or kit breaks down, stop the task and tell your supervisor before carrying on. If you are worried about your breathing, tell your supervisor and take part in any health checks your employer arranges.

On this site

Nearest first aider _____ Emergency assembly point _____

Site-specific hazards and controls _____

_____

Attendance register

Silica dust

Site / project _____ Date and time _____

Presented by _____ Company _____

	Name (print)	Company	Signature
1			
2			
3			
4			
5			
6			
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8			
9			
10			
11			
12			
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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Quick check

Silica dust

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

Name _____ Date _____

1. Which of these contains silica?

- [ ] Concrete, mortar and brick
- [ ] Plasterboard paper
- [ ] Steel

2. How long should water suppression be used when cutting?

- [ ] Just wet the material before you start
- [ ] Only at the end
- [ ] For the whole time the work is being done

3. Where does RPE sit in the order of dust controls?

- [ ] First choice
- [ ] Last line of protection
- [ ] Not needed if you work quickly

4. Why is face fit testing needed for tight-fitting masks?

- [ ] Masks only work with a tight seal to your face
- [ ] It makes the mask last longer
- [ ] It is only for supervisors

5. What is the better way to clean up concrete dust?

- [ ] Dry sweep with a stiff brush
- [ ] Blow it away
- [ ] Damp it down and use an H or M class vacuum

For the presenter

Answers and sources

Quick check answers

1. Concrete, mortar and brick

HSE says silica is a major part of bricks, tiles, concrete and mortar.

2. For the whole time the work is being done

HSE says just wetting the material beforehand does not work.

3. Last line of protection

Plan dust out and control it at source first. RPE is the last line of protection.

4. Masks only work with a tight seal to your face

Dust can get in through gaps, so the mask must seal properly. You also need to be clean shaven.

5. Damp it down and use an H or M class vacuum

Dry sweeping can put a lot of dust back into the air.

Sources

- HSE: Construction dust
  https://www.hse.gov.uk/construction/healthrisks/hazardous-substances/construction-dust.htm
- HSE: Construction dust (CIS36)
  https://www.hse.gov.uk/pubns/cis36.pdf
- HSE: Construction dust FAQs
  https://www.hse.gov.uk/construction/faq-dust.htm
- HSE: Construction dust - dry sweeping
  https://www.hse.gov.uk/construction/healthrisks/hazardous-substances/sweeping-cleaning.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.

Kill the dust at source

1. **Use water or on-tool extraction**
2. **Wear your face fit tested mask**
3. **Never dry sweep: damp down, vacuum**

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Kill the dust at source

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Sources and qualifications

Silica dust

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 applicability: no installation-design requirement is asserted in this talk. Its claims are referenced to the subject-specific sources below.

S1. HSE: Construction dust

Disease risks, silica mortality estimate, hazardous tasks and COSHH duties; Why it matters and key points 1-3.

https://www.hse.gov.uk/construction/healthrisks/hazardous-substances/construction-dust.htm

S2. HSE CIS36: Construction dust

Avoiding dust, water suppression, M/H extraction, RPE, fit testing and maintenance; key points 4-8, Do/Don't and quiz.

https://www.hse.gov.uk/pubns/cis36.pdf

S3. HSE: Dust FAQs

Silica/wood/other dust distinction, RPE levels, invisible fine dust and exposure controls.

https://www.hse.gov.uk/construction/faq-dust.htm

S4. HSE: Sweeping and cleaning

Avoid dry sweeping; use suitable wet or vacuum methods and prevent dust spreading.

https://www.hse.gov.uk/construction/healthrisks/hazardous-substances/sweeping-cleaning.htm