

TECHNICAL BULLETIN

Silica Dust and Respirable Crystalline Silica (RCS)

What Compliant Diamond Grinding Looks Like and What to Expect from Your Flooring Contractor

Document

BFTB-002

Version

1.1

Issued

October 2026

WHY WE ARE SENDING THIS

My name is Brendon Krytenberg. I am the Managing Director of Briz Floors, a qualified Flooring Technician with a Certificate III in Flooring Technology, and the QBCC Nominee Supervisor for Briz Floors Pty Ltd. I have been in this industry for over 20 years — I have laid floors, not just managed people who do. That background matters for what I am about to say.

Silica dust from concrete grinding has become one of the most under-managed health risks in commercial construction — and flooring contractors are at the centre of it. Diamond grinding is part of almost every commercial flooring scope we deliver. It is also the highest-exposure silica task on most construction sites.

We are seeing increasing regulatory scrutiny of grinding operations across Queensland. Inspectors are attending sites, reviewing SWMS, and issuing notices where controls are inadequate. In our experience, most head contractors do not know what compliant grinding actually looks like — and most flooring subcontractors are not telling them.

I am sending this communication personally because I believe it is the right thing to do. Not to create paperwork, not to win work on the back of a compliance scare — but because the head contractors and developers we want to work with are the ones who set a high standard and expect their trade partners to meet it. This is how we demonstrate that Briz Floors is one of those trade partners.

1. WHAT IS RESPIRABLE CRYSTALLINE SILICA (RCS) AND WHY DOES IT MATTER

Crystalline silica is a naturally occurring mineral found in concrete, masonry, stone, sand and many construction materials. When these materials are cut, ground, drilled or abraded, fine dust particles are released into the air. The fraction small enough to be inhaled deep into the lungs is known as Respirable Crystalline Silica — RCS.

Prolonged exposure to RCS causes silicosis, an incurable and potentially fatal lung disease. It also significantly increases the risk of lung cancer, kidney disease and other serious conditions. There is no safe level of exposure and no cure once the disease takes hold.

REGULATORY CONTEXT: Queensland's Managing Respirable Crystalline Silica Dust Exposure in Construction Code of Practice 2022 is an approved code under the Work Health and Safety Act 2011 (Qld), in force since 1 May 2023. Non-compliance can result in enforceable undertakings, prohibition notices, and significant financial penalties for both PCBU's and officers.

The construction industry has historically treated silica dust as an accepted inconvenience. Regulators across Australia have made clear that this is no longer acceptable. Inspectors are actively monitoring worksites — including flooring operations — and enforcement is increasing.

2. WHERE FLOORING OPERATIONS CREATE SILICA DUST EXPOSURE

Flooring contractors are among the highest-risk trades for silica exposure on construction sites. The following operations all generate RCS and are commonly performed as part of a commercial flooring scope:

- Diamond grinding of concrete substrates — the most common and highest-exposure flooring task
- Shot blasting of concrete surfaces prior to installation
- Angle grinding, cutting or chasing of concrete to form set-downs, transitions or fixing channels
- Application and sanding of smoothing compounds and levelling screeds containing cementitious materials
- Removal of old adhesive, tiles or vinyl where the substrate beneath is disturbed
- Drilling into concrete for fixings, anchors or penetrations

Diamond grinding in particular generates extremely fine silica particles at high concentration. A single uncontrolled grinding session in an enclosed space can expose workers — and others in the vicinity — to levels many times above the Workplace Exposure Standard (WES) of 0.05 mg/m³ as an 8-hour time-weighted average.

3. WHAT COMPLIANT DIAMOND GRINDING LOOKS LIKE

Compliance is not simply a matter of wearing a dust mask. The hierarchy of controls under the WHS framework requires elimination or substitution before administrative controls and PPE. For flooring grinding operations, compliant practice includes all of the following:

3.1 Engineering Controls (Primary)

- On-tool dust extraction: All angle grinders and floor grinders must be fitted with shrouded guards connected directly to a compliant vacuum system. Grinding without on-tool extraction is not acceptable.
- H-class vacuum: The vacuum system must be rated H-class (high hazard) to capture particles at the RCS particle size. M-class vacuums are insufficient for silica dust. Standard shop vacuums are not permitted.
- Wet grinding methods: Where practicable and where the flooring system permits, wet grinding suppresses dust at the source. Note that wet grinding is not always compatible with adhesive-based flooring systems and must be assessed against the installation requirements.
- Local exhaust ventilation (LEV): In enclosed spaces with limited natural airflow, supplementary LEV may be required in addition to on-tool extraction.
- Exclusion zones: Where grinding is performed in partially occupied or multi-trade environments, a defined exclusion zone must be established and enforced to protect others from secondary exposure.

3.2 Administrative Controls

- SWMS inclusion: The SWMS must specifically address silica dust as a hazard, identify grinding as a high-exposure task, and describe the controls in use. A generic 'wear PPE' statement is not sufficient.
- Air monitoring: Where there is uncertainty about exposure levels, personal air monitoring should be conducted to verify that controls are achieving compliance with the WES.
- Worker training: All workers performing grinding must be trained in silica dust hazards, the controls in use, and the correct use and maintenance of extraction equipment. Training records must be available.
- Pre-start checks: Vacuum filters, shrouds and connections must be inspected before each shift. A blocked or damaged filter renders the extraction system ineffective.

- Toolbox talks: Silica awareness should be a standing agenda item on projects involving significant grinding works.

3.3 PPE (Last Line of Defence)

- P2 or P3 respirators: At minimum a half-face P2 respirator must be worn when grinding. Where ventilation is limited or exposure is high, a P3 or powered air-purifying respirator (PAPR) should be considered.
- Respirators must be fit-tested: A respirator that does not seal properly provides minimal protection. Fit testing is not optional.
- PPE does not replace engineering controls: Respirators are the last line of defence, not the primary control. A worker grinding without extraction but wearing a dust mask is not compliant.

KEY POINT: The most common non-compliant scenario on construction sites is a worker using an angle grinder or floor grinder without on-tool extraction in an enclosed bathroom, corridor or plant room. This is a direct WHS contravention and exposes both the flooring contractor and the principal contractor to enforcement action.

4. WHAT HEAD CONTRACTORS SHOULD VERIFY

As the principal contractor on a construction project, the head contractor has a duty under the WHS Act to ensure, so far as is reasonably practicable, that the workplace is without risks to health and safety. This duty extends to the activities of subcontractors working on site.

Before approving a flooring contractor's SWMS and allowing grinding to commence, head contractors should verify:

VERIFICATION ITEM	WHAT TO LOOK FOR
SWMS adequacy	Does the SWMS specifically identify RCS as a hazard from grinding operations? Does it describe on-tool extraction, H-class vacuum and exclusion zones — not just PPE?
Equipment compliance	Is the contractor using H-class rated vacuum extraction fitted directly to the grinder? Request the equipment model and specification if uncertain.
Worker training	Has the contractor provided evidence that workers performing grinding have received silica-specific training? Training records should be available on request.
SDS availability	Are Safety Data Sheets available on site for all compounds, levellers and adhesives that may also contribute to dust exposure?
Induction sign-on	Have all workers performing grinding signed onto a SWMS that includes silica controls? A generic site induction is not sufficient for high-risk tasks.

VERIFICATION ITEM	WHAT TO LOOK FOR
Exclusion zones	Are exclusion zones established before grinding commences, particularly in enclosed spaces or where other trades are working nearby?

THE UNCOMFORTABLE TRUTH ABOUT OTHER FLOORING CONTRACTORS

If a flooring subcontractor has tendered your project and their SWMS does not specifically address silica dust controls for grinding, one of three things is true:

1. They are using inadequate equipment — angle grinders without shrouds, M-class or standard vacuums — and they are not planning to change.
2. They have not thought about it — which raises broader questions about their systems and competency.
3. They know what compliant grinding requires and have priced it out to win the job — planning to deal with the consequences later.

None of these outcomes serve the head contractor. A prohibition notice stopping grinding mid-project does not distinguish between the flooring contractor who is non-compliant and the principal contractor who approved their SWMS. Both are exposed.

Briz Floors raises this issue at every relevant project because we believe it is what a professional, competent flooring contractor should do. We would rather lose a job to a cheaper price than win it and be standing next to a prohibition notice when the inspector arrives.

5. THE COST AND PROGRAMME REALITY

Compliant silica dust management has a real cost. H-class vacuum systems are more expensive to purchase and maintain than standard equipment. On-tool extraction adds time to the grinding process. Air monitoring costs money. Proper training takes time.

A flooring contractor pricing floor preparation without any allowance for RCS compliance is either not compliant or has hidden the cost elsewhere. Neither outcome is in the head contractor's interest.

What to watch for at tender:

- Floor preparation prices that are significantly below market — compliant grinding costs more than non-compliant grinding
- SWMS that mentions silica only in passing with no specific engineering controls described
- No evidence of H-class extraction equipment in the contractor's plant and equipment list
- Workers arriving on site with angle grinders, no shrouds and no vacuum system
- Resistance to providing training records or equipment specifications on request

The cost of non-compliant grinding is not borne only by the worker. A regulator-issued prohibition notice stopping grinding operations mid-project creates programme delays, potential liquidated damages exposure,

and reputational risk for the principal contractor. The cost of compliant grinding at tender is invariably lower than the cost of an enforcement action mid-delivery.

WHAT YOU CAN DO ABOUT IT

The solution is straightforward — it just needs to happen at the right stage of the project:

- At tender — ask your flooring subcontractors to confirm their grinding equipment is H-class rated and that their SWMS specifically addresses silica controls. If they cannot answer the question, that is your answer.
- At SWMS review — check that silica dust is identified as a specific hazard from grinding, with engineering controls described. A generic reference to 'dust' or 'wear PPE' is not sufficient.
- At pre-construction — have the conversation about grinding scope, programme sequencing, and exclusion zones before mobilisation. It takes 10 minutes and avoids far larger problems.
- At site — if you observe grinding without on-tool extraction or H-class vacuum, stop the work. You have the authority and the obligation to do so as principal contractor.

6. BRIZ FLOORS' POSITION

Briz Floors has invested in compliant RCS management as a non-negotiable part of our flooring operations. This is not a compliance exercise — it is how we work.

Every Briz Floors SWMS covering grinding operations specifies on-tool H-class extraction, exclusion zones, P2 respirators as minimum PPE, and pre-start equipment checks as standing controls. Workers performing grinding are trained in silica hazards and the controls in use. Training records are available on request.

On request, Briz Floors can provide:

- SWMS specific to the grinding scope, reviewed and signed by workers prior to commencement
- Equipment specifications confirming H-class vacuum rating
- Worker training records covering silica dust awareness and controls
- SDS for all adhesives, levellers and compounds in use on the project
- Air monitoring results where conducted on previous comparable projects

If you are planning a project with significant concrete grinding scope and want to discuss programme sequencing, SWMS requirements, and what compliant delivery looks like in practice — we welcome that conversation early. We are available to attend pre-tender or pre-construction meetings on any project where this is relevant. We would rather spend an hour at the start of a project than be standing next to a prohibition notice at the end of it.



CONTACT

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PLEASE NOTE

This bulletin is prepared for general industry awareness and is intended to assist head contractors, developers and project teams in understanding silica dust obligations as they relate to flooring operations. It does not constitute legal or regulatory advice. Specific obligations will depend on the nature of the works, site conditions and applicable legislation at the time.

Briz Floors Pty Ltd has prepared this communication based on our own operational experience and our interpretation of applicable codes of practice and standards current at the date of issue. We are not a regulator, a hygienist or a legal adviser. Where formal compliance advice is required, readers should engage a qualified WHS professional or occupational hygienist.

We also acknowledge that raising this issue openly carries a commercial risk for us. There will be builders who choose a cheaper contractor who does not ask these questions. We accept that. The builders and developers who value a trade partner who is transparent about compliance, honest about cost, and accountable when things go wrong — those are the people we want to work with, and we believe there are enough of them to build a strong business around.

Prepared by Brendon Krytenberg, Managing Director, Briz Floors Pty Ltd. Brendon holds a Certificate III in Flooring Technology and has been working in the commercial flooring industry for over 20 years.