Respirable Crystalline Silica (RCS) Dust Management

Queensland

CORAL HOMES

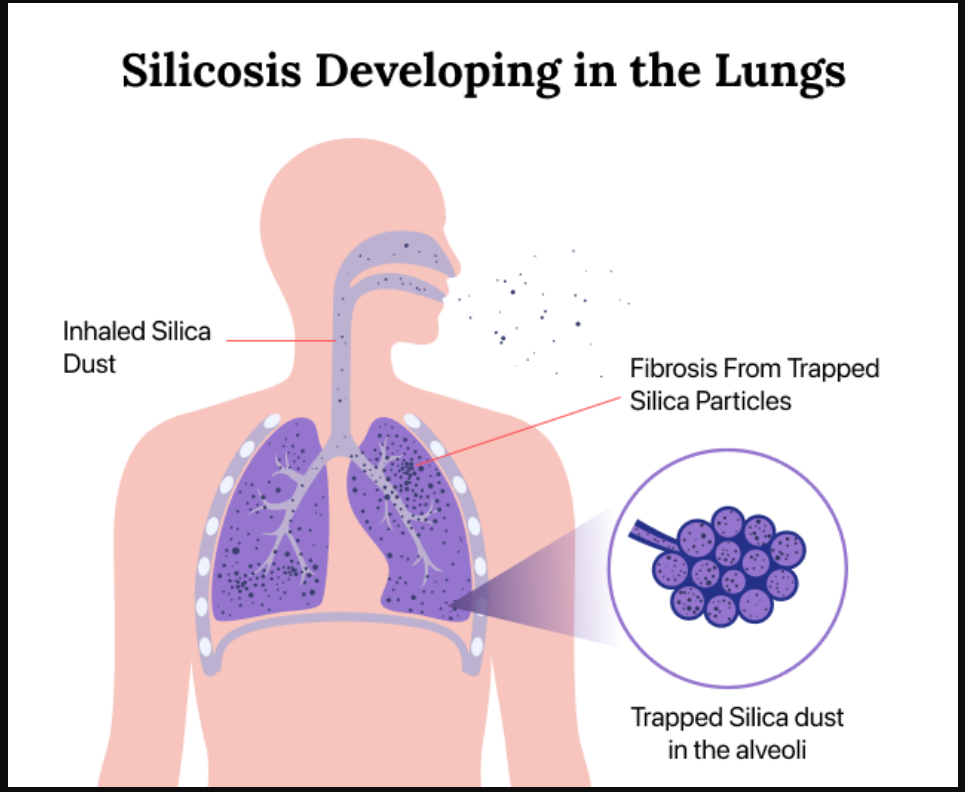
What is Silica Dust?

Crystalline silica is found in sand, stone, concrete and mortar. It is used to make a variety of products, including benchtops, bricks, tiles, and some plastics. When workers cut, crush, drill, polish, saw, or grind products containing silica, very fine dust particles known as Respirable Crystalline Silica (RCS) are produced. When RCS is inhaled on a regular basis, it can cause serious illness or disease including silicosis.

Silicosis

Silicosis is a chronic, deadly lung disease that is caused by the inhalation of silica particles. When these materials are cut, ground, mixed, swept or polished, tiny respirable silica particles not visible to the naked eye may be inhaled deep into the lungs, causing scarring and fibroids. These fibroids make it increasingly difficult for a sufferer to breathe.

Workers who have developed silicosis can experience severe shortness of breath and become easily exhausted, as well as suffer from secondary silicosis complications such as lung cancer, emphysema, and kidney damage.



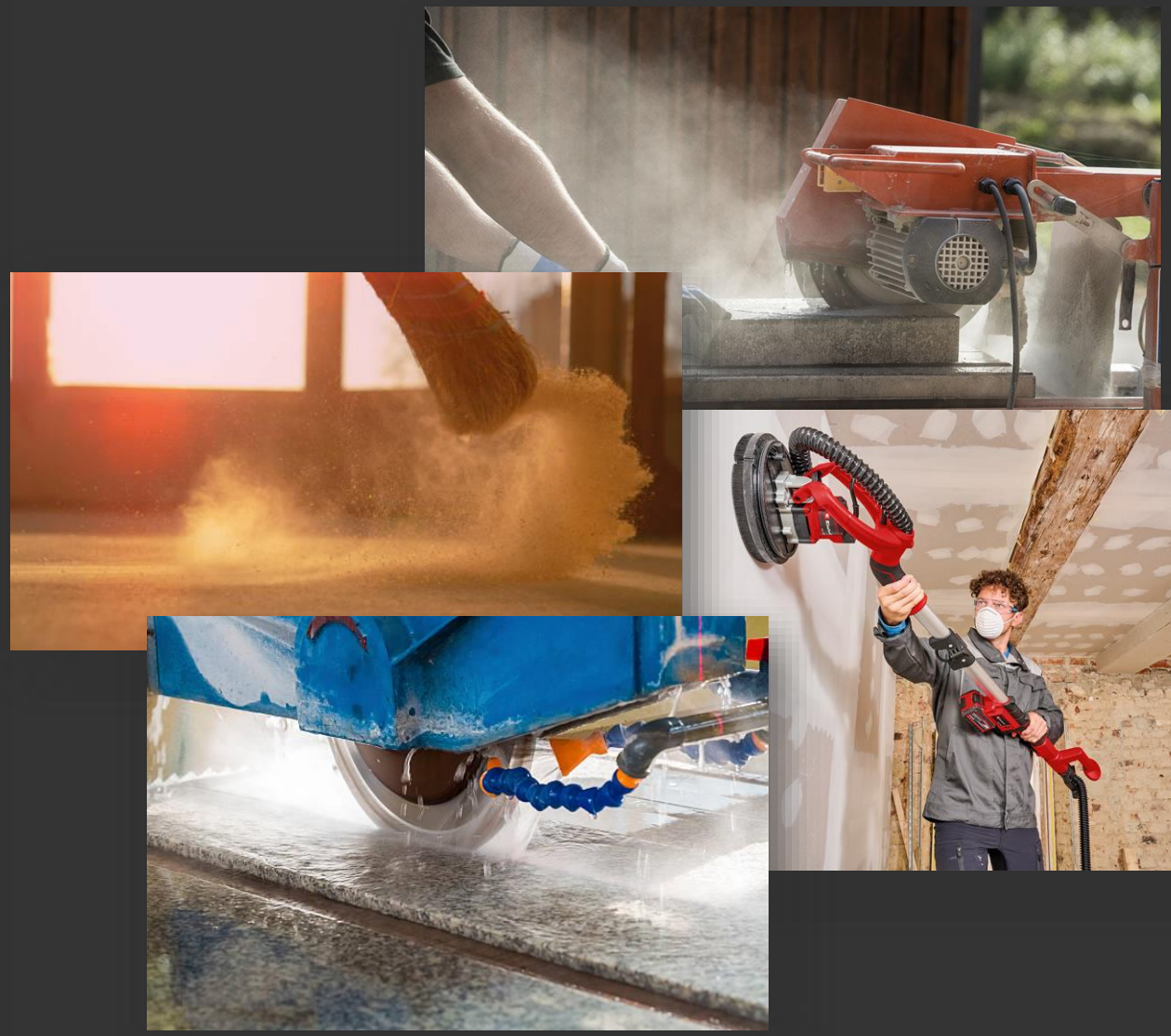
Remember: Silica dust is not always visible, and workers cannot count on dust visibility as a risk indicator.

Tasks generating or disturbing RCS

Respirable crystalline silica (RCS) can be generated and released into the air during tasks that involve high-energy processing, such as:

- Cutting
- Sawing
- Grinding
- Sanding
- Drilling
- Sweeping

The best way to prevent being at risk of secondary exposure is to choose the right controls to prevent or minimise the release of RCS into the air.



PCBU and Worker Obligations

The following slides are prescriptive controls for common tasks that are mandatory requirements on all Coral Homes construction sites. The Queensland Code of Practice (Managing respirable crystalline silica dust exposure in construction and manufacturing of construction elements Code of Practice 2022) specifies regulatory requirements. Failure to comply with these requirements may lead to prosecution for workers, and their employers.

All PCBU's working for Coral Homes must read and understand this Code of Practice, with particular attention to the prescriptive control tables in appendix 4.

In addition to this, all PCBU's must ensure that they have sufficient controls in their SWMS for all tasks being undertaken by their workers that generates silica dust.

If the PCBU is allowing any tasks to be undertaken that require RPE as one of the controls (as per appendix 4), it is the PCBU's sole responsibility to ensure that the worker's RPE is appropriately fit tested, that fit testing records are available onsite, and the PCBU is complying with the required health monitoring for all their workers.

Stationary masonry saws
(e.g., tile & brick saws)

Wet cutting control method:
Using a saw with an integrated water delivery system that continuously feeds water to the blade is an effective way to reduce exposure to silica dust. Operate and maintain tools in accordance with manufacturer's instructions to minimise dust emissions.

Equipment/task	Control Method	RPE requirement
Stationary masonry saw brick cutting	Wet cutting	N/A

Handheld power saws

(any blade diameter), includes quick cut saws, concrete chasing)

Wet cutting control method:

Only use a saw with an integrated water delivery system that continuously feeds water to the blade. Operate and maintain tools in accordance with manufacturer's instructions to minimise dust emissions.

Equipment/task		Control Method	
		≤ 4hrs/shift	> 4hrs/shift
Handheld power saws	Wet cutting	Outdoor: Wet cutting is allowed without additional RPE requirements Indoor: Wet cutting is not permitted indoors on Coral Homes construction sites	Outdoor: Wet cutting for >4hrs/shift is not permitted on Coral Homes construction sites Indoor: Wet cutting is not permitted indoors on Coral Homes construction sites

Tile cutting using handheld grinder

Option 1: Wet cutting control method (outdoors only):
Use grinder with an integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's instructions to minimise dust emissions.

Option 2: Shroud & dust collection system control method:
Use grinder with a commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimise dust emissions. The dust collector must:
- Provide an air flow of ≥ 25 cubic feet per minute (cfm) per inch/ ~700 litres per 25mm of wheel diameter,
- Be rated to either M or H-Class in accordance with AS/NZS 60335.2.69 and have a cyclonic pre-separator or filter-cleaning mechanism.

Equipment/task	**Control Method**		
		≤ 4hrs/shift	> 4hrs/shift
Handheld grinder	Wet cutting	Outdoor only: Wet cutting is allowed without additional RPE requirements	Outdoor only: Wet cutting is allowed without additional RPE requirements
	Dust collection	Outdoor: Tile cutting with dust collection is allowed without additional RPE requirements. Indoor: Inside tile cutting with a dust collection device is allowed without additional RPE requirements only if undertaken at the front of the open garage.	Outdoor: Tile cutting with dust collection is allowed without additional RPE requirements. Indoor: Tile cutting for >4hrs/shift is not permitted even with a dust collection device on Coral Homes construction sites.

Cutting of fibro products

Option 1 - Handheld power saws for cutting fibre-cement board (with blade diameter of 200mm / 8 inches or less)

Use a saw equipped with a commercially available dust collection system. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and be rated to either M or H-Class in accordance with AS/NZS 60335.2.69. Operate and maintain tools in accordance with manufacturer's instructions to minimise dust emissions.

Option 2 - Use of powered shears or manual (i.e., non-powered) tools to score, snap or split

This activity is likely to generate exposure well below the WES when undertaken in isolation from activities that generate significant exposures to silica. Manage risks so far as reasonably practicable, which includes following the manufacturer's recommendations.

Equipment/task	Control Method	RPE requirement
Handheld power Saw	Dust Collection	N/A
Manual tools/Powered shears	Manage risks and follow manufacturer guidelines	N/A

Housekeeping and clean-up activities

Dry sweeping is strictly prohibited on all Coral Homes construction sites

Only the following safe cleaning methods are permitted on Coral Homes Construction sites:

- Vacuuming - As a minimum, use a H or M class vacuum cleaner
- Wet sweeping - Sufficient water should be added to prevent elevated levels of airborne dust.

Equipment/task	Control Method	RPE requirement
Housekeeping and clean-up activities	Vacuuming	N/A
	Wet Sweeping	N/A

THE FOLLOWING IS PROHIBITTED ON CORAL HOMES SITES:

- DO NOT use compressed air or blowers inside as it can make dust containing RCS airborne.
- **DO NOT** ever dry sweep.

Concrete drilling

Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimise dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have either:

- a tool-mounted HEPA-filtered dust collector, or
- an on-tool capture hood connected to a dust extractor/vacuum rated to either M or H-Class in accordance with AS/NZS 60335.2.69

Equipment/task	Control Method	RPE requirement
Concrete drilling	Dust collection	N/A

Minor works

•Use of manual (i.e., non-powered) tools to score, snap or split.
•Use of powered shears.
•Handling of dry bags.
•Mixing of dry materials for less than 15 minutes per day (i.e., mixing small amounts of mortar or concrete)
•Removing concrete formwork
•Hand sanding and finishing of concrete.
•Working with silica containing products while wet (e.g., finishing and hand wiping block walls to remove excess wet mortar, pouring concrete, and grouting floor and wall tile)

These are likely to generate exposure well below the workplace exposure standard (WES) when undertaken in isolation from activities that generate significant exposures to silica. Manage risks so far as reasonably practicable, this includes following the manufacturer's recommendations.

Equipment/task	Control Method	RPE requirement
Minor Works	Manage risks and follow manufacturer guidelines	N/A

Legal Requirements

Workers and PCBUs must follow the legislative requirements to manage working with silica dust risks on a construction worksite. Inspectors can issue prohibition notices to stop you from doing work that generates high levels of silica dust. If you don't comply with a prohibition notice, PCBUs (employers) can face penalties. Individuals may also receive fines for not meeting their obligations under WHS laws.

Legislative resources:

WorkSafe QLD

- Managing respirable crystalline silica dust exposure in construction and manufacturing of construction elements - Code of Practice 2022
- Work Health and Safety Regulation 2011 - QLD
- Work Health and Safety Act 2011

Points to remember:

- Dry drilling, cutting, grinding and sanding of **engineered stone** is strictly prohibited on Coral Homes construction sites.
- Follow the right controls to prevent or minimise the release of RCS into the air.
- Educate yourself and others on the dangers of working with silica in the workplace.
- When working with silica, always refer to appendix 4 of the Code of Practice to ensure you have compliant controls in place.
- If the PCBU is allowing any tasks to be undertaken that require RPE as one of the controls (as per appendix 4), it is the PCBU's sole responsibility to ensure that the worker's RPE is appropriately fit tested, that fit testing records are available onsite, and the PCBU is complying with the required health monitoring for all their workers.


Thank You
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