

MANAGING CRYSTALLINE SILICA EXPOSURE RISK AT MIRVAC

Issued June 2024



1 Managing Crystalline Silica Exposure Risk at Mirvac

As part of Mirvac's ongoing commitment to the safety and health of our people, partners, and our customers, we have been doing a lot to manage exposure risks created by respirable crystalline silica dust.

Silica is one of the most abundant minerals found in the earth's crust and is used in many products across a variety of industries and workplaces.

Crystalline silica (Silica) is found in sand, stone, concrete and mortar. It is also used to make a variety of products including engineered stone (used to fabricate kitchen and bathroom benchtops), bricks, tiles and some plastics.

When workers cut, crush, drill, polish, saw or grind products that contain crystalline silica, dust particles are generated that are small enough to lodge deep in the lungs and cause serious illness or disease including silicosis.

1.1 What is Engineered Stone?

Engineered stone is also known as composite stone, manufactured stone, artificial stone, reconstituted stone, or quartz conglomerate.

Engineered stone¹ is:

a) an artificial product that:

- contains crystalline silica ($\geq 1\%$); and
- is created by combining natural stone materials with other chemical constituents such as water, resins or pigments; and
- undergoes a process to become hardened.

It does not include:

- i. concrete and cement products;
- ii. bricks, pavers and other similar blocks;
- iii. ceramic wall and floor tiles;
- iv. grout, mortar and render;
- v. plasterboard;
- vi. porcelain products;
- vii. sintered stone; and
- viii. roof tiles.

¹ WHS Regulations (2024 Engineered Stone Amendment 529A)

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1.2 What is the problem with Engineered Stone?

The crystalline silica content in engineered stone varies widely, but it can contain greater than 90 per cent crystalline silica, which is significantly greater than that found in many natural stones (although there are also natural stone types (such as granite) with high crystalline silica levels).

In addition:

- Respirable crystalline silica generated from engineered stone has different physical and chemical properties than those produced from natural stone, including a greater proportion of very small (nanoscale) particles of crystalline silica which can penetrate deeper into the lungs.
- Other components of engineered stone, such as resins, metals, amorphous silica, and pigments, may contribute to the toxic effects of engineered stone dust, either alone or by exacerbating the effects of respirable crystalline silica.

1.3 What is Mirvac doing about Engineered Stone?

Australia has implemented a ban on the manufacture, supply, processing and installation of engineered stone which comes into effect on 1 July 2024². More information on the ban of engineered stone can be found [here](#).

Over the last year, Mirvac's development, construction and design teams, have been working closely with product suppliers to identify and source alternative low silica products (or "Approved products").

From 1st July, no new Mirvac developments will involve the installation of engineered stone products unless they have been approved by the safety regulator.

1.4 Will Mirvac continue to use natural stone in our designs?

Absolutely. Natural stone products are visually appealing and practical, and will continue to feature in our designs, but we will only use products that are approved as safe to use by Safe Work Australia and comply with Mirvac's quality and longevity expectations.

When we do work with materials containing crystalline silica, Mirvac follows the hierarchy of risk control to try and design products that minimise the risk exposure of crystalline silica so far as is reasonably practicable. Our sites also seek to comply with the highest relevant industry standard across Australia.

For more information on Crystalline silica and silicosis, refer to [Safe Work Australia's website](#). For more information on the Engineered Stone ban, also refer to [Safe Work Australia's website](#).

1.5 What other products will Mirvac use in the future?

Given the ban on engineered stone, the industry is working hard to produce new "low or no crystalline silica" products as well as products that contain no resins. Where these products are considered acceptable by Safe Work Australia, Mirvac undertakes product testing to determine whether the product meets Mirvac's quality and design standards before choosing to use the product.

² Some States have differing transitional arrangements around the ban.

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1.6 Does engineered stone represent a risk in term of day to day use of a benchtop?

No, simply using a benchtop does not expose a person to a silicosis health risk. If however there is a need to repair, replace or remove a engineered stone benchtop in the future, then this will need to be undertaken by a properly qualified and licensed tradesperson to ensure this is done in a safe manner (including using appropriate personal protective equipment and dust mitigation measures).