



Managing silica dust at construction sites

Guidance Notes

Contents

Managing silica dust at construction sites	3
What is silica dust?	3
What diseases does silica dust exposure cause?	4
Who is at risk of being exposed to silica dust?	4
How do I identify if silica dust is at my site?	5
How do I manage the risk of silica dust at my site?	5
What is a safe work method statement (SWMS)?	6
Do I need a safe work method statement (SWMS)?	7
Training workers to work safely with silica dust	7
Protective equipment	7
Health monitoring for workers	9
Air monitoring in the workplace	9
When do I need to notify WorkSafe Tasmania?	10
What will WorkSafe Tasmania inspectors be looking for when they visit my site?	10
More information	10
Checklist for managing the risks of silica dust	11
Managing risks	11
Matrix of control measures for managing the risks of silica dust	14

Managing silica dust at construction sites

This guidance note:

- Is aimed at persons conducting a business or undertaking (PCBUs) in the residential and commercial construction industry.
- Explains the hazards and risks of inhaling respirable crystalline silica (also known as RCS or silica dust).
- Includes advice about silica containing materials and products, and how to control the risks when silica dust is generated from working with them.
- Explains how to support your control measures with health and air monitoring.

More information for managing the risks of silica dust generated from engineered stone can be found on the WorkSafe Tasmania website at worksafe.tas.gov.au/silicasafe

What is silica dust?

Silica (silicon dioxide, crystalline silica) is a naturally occurring mineral commonly found in stones, rocks, sand, gravel and clay. Quartz, which is frequently used in engineered stone benchtops, is the most common form. Silica can also be found in:

Material or product	Percentage of crystalline silica
Engineered stone products	Up to 92%
Sandstone	70 to 90%
Granite	25 to 60%
Ceramic tiles	5 to 45%
Autoclaved aerated concrete panels, concrete bricks and pavers	20 to 40%
Slate	20 to 40%
Fibre-cement sheeting	5 to 40%
Concrete	Up to 30%
Bricks	5 to 15%
Marble	Up to 5%



When stone, rock and other silica containing products are cut, crushed, drilled or sanded, silica dust (respirable crystalline silica or RCS) is released.

Silica dust is 100 times smaller than a grain of sand and can remain in the air for long periods of time. The tiny particles are easily breathed in without workers knowing. Silica dust can become airborne when a worker:

- cuts or drills into concrete
- rips up or cuts into existing concrete or bitumen
- jackhammers or saws stone or existing concrete, or
- excavates sites with sandstone, clay or granite

Silica dust can also become airborne when a worker:

- does housekeeping tasks like dry sweeping
- changes filters or dust collection bags
- removes work clothes and personal protective equipment (PPE) after working with silica containing products

What diseases does silica dust exposure cause?

Silica dust is dangerous when generated and inhaled. It is known to cause progressive and permanent inflammation and scarring of the lungs. Breathing in silica dust can cause:

- Chronic bronchitis – inflammation of the large airways
- Emphysema – weakened air sacs of the lungs causing difficulty breathing
- Silicosis (Acute, chronic, and accelerated silicosis) – progressive and irreversible scarring of the lungs
- Lung cancer – growth of cancerous cells in the lungs
- Kidney damage – reduced function and clearance of toxins from the body by the kidneys
- Autoimmune diseases – conditions whereby the body's own immune system attacks healthy organs and tissues

Both short and long-term exposure to silica dust can be hazardous - one worker may develop a

silica related disease soon after a single, high level exposure, while another worker may not develop a silica related disease for years (even decades) after they are exposed to silica dust.

Symptoms of silica dust exposure are difficult to identify and can go undiagnosed for years leading to worse health outcomes for workers. Therefore, exposure to silica dust must be controlled and managed over the length of a shift, to make sure a worker's total average exposure is low, and within a shift, to make sure short, high exposures do not occur.

Who is at risk of being exposed to silica dust?

The workers most at risk of being exposed to silica dust are those who use power tools or mechanical equipment on stone, rocks, and other products that contain silica. This could include any worker who:

- Uses a power tool to cut or modify engineered stone, for example fabricating and installing kitchen benchtops
- Blasts, excavates, drills, cuts or tunnels into sandstone, clay or granite
- Drills, cuts, saws or chases into concrete and brickwork, including drilling rigs
- Cuts, grinds or drills bricks, autoclaved aerated concrete, pavers or tiles
- Angle grinds, jackhammers, scabbles or chisels concrete
- Sprays concrete (shotcreting)
- Cuts in or chases new services into concrete slabs or walls
- Dismantles equipment or disposes of offcuts covered in silica dust
- Demolishes buildings
- Mixes cement, mortar, floor ardit or plaster
- Cleans up the dust and debris created by the above activities, including dried concrete, and changing filters or dust collection bags.

It is important to ensure that dust generated through construction and demolition do not drift and expose others at or around the workplace.

How do I identify if silica dust is at my site?

It is important to know the types of materials being worked with at your site, whether natural or man-made. Where available, obtain and read the Safety Data Sheet (SDS) for the materials you work with and see if the components listed include quartz, cristobalite or crystalline silica. Some silica containing products do not need an SDS; to find whether the product contains silica, contact the manufacturer or supplier, look at the manufacturer's website, product information sheet, or product warning label.

If silica dust is generated from a natural source (for example, in tunnelling, excavating or drilling), you will need to seek alternative information about the likelihood of silica being present in the dust. For example, a mineralogical report.

Occupational Hygienists can also provide advice and assist with identifying potential sources of silica in the workplace.



Image 1 – Silica hazard sign

How do I manage the risk of silica dust at my site?

Eliminating exposure to silica dust is best. Where exposure cannot be eliminated, you must minimise exposure to silica dust so far as reasonably practicable, including short or one-off tasks.

The risk of exposure to silica and dust can be managed by applying the hierarchy of controls:

Level 1	Eliminate the risk	Use materials that do not contain crystalline silica
Level 2	Reduce the risk using substitution	Use materials with a lower crystalline silica content Using shears instead of circular saws
Level 3	Reduce the risk using isolation	Use automated machines in enclosures Use fully enclosed operator cabins, for example on earthmoving plant with high efficiency air filtration Apply exclusion zones
Level 4	Reduce the risk using engineering controls	Use automated machines e.g., CNC Use wet methods, not dry cutting Use tool water suppression technology or dust extraction Use well positioned local exhaust ventilation Use industrial H or M-class vacuums
Level 5	Reduce the remaining risk through administrative controls	Design shift rotations and limit task times Use signage to warn of silica dust hazards in the area Design, implement and monitor housekeeping and cleaning policies and procedures Prepare a safe work method statement (SWMS) if required
Level 6	Reduce the remaining risk with personal protective equipment	Provide respiratory protective equipment (RPE) with a suitable protection factor

To manage the risk of exposure to silica dust consider:

- What activities will workers carry out?
- Will these activities generate dust?
- Who could be exposed, how and where?
- Do you need to implement any control measures to minimise exposures?
- How often are equipment and tools inspected and maintained?
- How do your workers clean up?
- What training do workers need to undertake the work safely?

Managing the risk of exposure to silica dust requires a combination of high-level control measures (isolation, substitution and engineering controls), administrative measures and personal protective equipment (PPE). Administrative measure can include routinely cleaning the work area and vacuuming residual dust from clothing.

Due to the risk of exposure to silica dust when working with engineered stone, administrative controls and the use of PPE on their own will not provide enough protection, therefore higher-level controls such as suppression and removal of dust at the source must be implemented.

Using water (wet method) to reduce dust when cutting, drilling etc., significantly reduces the risk of exposure. However, it does not eliminate the risk completely. Using a wet method with local exhaust ventilation, or dust collection, has been shown to significantly reduce airborne dust. Respiratory protective equipment should be used, and all collected dust and slurry removed before it dries and poses a dust risk.

You can minimise the risk of silica dust exposure by:

- Using products or materials containing less silica
- Keeping dust generating activities physically separated from other work areas
- Changing the way dust generating tasks are carried out, for example using wet methods
- Using dust collection methods and equipment when using drills, routers, grinders and saws
- Fitting large machinery (excavators and bulldozers) with cabs that have an air filtering system
- Minimising the generation of airborne dust through planning cut sequences
- Collecting dust as it is generated using:
 - » an industrial H-class vacuum cleaner with a HEPA filter for engineered stone dust

- » an industrial M-class vacuum cleaner with a HEPA filter for other silica containing dusts, or
- » wet sweeping

- Bagging and disposing of dust or slurry using a strong, durable bag or those provided with your dust extraction equipment

You should support the higher-level risk controls above with signage and housekeeping policies and procedures that include:

- Maintenance schedules for equipment and filter changes according to the manufacturer's instructions
- How to dispose of the dust in extraction systems (such as filters or bags), so they do not cause a secondary exposure risk when being changed or disposed of
- Provision of decontamination spaces for dusty PPE and changing clothes, which can be supported by using coveralls or providing a laundering service
- Provision of designated dust-free areas for breaks, eating and drinking

Remember, the controls you put in place may pose additional hazards. For example, using wet methods can introduce a slip, trip and fall hazards. You must ensure that the risks posed by these hazards are also managed.

Encourage workers to talk to you, or their Health and Safety Representative (HSR) about any concerns they have with their work and to promptly report any problems with their equipment or PPE.

What is a safe work method statement (SWMS)?

A safe work method statement (SWMS) is a document that sets out:

- High-risk construction activities to be carried out at a workplace
- Hazards arising from these activities
- Measures to be put in place to control the risks
- A SWMS helps a PCBU clearly communicate to all workers the health and safety risks of and how they will be managed.
- More information about a SWMS for high-risk construction work, or a SWMS template can be found here: Construction Work: Code of Practice:



Do I need a safe work method statement (SWMS)?

A safe work method state (SWMS) is required for all high-risk construction work. The on-site installation of engineered stone is considered high risk construction work if the processes used to install, modify or repair the engineered stone such as, cutting, grinding, trimming, drilling, sanding, or polishing generate silica dust and contaminate the work area.

A SWMS must be prepared before carrying out any on-site installation of engineered stone that involves any processing, modification or repair of the engineered stone that may generate silica dust.

A SWMS is required because it helps a PCBU clearly communicate to all workers at the construction site any health and safety risks and how they will be managed. A SWMS is not required for work undertaken during fabrication of the engineered stone at a workshop.

A SWMS must be prepared by the person conducting a business or undertaking (PCBU) in consultation with their workers (and, where relevant, their representatives such as HSRs) before carrying out the high-risk work.

The purpose of the SWMS is to:

- Identify workplace hazards related to silica dust
- Identify the risks to health and safety from silica dust that may be generated
- Describe how the risk of exposure to silica dust will be managed, including:
 1. The controls put in place to minimise silica dust exposure, and
 2. How the controls are to be used

Training workers to work safely with silica dust

Workers must be provided with suitable training to ensure they understand:

- The risks of working around silica dust
- The control measures in place to protect them and their co-workers
- How to use PPE correctly, including respiratory protection
- Health monitoring they will be required to undertake

Protective equipment

Personal protective equipment (PPE) and respiratory protective equipment (RPE) must not be relied upon as a primary means of controlling exposure to silica dust.

After implementing higher-level control measures such as water suppression and on-tool dust vacuum extraction, personal protective equipment (PPE) and respiratory protective equipment (RPE) must be considered. Employers are responsible for providing suitable PPE and RPE to workers so they can carry out tasks safely.

When selecting RPE for workers, employers must ensure:

- The RPE is appropriate for the task and any hazards associated with the task
- The RPE has the appropriate Assigned Protection Factor (APF) (refer to Table 2)
- The RPE is a suitable size, fits well, and is reasonably comfortable for the worker to wear

for the required length of time

- The RPE is regularly inspected for damage to the filters or worn areas on the seal, and is repaired or replaced if damage is identified
- The RPE is clean and in good working order
- The RPE is used and worn by workers

It is essential that RPE for workers has been fit tested because every worker's face is a different shape, and one type of mask will not be suitable for everyone. Fit testing is carried out by a trained person, usually an occupational hygienist, who measures the effectiveness of the seal between the workers face and the mask. A competent fit tester has:

- Knowledge of the mask or respirator being tested
- The ability to carry out the test, use the equipment and evaluate the results
- The ability to identify causes of fit test failure and provide suitable recommendations

Measuring the effectiveness of the seal is not the only thing to be considered when selecting RPE. Employers and workers should discuss with the occupational hygienist other PPE required to be worn in the workplace. It is important for respiratory protective equipment to work in combination with other PPE worn by a worker and not introduce new hazards such as ill-fitting hearing or head protection or obscuring of vision.

The training of workers on RPE and PPE should be carried out to ensure RPE and PPE is worn appropriately and as intended to keep workers

safe. Training can be delivered by anyone with expertise in RPE and silica dust in the workplace. Training should cover:

- What RPE and PPE is required
- Why and when RPE and PPE is required
- How RPE and PPE works and any limitations
- How to correctly put on and take off RPE, and any relevant PPE
- How to conduct a fit check
- How to clean and maintain RPE and PPE
- When and how to replace filters and batteries (including rechargeable batteries)
- How and where to store RPE and PPE when not in use

Employers should establish a system on managing workers' use of RPE and PPE over time. The system should include:

- A maintenance, storage, and repair program
- Policy and procedures on use of RPE and PPE when working with silica products
- A facial hair policy
- Training, supervision, and information distribution
- Routine for determining when RPE selection should be reconsidered, for example, when a worker gains or loses substantial weight, grows facial hair, or there is suspicion the RPE is not adequate for protection

Working with an expert in work, health and safety or an occupational hygienist is the best way of ensuring your workers will be safe when handling silica containing materials or products.



Health monitoring for workers

Exposure to silica dust poses a significant risk to worker's health. Under work health and safety laws, employers must organise and pay for health monitoring for all workers at risk of silica exposure. To help you determine who should receive health monitoring consider:

- Which workers undertake tasks that could generate silica dust
- Which workers clean workspaces or equipment use on silica containing material or products
- The people who work in the vicinity of material or products containing silica being worked on

There are three instances in which health monitoring should occur:

1. Before a worker starts to establish a baseline from which changes can be detected. An exception to this is if a worker has participated in health monitoring prior to starting employment with you (no greater than 2 years before hand), and the results of the tests are available
2. Yearly, or more frequently if determined by the health professional
3. At the end of a worker's time working for you, for example, before retirement or when there are any permanent changes to a worker's duties.

Health monitoring is carried out by a registered health professional who has knowledge in silica exposure and silica related diseases. Generally, health monitoring will include a questionnaire, lung function tests, and a chest x-ray or high-resolution computed tomography (High Resolution CT Scan). The health professional will decide which tests are needed based on:

1. Type of work being undertaken
2. Products or materials being worked with
3. Worker's exposure history
4. Air monitoring records

The health professional may ask to inspect the workplace as part of the health monitoring program. The frequency of health monitoring should be guided by the health professional, and may vary between workers.

Like medical records, health monitoring records are to be kept confidential. As the employer, you are required to provide a copy of the health monitoring report to the employee, and store records securely for 30 years. Should the worker

have any questions about the report and their health, they should be encouraged to speak with the health professional who conducted the monitoring, or their own General Practitioner (G.P).

Should you become aware that a worker has developed a disease, illness, or injury, this must be reported to WorkSafe Tasmania as soon as possible.

For detailed information about health monitoring, see the Safe Work Australia website at safeworkaustralia.gov.au.

Air monitoring in the workplace

In December 2021, a new workplace exposure standard for monitoring silica dust in the air came into effect to better protect workers employed in the building, construction and stonemasonry sectors. This workplace exposure standard is an eight-hour time weighted average (TWA) of 0.05 milligrams per cubic metre (mg/m³). Meaning, workers must not be exposed to air silica dust levels above 0.05mg/m³. Monitoring silica dust in the air should be done by a competent person such as an Occupational Hygienist. It is important to remember that air monitoring is not a preventative measure, but simply a tool to help you determine if the higher level controls you have implemented are effective in reducing silica dust exposure.

Air monitoring is required:

1. When you are unsure if you are exceeding the exposure standard, such as when you have implemented new controls or when selecting suitable RPE, or
2. If you are trying to determine if there is a risk to the health of your workers or others at your workplace

An Occupational Hygienist can assess your workplace and provide advice on the type of air monitoring required and how often it should be performed. They can also undertake air monitoring in the workplace and provide a report that will state exposure levels and whether the standard is being exceeded. As part of the report they can recommend control measures to be implemented to ensure workers are not exposed beyond the standard.

Employers must store and maintain air monitoring reports for 30 years.

When do I need to notify WorkSafe Tasmania?

If a serious event or dangerous incident (notifiable incident) occurs, a PCBU or whoever is in control must notify WorkSafe Tasmania.

In addition to this notification, WorkSafe Tasmania should be notified immediately when:

- there is a failure of physical isolation or engineering controls as this results in an uncontrolled emission of a substance (such as silica dust), or
- a health monitoring report shows an injury, illness or disease in a worker or where the doctor recommends a review of workplace controls.

What will WorkSafe Tasmania inspectors be looking for when they visit my site?

WorkSafe Tasmania inspectors will be looking at safety and health risks at your site. When it comes to silica dust, inspectors will focus on:

- How the risk of silica dust exposure at the site was identified and communicated
- The documented risk assessment for silica dust generating tasks
- Whether air monitoring has been undertaken, and what the results were
- The combination of control measures in place and their effectiveness

- Housekeeping policies and procedures
- Adequateness of facilities for the tasks being carried out
- RPE and PPE provided, how it was selected, fit testing records, appropriate storage and maintenance schedule for replacing filters
- That workers have been provided health monitoring, and that the health monitoring reports are available

Attached is a checklist for managing the risks of silica dust. It will help you identify silica risks in the workplace, and whether you have measures in place to protect workers from silica dust. Use this checklist to perform a self-assessment of the workplace.

A matrix of control measures for managing the risks of silica dust is also provided. Use this matrix as guidance for selecting appropriate control measures to reduce exposure to silica dust when undertaking specific tasks.

More information

For more information on silica visit the WorkSafe Tasmania website at [worksafe.tas.gov.au](https://www.worksafe.tas.gov.au)

Or the Safe Work Australia website at [swa.gov.au](https://www.swa.gov.au)

- [Working with silica and silica containing products](#)
- [Safe work method statement for high risk construction work - information sheet](#)
- [Workplace exposure standards for airborne contaminants](#)
- [Guidance on the interpretation of workplace exposure standards for airborne contaminants](#)
- [Health monitoring for crystalline silica](#)



Checklist for managing the risks of silica dust

You can use this checklist to help guide your management of silica dust at your site.

This checklist follows the regulatory requirements under the Work Health and Safety Act 2012 and Work Health and Safety Regulations 2022.


Each workplace is different and the level and number of risks of exposure to silica dust will depend on your trade, tasks and the materials and products you use. There may be some questions that are not relevant for your workplace.


More information can be found:

- On the WorkSafe Tasmania website
- at worksafe.tas.gov.au
- In this guidance note
- the Matrix of controls after this checklist
- By calling WorkSafe Tasmania on 1300 366 322.

Managing risks

Regulation	Managing risks	☑
r34	Has silica been identified as a hazard?	
	Has the PCBU identified all materials and products that contain crystalline silica?	
r36 (3c)	Has the PCBU implemented one or more higher level control measures?	
	Is work with silica containing materials or products isolated?	
	Are workers performing work in the immediate vicinity of visible dust where it could be reasonably believed contains respirable crystalline silica (RCS)?	
	Are engineering controls implemented?	
	Are wet methods in use?	
	Are dust extraction methods used either on tool or local exhaust?	
r40 (e)	Is there adequate ventilation to perform work?	
r36 (4)	Are the higher-level controls supported by administrative controls?	
	Are there appropriate policies and procedures prepared for: <ul style="list-style-type: none"> • Housekeeping? • Cleaning and disposing of slurry? • Equipment maintenance? 	
	Is there appropriate signage for silica dust?	
r36 (5)	Is personal protective equipment provided?	
r44	Is it suitable to support higher order control measures?	
	Is the protection factor suitable?	
r37 & 38	Is there a schedule of review and maintenance for the control measures implemented?	

Regulation	Managing risks	
r351 (s19)	Is the PCBU managing the risk of the hazardous chemical at the workplace?	
Respiratory protective equipment (RPE)		
r44(2)	Has RPE been provided for use by the PCBU (or another person) to control the remaining risk?	
r44(3c)	Is RPE being worn or used by a worker(s)?	
r44(2) and r44(3ai)	Is the RPE provided suitable for the RCS risk?	
	Is the RPE provided consistent with that recommended by the safety data sheet (SDS) or product information sheet?	
	Does it have an appropriate assigned protection factor (APF)?	
r44(3bii)	Does the PCBU have a policy in place to ensure filter changes are made at appropriate intervals?	
r44(2) and r44(3aii)	If RPE is tight fitting, has a fit test been completed (in accordance with AS1715)?	
r44(4)	Has the worker been provided training for the use, wearing, storage and maintenance of their RPE?	
r46	Is the worker wearing their RPE in accordance with their training?	
	Is the worker following clean shaven policies?	
	Is there evidence that the worker conducts a fit check when putting on and wearing their RPE?	
Air monitoring		
r49	Can the PCBU demonstrate that the workplace exposure standard is not being exceeded?	
r50	Has air monitoring been undertaken to confirm the workplace exposure standard has not been exceeded or to determine a risk to health?	
Safe work method statements		
r299(1)	If required, was a SWMS prepared before work has commenced?	
r299(2) & (3)	If required is the SWMS compliant?	
r300	If required is work being conducted in line with the SWMS?	

Regulation	Managing risks	
Engineering controls		
r351(1)	Are water suppression and/or dust extraction methods being used?	
	Is it effective in controlling exposure?	
	Is it well directed?	
	If water suppression is being used, is the mist controlled and slurry collected?	
	If dust extraction is used being used, is it capturing the majority of visible dust generated?	
	If dust extraction plant (vacuum cleaner/dust extraction unit) is being used, does the plant or plant filter system meet the requirements of at least M-class (H-class is also recommended) as described in AS 60335.2.69?	
	Is a tool-mounted dust extractor fitted with a HEPA filter and maintained?	
Safety signs		
r353	Has appropriate signage for silica dust been erected?	
Health monitoring		
r368	Has health monitoring been provided to all relevant workers?	
r375	Have workers been provided with a copy of their individual health monitoring report?	
Primary duty of care for all of the above:		
s19 (c)	Are safe systems of work established and reviewed?	
	Is it adequate to manage the risk?	
s19 (f) r 39	Have workers been provided information, training, instruction and supervision necessary to protect all persons from risks to health and safety?	
	Is there evidence of training for working with silica?	
	Is there evidence of training for RPE?	
s19 (g)	Is the health of workers and conditions at the workplace monitored for the purpose of preventing illness and injury?	

Matrix of control measures for managing the risks of silica dust

This matrix:

- can be used as a guide for selecting and implementing control measures to manage the risk of silica dust at construction sites
- combines common tasks and silica content of materials and products to provide examples of management approaches
- is a guide only, each workplace and task should be comprehensively assessed to determine the appropriate level of control.

How to use the matrix

- Step 1: Identify your trade, task and the percentage of silica in the materials or products that your workers will be using. See Table 1 for examples.
- Step 2: Select the trade task or percentage of silica in the materials or products that has the highest risk.
- Step 3: Consider and apply the matrix guidance in line with the highest risk trade, task or silica containing material or product

If you have more than one task being done or more than one type of material or product being used, applying the risk controls for the higher risk task or material/product will control the risk for the lower risk task or product/material.

For surrounding workers, consider lower-level risk controls for those outside the exclusion area. Where a worker is required to work within the exclusion area, they should wear the equivalent respiratory protective equipment as worn by the operator and health monitoring and other requirements should be considered.

You should seek expert advice where you are unsure of what the most effective combination of controls is for your task and workplace.

Table 1: Risk category for tasks and trades.

Risk category	Example trades
RED: HIGH RISK	
Materials or products: <ul style="list-style-type: none"> • Engineered stone • High content silica materials (generally greater than 50%) 	
<ul style="list-style-type: none"> • dry cutting, sawing, grinding, drilling, polishing, scabbling of silica materials • all tasks using power tools on engineered stone • jackhammering • using handheld powered chipping tools • cutting concrete with a grinder • handheld grinding and sanding • anchor drilling rigs for rock and concrete piles • drilling of concrete walls and columns • walk-behind concrete cutting saws and floor grinders • cutting fibre-cement board with handheld power saws • handheld and stand mounted drilling (impact and rotary drills) • cutting of pavers • vertical cutting concrete floors • overhead drilling concrete ceilings and soffits • shotcreting • cutting, grinding, drilling autoclaved-aerated concrete/blocks 	<ul style="list-style-type: none"> • stoneworkers • construction worker • demolition • plumbing • electrical • landscaping • carpentry • plastering • cabinet making • plant operators • concreting • formwork • mechanical services • renovations

Risk category	Example trades
ORANGE: MEDIUM RISK	
Materials or products: <ul style="list-style-type: none"> • Silica content approximately 15% and up to 50% 	
<ul style="list-style-type: none"> • mixing cement and mortar • cutting bricks, blocks and pavers • floor sweeping 	<ul style="list-style-type: none"> • construction worker • demolition • bricklaying • landscaping • concreting • rendering/ plastering • post tension works • renovations
YELLOW: LOW RISK	
Materials or products: <ul style="list-style-type: none"> • Silica content less than 15-20% 	
<ul style="list-style-type: none"> • vertical drilling wet concrete flooring • concrete render patching (including sanding) • hydrocutting and high-pressure water jetting • cutting porcelain, ceramic and natural stone tiles and benchtops • gyprock cutting, mixing compound and sanding. 	<ul style="list-style-type: none"> • construction workers • demolitions • bricklaying • tiling • landscaping • hydro cutting • plastering • renovations

Table 2: Matrix of controls

Task/Product	Combination of control measures and supporting requirements*							
	Do I need isolation controls?	What cutting method should I use?	What dust collection or ventilation do I need?	What administrative controls do I need?	Do I need to provide RPE and what kind?	Do I need to organise air monitoring?	Do I need to provide health monitoring?	What else do I need to do?
Red: Engineered stone and high content silica materials	Yes: Significant exclusion zones from other workers RPE worn for surrounding workers	Wet only**	Local exhaust and/or H-class on tool dust extraction	Signage Housekeeping policy Maintenance policy for plant, equipment and PPE Clean shaven policy for tight fitting RPE Task scheduling	Yes: APF 25-50 for operator	Yes, for control effectiveness and compliance as indicated	Yes, and consider exposure of surrounding workers	Fit testing of RPE
Orange: Silica content up to 50%	Yes: Significant exclusion zones from other workers with RPE worn for surrounding workers	Wet only**	Local exhaust and/or H-class on tool dust extraction	Signage Housekeeping policy Maintenance policy for plant, equipment and PPE Clean shaven policy for tight fitting RPE Task scheduling	Yes: APF 25-50 for operator	Consider when changing controls	Yes, and consider surrounding workers	Fit testing of RPE
Orange: Silica content up to 25%	Yes: Exclusion zones with RPE worn for surrounding workers		Local exhaust or H- or M-class on tool dust extraction Where controlled, modification can be undertaken outdoors	Signage Housekeeping policy Maintenance policy for plant, equipment and PPE Clean shaven policy for tight fitting RPE	Yes: APF 10-25 for operator			Fit testing of RPE
Yellow tasks: Silica content <15%	Consider exclusion zones	Wet or Dry with manual tools and dust capture	Local exhaust or M-class on tool dust extraction Where controlled, modification can be undertaken outdoors	Housekeeping policy Maintenance policy for plant, equipment and PPE	As indicated or as a backup for failure of higher-level controls	Control effectiveness and compliance	Yes, if exposure is significant	As indicated

* The combination of control measures that you use should be informed by your risk assessment. Each control should complement the combination, for example when using wet cutting methods, the dust collection or ventilation method should be appropriate to collect any mists that are generated.

** Cutting method should ensure that there is no uncontrolled dry cutting of silica containing materials and products. .

PLEASE NOTE

This information is for guidance only and is not to be taken as an expression of the law. It should be read in conjunction with the Work Health and Safety Act 2012, the Work Health and Safety Regulations 2022 and any other relevant legislation. To view, go to the WorkSafe Tasmania website at [worksafe.tas.gov.au](https://www.worksafe.tas.gov.au)

Under these laws, the term ‘Person Conducting a Business or Undertaking’ or ‘PCBU’ is used rather than ‘employer’. However, for simplicity, we have used employer in this guide.

We welcome your feedback on this guide. Send to: wstinfo@justice.tas.gov.au

All images courtesy Safe Work Australia.