Respirable Crystaline Silica Management Procedure

SEQ-PR-087

Document Revision Control

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Table of Contents:

1. Scope

This procedure outlines the required steps for managing the risks of respirable crystalline silica (RCS) exposure on all Haslin Constructions sites.

2. Application

This procedure is applicable to all persons employed by or engaged by Haslin Constructions to perform work on Haslin Constructions sites.

3. References

- Work Health and Safety Act 2011 (NSW and QLD)
- Work Health and Safety Regulation 2025 (NSW)
- Work Health and Safety Regulation 2011 (QLD)
- Safe Work Australia – Model Code of Practice: *Managing the Risks of Respirable Crystalline Silica from Engineered Stone in the Workplace, Working with crystalline silica substances July 2024*
- SafeWork NSW Code of Practice: *Managing the Risks of Respirable Crystalline Silica at Work*
- WorkSafe QLD – Guidance: *Managing RCS in Construction and Demolition Work*
- Australian Standard AS/NZS 1715 – Selection, use and maintenance of respiratory protective equipment

4. Definitions

Term	Definition
RCS	Respirable Crystalline Silica – a fine dust generated from materials like concrete, sandstone, and bricks when cut, ground or drilled.
CSS	Crystaline Silica Substances (>1% crystalline silica by weight/weight ratio)
RPE	Respiratory Protective Equipment (used to reduce inhalation of airborne contaminants).
PPE	Personal Protective Equipment.
Air Monitoring	The measurement of airborne RCS levels to assess exposure risk.
HEPA	High-Efficiency Particulate Air (filter)
WES	Workplace Exposure Standard
SRCP	Silica Risk Control Plan
Dust-generating activities	Activities such as cutting, drilling, grinding, polishing or demolition of Crystaline Silica Substances
Competent person	A person who has acquired, through training, qualifications or experience, the knowledge and skills to carry out RCS-related risk assessment and controls.

5. Legal Requirements

Haslin Constructions must:

- Not undertake uncontrolled processing of CSS (Reg. 529C).
- Conduct risk assessments for all CSS activities to determine if they are high risk (Reg. 529CA).
- Develop and implement a Silica Risk Control Plan before high-risk activities commence (Reg. 529CB).
- Provide training, air monitoring, and health monitoring as required (Regs. 529CD, 529CE, 368–378).

6. Procedure

6.1. What is Respirable Crystalline Silica

Respirable crystalline silica (RCS) is fine dust generated from materials containing crystalline silica, such as concrete, stone, tiles, masonry, bricks, and pavers. RCS particles are less than 10µm in size, invisible to the eye, remain airborne for long periods, and can cause serious lung disease when inhaled. On Haslin projects, RCS may be produced during cutting, grinding, drilling, polishing, demolition, quarrying, tunnelling, earthworks, or handling silica-containing waste. Workers must not disturb settled dust through dry sweeping, compressed air, high-pressure water, or unsuitable vacuums. All tasks involving silica must be risk assessed and controlled in line with this procedure and applicable legislative requirements.

6.2. Processing a Crystalline Silica Substance

Under the WHS Regulations, processing of a CSS includes any work activity that can generate respirable crystalline silica (RCS). This includes:

- Using power tools or mechanical plant to crush, cut, grind, trim, sand, polish abrasively, or drill CSS materials
- Excavation, earth moving and drilling plant operations.
- Clay, sand and stone ***processing*** machine operations
- Cutting and laying pavers and surfacing
- Road construction
- Construction, building and demolition involving a CSS
- Brick, concrete or stone cutting
- Abrasive blasting
- Quarrying CSS materials
- Mechanical screening of CSS materials
- Angle grinding, jack hammering and chiselling of concrete or masonry
- Crushing, loading, hauling and dumping of rock
- Clean-up activities such as sweeping or pressurised air blowing of dust containing crystalline silica.
- Any other activity that could expose someone to RCS during manufacture, handling, cleaning, or maintenance, or other activities that disturb settled RCS dust.

Below is an overview of crystalline silica content in common materials:

- sandstone, 70% to 90%
- granite, 25% to 60%
- ceramic tiles, 5% to 45%
- autoclaved aerated concrete, 20% to 40%
- slate, 20% to 40%
- concrete, less than 30%
- brick, 5% to 15%

6.3. Risk Identification and Assessment

Prior to commencing CSS processing, a risk assessment must be conducted. For RCS, this means evaluating the likelihood of airborne dust being generated and the potential level of worker exposure.

The assessment must consider

- Type of Crystalline Silica (quartz, cristobalite, tridymite, tripoli)
- Crystalline Silica content (weight to weight ratio)
- Task frequency
- Duration
- Work methods
- Previous monitoring results.

If uncertain, activities must be deemed high risk until confirmed otherwise. The risk assessment must be documented in a Safe Work Method Statement.

6.4. Control Measures for RCS Exposure

Haslin applies the hierarchy of control measures to eliminate or minimise the risk of exposure to airborne contaminants such as RCS.

The control measures should include the following:

- Elimination and substitution: Where practicable, use pre-cut materials or substitute silica-containing products with safer alternatives or materials with reduced silica content.
- Engineering: at least one of the following controls must be applied during processing of a CSS
    - isolation of a person from dust exposure;
    - a fully enclosed operator cabin fitted with a high efficiency air filtration system;
    - an effective wet dust suppression method;
    - an effective on-tool extraction system;
    - an effective local exhaust ventilation system
- Administrative: Involves scheduling dust-generating work outside of peak hours, implementing exclusion zones, erecting signage, and rotating workers to limit exposure time. Silica Awareness Training must also be provided.
- Personal Protective Equipment (PPE): Where risks remain after engineering controls are implemented, workers must wear Respiratory Protective Equipment (RPE) such as a P2 particulate respirator. As per AS/NZS 1715, workers must be clean-shaven where required for a proper seal and must undergo fit testing before wearing respirators.

Consideration must be given to primary and secondary exposure.

- Primary exposure may occur to workers that are processing a CSS
- Secondary exposure may occur to workers working near areas where a CSS is processed.

All implemented control measures must be monitored for effectiveness, and their suitability reviewed periodically or after any changes in work conditions.

6.5. Air Monitoring

Air monitoring is a requirement under WHS Regulation, which specifically addresses airborne RCS exposure. Monitoring must be conducted:

- Where there is uncertainty about the level of RCS exposure
- Where exposure is, or is likely to be, above the workplace exposure standard (0.05 mg/m^3 as an 8-hour TWA)
- When evaluating the effectiveness of control measures

Monitoring must be carried out by an occupational hygienist or competent person with expertise in silica dust assessments, using validated methods. All air monitoring equipment must be calibrated, and calibration certificates must be available for inspection. If air monitoring for respirable crystalline silica indicates and exceedance of the WES, Safework NSW or Worksafe Qld must be notified.

As per SafeWork NSW and WorkSafe Qld requirements, the results of monitoring must be made available to:

- Workers potentially exposed
- Health and Safety Representatives (HSRs)
- Site management and project safety staff
- Clients or other relevant duty holders upon request

Records of monitoring must be retained for at least 30 years.

6.6. Health Monitoring

Health monitoring typically includes:

- Baseline and periodic lung function testing
- Chest X-rays where clinically indicated
- Review of symptoms such as shortness of breath or persistent coughing

Records of health monitoring must be securely retained for 40 years, and results communicated confidentially to the worker and employer. Haslin must ensure that subcontractors carrying out work where RCS exposure is a risk, have documented health monitoring plans in place.

For detailed requirements, refer to the Haslin SEQ-PR-021 Health Surveillance Procedure.

6.7. Silica Awareness

All Haslin Constructions employees and subcontractors who are likely to be exposed to RCS must complete approved Silica Awareness Training before starting relevant tasks. This training must include information on:

- The health risks associated with RCS (e.g., silicosis, lung cancer)
- Tasks and tools that may generate RCS
- Legal duties under WHS law
- How to correctly use control measures and PPE
- Emergency and incident response procedures

Records of all training sessions must be kept in the company training database.

6.8. Pause Work Authority

If RCS is unexpectedly encountered or if control measures fail, work must cease immediately. The Site Manager must be notified, and the area made safe by establishing an exclusion zone. All incidents must be logged using the Procore Incident Tool, and the HSEQ Coordinator must be involved in the review of the controls.

Workers potentially exposed must be provided with health monitoring if exposure is confirmed or suspected.

6.9. Housekeeping

In line with regulatory guidelines, dry sweeping and compressed air must never be used to clean up dust, as this can re-aerosolise hazardous particles.

Instead, the following must be implemented:

- Wet wiping and low-pressure water cleaning
- Use of M- or H-class industrial vacuum cleaners with HEPA filters
- Secure containment and labelling of RCS-contaminated waste
- Disposal of dust waste at a licensed facility in accordance with state and local regulations

7. Documentation

All documentation relating to the management and exposure of RCS, including air monitoring and fit testing records, are to be stored within the applicable project workspace in Procore.

8. Training

All employees are required to complete Haslin Silica Awareness Training.

Additional instruction on:

- Correct use of dust controls and PPE
- Health risks and symptoms
- Emergency response procedures

9. Relevant Documents

SEQ-PR-021 Health Surveillance Procedure Rev7