Compliance code

Engineered stone

Edition 3

April 2025

Contents

This document replaces the compliance code, *Managing exposure to crystalline silica: Engineered stone Edition 2*, dated November 2022.

Preface

This Compliance Code (**Code**) provides practical guidance for those who have duties or obligations under the *Occupational Health and Safety Act 2004* (**OHS Act**) and the Occupational Health and Safety Regulations 2017 (**OHS Regulations**) in relation to exposure to crystalline silica dust as a result of performing work with engineered stone.

The Code was developed by WorkSafe Victoria (**WorkSafe**). Representatives of employers and employees were consulted during its preparation. It was made under the OHS Act and approved by The Hon. Ben Carroll MP, Minister for WorkSafe and the TAC.

Duty holders under the OHS Act and OHS Regulations should use this Code to assist them in complying with their duties under the OHS legislation. This Code replaces the Compliance Code (Edition 2) – *Managing Exposure to Crystalline Silica: Engineered Stone* (2022), which is no longer in force and effect.

While the guidance provided in the Code is not mandatory, a duty holder who complies with the Code will – to the extent it deals with their duties or obligations under the OHS Act or OHS Regulations – be taken to have complied with those duties or obligations.

If conditions at the workplace or the way work is done raise different or additional risks that are not covered by the Code, compliance must be achieved by other means. WorkSafe publishes guidance to assist with this at **worksafe.vic.gov.au**.

Failure to observe the Code may be used as evidence in proceedings for an offence under the OHS Act or OHS Regulations. However, a duty holder will not fail to meet their legal duty simply because they have not followed the Code. A WorkSafe inspector may cite the Code in a direction or condition in an improvement notice or prohibition notice as a means of achieving compliance.

A health and safety representative (**HSR**) may cite the Code in a provisional improvement notice when providing directions on how to remedy an alleged contravention of the OHS Act or OHS Regulations.

Approval for the Code may be varied or revoked by the Minister. To confirm the Code is current and in force, go to **worksafe.vic.gov.au**.

Part 1 – Introduction

Purpose

1. The purpose of this Code is to provide practical guidance to duty holders on how to comply with their duties under the OHS Act and the OHS Regulations. This includes when and how they can work safely with engineered stone to meet those obligations.

Scope

2. This Code provides information for duty holders about meeting their obligations under the OHS Regulations and other specific duties under the OHS Act, where relevant. For example, an employer's duty to consult with employees.

3. This Code also provides information about the risk management process, how to identify hazards and how to control the risks associated with exposure to crystalline silica dust when doing work with existing engineered stone products that are not prohibited. More detail on the prohibition can be found at paragraphs 12 to 37.

4. This Code relates specifically to engineered stone and engineered stone processes, which are high risk crystalline silica work (HRCSW). Work with materials other than engineered stone that generate crystalline silica dust is not within the scope of this Code. Such work may be HRCSW. OHS Regulations r319C

   Go to **worksafe.vic.gov.au** for information on HRCSW.

5. Part 1 of this Code outlines when work with engineered stone benchtops, panels and slabs is prohibited by the OHS Regulations. It also outlines when work may be carried out as an exemption or an exception to the prohibition or is not work that is prohibited. Any reference in this Code to engineered stone work applies only to those circumstances where the OHS Regulations do not prohibit that work. If you are unsure whether the prohibition applies to work you are carrying out with engineered stone, please refer to Part 1.

6. It is not possible for this Code to deal with every risk arising from work with engineered stone not prohibited by the OHS Regulations. Consider the particular characteristics and circumstances of the workplace when using the guidance in this Code.

Part 1 – Introduction

Application

7. This Code applies to employers, self-employed persons and those with management or control of workplaces where any engineered stone work happens that is not prohibited by the OHS Regulations. It may also help employees, HSRs and consultants whose work involves existing engineered stone.

8. A workplace is a place, whether or not in a building or structure, where employees or self-employed persons work. OHS Act s5 For example, a commercial or domestic kitchen where work with an existing engineered stone benchtop that is not prohibited takes place, or a workshop where a benchtop or panel is taken to carry out work.

Note: The word **must** indicates a legal requirement that has to be complied with. The words **need to** and **needs to** are used to indicate a recommended course of action in accordance with duties and obligations under Victoria's health and safety legislation. The word **should** is used to indicate a recommended optional course of action.

What is engineered stone?

9. From 1 July 2024, engineered stone is defined as an artificial product that:

   - contains 1 per cent or more crystalline silica, determined as a weight/weight (w/w) concentration, and
   - is created by combining natural stone materials with other chemical constituents such as water, resins or pigments, and
   - becomes hardened. OHS Regulations r5

10. The following artificial products are not considered engineered stone:

    - concrete and cement products
    - bricks, pavers and other similar blocks
    - ceramic wall and floor tiles
    - porcelain that does not contain resin
    - sintered stone that does not contain resin
    - roof tiles
    - grout, mortar and render
    - plasterboard. OHS Regulations r5

What is an engineered stone process?

11. An engineered stone process is a process involving engineered stone at a workplace that generates crystalline silica dust, including cutting, grinding or abrasive polishing of engineered stone. OHS Regulations r319E These processes can generate a large amount of crystalline silica dust. When these processes are performed without appropriate controls in place, employees can be exposed to hazardous levels of respirable crystalline silica.

Part 1 – Introduction

Engineered stone ban

12. From 1 July 2024, work involving the manufacture, supply, processing and installation of engineered stone benchtops, panels or slabs is banned. An employer, self-employed person or a person who has the management or control of a workplace must not carry out that work or direct or allow employees and independent contractors to carry out that work. OHS Regulations 319Y

13. The ban does not apply to engineered stone products that are not benchtops, panels or slabs. This includes, for example:

    • jewellery

    • garden ornaments

    • sculptures.

14. Certain prefabricated products that are not a benchtop, slab or panel are not banned.

15. The ban does not apply to natural stone. For example, a granite benchtop is not prohibited.

Exceptions and exemption to the engineered stone ban

16. Engineered stone benchtops, panels and slabs are currently installed in many homes and other settings throughout Australia. There may also be stock of uninstalled engineered stone held by businesses, such as suppliers and distributors, after the commencement of the ban. These installed products and uninstalled stock are sometimes referred to as legacy engineered stone.

17. Employers and self-employed persons must not carry out or direct employees and other persons to carry out or perform an engineered stone process involving benchtops, panels or slabs.

18. However, there are limited exceptions to the prohibition of processing engineered stone benchtops, panels or slabs. This includes where the processing is required to:

    • carry out repairs, modifications, removal and disposal of engineered stone benchtops, panels or slabs installed before 1 July 2024

    • carry out research or analysis

    • sample or identify engineered stone. OHS Regulations r319ZB

19. There is a limited exception to the prohibition to install engineered benchtops and panels. The exception applies when engineered benchtops and panels are installed for the purposes of research and analysis or to sample and identify engineered stone. OHS Regulations r319Z

20. There is also a limited exception to the ban to supply engineered stone benchtops, panels or slabs. The exception applies when engineered stone benchtops, panels or slabs are supplied for:

    • research or analysis

    • to sample or identify engineered stone

    • to dispose of engineered stone. OHS Regulations r319ZA

21. If you are performing an engineered stone process for one of these exceptions to the prohibition, the OHS Regulations require that you must use specific risk control measures. See Part 3 for more information. The additional obligations in this document continue to apply, including that the work must be treated as HRCSW and that you must comply with the obligations that relate to the work being HRCSW. See paragraph 53 (Employers) or paragraph 67 (Self-employed persons) for more information.

Part 1 – Introduction

Exception for repair

22. Making repairs may include fixing a chip or crack in a legacy engineered stone benchtop, panel or slab. It may also involve resurfacing or polishing to remove a scratch, etch, mark or stain on a benchtop or panel.

Exception for modification

23. Modification of a legacy engineered stone benchtop, panel or slab may include altering its original form. Examples include cutting into an already installed engineered stone benchtop or panel to:

    - create or widen a cavity for the placement of a new tap, cooktop or power point
    - change the configuration, for example, an L-shaped bench to an island bench.

    When carrying out modifications to engineered stone products that are not prohibited, consider the environment in which you can implement the most effective risk controls, either in a workshop or by leaving it in place. Refer to paragraphs 32 to 37 for more information about re-installation.

Exception for removal

24. Removal can involve disassembling or breaking apart a legacy engineered stone benchtop, panel or slab with the intention of disposing of it. For example, an employee uses power tools to remove an engineered stone benchtop and splashback as part of a kitchen renovation.

25. If you are removing an engineered stone benchtop or panel, you should only undertake engineered stone processes where it is necessary to do so. For example, if it is reasonably practicable to remove an engineered stone benchtop or panel in one piece, you should not use power tools to cut the engineered stone into smaller pieces.

26. Engineered stone that has been removed cannot be supplied for use in a different location. You may remove an engineered stone benchtop, panel or slab in order to repair or modify it and re-install it in the same location.

Exception for disposal

27. Disposal of legacy engineered stone benchtops, panels or slabs can occur whether installed or not. For example, an employee removes an engineered stone bathroom countertop and takes it to a landfill.

28. When disposing of engineered stone, it cannot be processed for any reason, including for supply. For example, stonemasons, quarries or recycling facilities cannot process engineered stone into crushed rock to make road base.

Engineered stone should be disposed of in line with EPA classification requirements. Contact the EPA for more information about your obligations: **epa.vic.gov.au**

Exceptions for research and analysis and to sample and identify engineered stone

29. There are exceptions to the ban on the installation, supply and processing of engineered stone benchtops, panels or slabs. The exceptions include for:

    • research and analysis, and

    • to sample and identify engineered stone. OHS Regulations r319Z, r319ZA and r319ZB

30. For example, a university-based researcher is studying the fire-safe qualities of various materials. A business is allowed to supply an engineered stone benchtop to the researcher to carry out the study. The researcher may process the engineered stone to suit the needs of the research. The researcher must use specific control measures if doing any engineered stone processes required by the study.

31. In another example, an employer may provide a laboratory with product samples to be tested for crystalline silica content. Although the product was labelled as crystalline silica-free, the test results return levels of 1 per cent crystalline silica or greater. The work undertaken by the laboratory is classified as sampling and analysis.

Exemption for re-installation

32. There is an exemption to the engineered stone ban to allow for the re-installation of a benchtop, panel or slab where it:

    • has been temporarily removed, and

    • will be re-installed in the same place.

33. It may be appropriate to remove and then re-install an engineered stone benchtop, panel or slab in the same location in order to carry out the engineered stone process at another location where more effective risk control measures are available. For example, a benchtop may be removed from a domestic premises and transported to a stonemason's workshop where an employee can use an isolated automated wet machine for engineered stone processes.

34. You can remove and re-install an engineered stone benchtop, panel or slab in the location from which it was removed:

    • without an engineered stone process being performed. For example, removing and re-installing a kitchen bench made of engineered stone to modify joinery or cabinetry underneath

    • where an engineered stone process is required to be performed. For example, removing, modifying and re-installing an engineered stone kitchen benchtop and cabinetry to alter a cavity to accommodate a larger refrigerator

    • where it is transported to another site for storage, repair, or modification prior to re-installation. For example, converting an L-shaped bench to an island bench. It may be more appropriate to remove the bench and do the modifications in an offsite workshop equipped with isolated wet-cutting machines, extraction systems and more effective housekeeping practices to capture dust. The bench would be re-installed after the work was done.

35. Duty holders will need evidence to prove the engineered stone has been temporarily removed for a permitted modification. Evidence can be photographs, taken before the engineered stone's removal, or a detailed work order.

36. The engineered stone must be reinstalled in the same place.

37. The exemption does not enable an existing engineered stone benchtop to be removed and installed in a new location. For example, you cannot remove an engineered stone bathroom benchtop and install it in another house or another room of the same house.

Crystalline silica health risks

38. Crystalline silica is the crystalline form of silicon dioxide, or silica. Silica is a naturally occurring mineral that forms a major component of most rocks. The most common type of crystalline silica is quartz, which is in sand, stone and granite.

39. The OHS Regulations define crystalline silica as crystalline polymorphs of silica, including the following substances:

    • quartz

    • cristobalite

    • tridymite

    • and tripoli. OHS Regulations r5

40. Materials containing crystalline silica are used in a variety of products, including engineered stone, concrete, ceramic tiles, bricks and mortar. The amount of crystalline silica in these products varies, depending on the type of product. To find out how much or which form of crystalline silica is in a product, refer to the safety data sheet (SDS) or product information from the manufacturer or supplier.

41. Engineered stone products can release crystalline silica dust when subject to cutting, grinding and abrasive polishing. Silica dust can be harmful when inhaled. It can lead to serious health conditions and even death. Risks from breathing in silica dust include:

    • silicosis

    • lung cancer

    • kidney disease

    • autoimmune diseases, such as scleroderma

    • chronic obstructive pulmonary disease.

42. Silica dust can be harmful when inhaled into the lungs over a long period of time at low to moderate levels, or short periods at high levels. When respirable crystalline silica dust is inhaled it can cause silicosis, which is a scarring of the lungs.

43. Silicosis is a serious and incurable disease, with symptoms including shortness of breath, coughing, fatigue and weight loss. In severe cases, the damage caused to the lungs by silicosis can require a lung transplant or may lead to death.

44. There are 3 types of silicosis:

    • **Acute silicosis.** This can develop within a few weeks or years after a short exposure to very high levels of crystalline silica dust. The lungs are filled with a fluid containing a lot of protein, which causes severe breathlessness.

    • **Accelerated silicosis.** The type seen in people who worked with engineered stone products. This is also associated with high exposures, where there is a rapid increase of scarring in the lung (fibrosis) within 10 years of first exposure.

- **Chronic silicosis.** This can develop after long-term exposure to lower levels of crystalline silica dust. It is the most common form of silicosis, where fibrosis occurs more slowly over 10 to 30 years after first being exposed.

Crystalline silica exposure standard

45. An exposure standard is a maximum airborne concentration of a substance that a person may be exposed to in their breathing zone, averaged over an 8-hour workday and 40-hour work week.

46. For the purposes of the OHS Regulations, exposure standard means an exposure standard set out in *Workplace Exposure Standards for Airborne Contaminants,* published by Safe Work Australia. OHS Regulations r5

47. An employer must ensure that the exposure of an employee to an atmospheric concentration of a hazardous substance, such as respirable forms of crystalline silica, does not exceed the exposure standard. OHS Regulations r165 Employees includes independent contractors engaged by the employer and any employees of the independent contractor.

48. The exposure standard for respirable crystalline silica dust is currently 0.05 mg/m3 as a time-weighted average (TWA) airborne concentration over 8 hours. An 8-hour TWA exposure standard is the average airborne concentration of a particular substance permitted over an 8-hour working day and 5-day working week. WorkSafe recommends that employees are not exposed to levels above 0.02 mg/m3 as an 8-hour TWA. This is a precautionary measure to prevent and minimise the risk of serious health conditions such as silicosis and lung cancer.

49. The TWA exposure standard needs to be adjusted where employees:
    - have a working day longer than 8 hours
    - have a working week longer than 40 hours
    - work shift rotations in excess of either 8 hours a day or 40 hours a week.

50. Adjustments should be determined by a person with the requisite skills, knowledge and experience, such as an occupational hygienist. Adjustments need to compensate for greater exposure during longer work shifts and decreased recovery time between shifts.

51. For more information about adjusting TWA exposure standards for extended work shifts, see Safe Work *Australia's Guidance on the interpretation of workplace exposure standards for airborne contaminants*. It is available at **safeworkaustralia.gov.au**.

52. The workplace exposure standard does not represent a dividing line between 'safe' and 'unsafe' airborne concentrations of respirable crystalline silica. Everyone is different, and this means that some people might experience adverse health effects below the exposure standard. Therefore, efforts should be made to reduce exposure as much as possible, taking into account the risks and hazards present in individual workplaces.

The exposure standard for respirable crystalline silica dust is under review by SafeWork Australia. Refer to the SWA website for further information. **safeworkaustralia.gov.au**

Part 1 – Introduction

Who has duties?

The OHS Act sets out general duties that apply to employers, employees, self-employed persons and persons with management or control of a workplace. The OHS Regulations specify the way in which duties imposed by the OHS Act must be performed. Duty holders must ensure they comply with their obligations under both the OHS Act and the OHS Regulations. For information about the compliance framework, see Appendix A.

Note: Engineered stone work

Part 1 of this Code outlines when work with engineered stone benchtops, panels and slabs is prohibited by the OHS Regulations. It also outlines when work may be carried out as an exemption or an exception to the prohibition or is not work that is prohibited. Any reference in this Code to engineered stone work applies only to those circumstances where the OHS Regulations do not prohibit that work.

If you are unsure whether the prohibition applies to work you are carrying out with engineered stone, please refer to Part 1.

Employers

Duties relating to an engineered stone process

53. Specific risk controls are required when carrying out an engineered stone process.

54. An engineered stone process is also considered HRCSW. OHS Regulations r319C Employers must comply with the HRCSW obligations in addition to the specific controls required for an engineered stone process. These obligations include:

- to only perform HRCSW if a crystalline silica hazard control statement is prepared before work starts OHS Regulations r319L(1)(a)
- to make sure the work is performed in accordance with the hazard control statement OHS Regulations r319L(1)(b)
- if HRCSW is not performed in accordance with the hazard control statement, to stop work immediately and not start the work again until the statement is complied with, or reviewed and revised OHS Regulations r319L(2)
- to review and revise a crystalline silica hazard control statement whenever the HRCSW changes, or if there is an indication that risk control measures are not controlling the risk adequately OHS Regulations r319M
- to keep a copy of a crystalline silica hazard control statement for the duration of the HRCSW for which the statement has been prepared OHS Regulations r319N
- providing job applicants who may carry out HRCSW with information about the health risks associated with exposure to crystalline silica dust, and the need for, and details of, measures to control those risks OHS Regulations 319Q

- providing employees who are likely to be exposed to risks associated with HRCSW with information, instruction and training in the health risks associated with exposure to crystalline silica dust, and the need for, and proper use of, any risk control measures required and how the risk control measures are to be implemented. OHS Regulations 319R

55. Employers must use specific measures to control risk when working with engineered stone products that are not prohibited by the ban. Those risk control measures include:

- the use of integrated water delivery systems, on-tool dust extraction systems and local exhaust ventilation (LEV) systems when using power tools or other mechanical plant to undertake an engineered stone process OHS Regulations r319S
- the design and installation of integrated water delivery systems, on-tool dust extraction systems or another type of LEV systems OHS Regulations r319T
- the maintenance of integrated water delivery systems, on-tool dust extraction systems and LEV systems OHS Regulations r319U
- providing respiratory protective equipment (RPE) to employees who undertake a permitted engineered stone process, and ensuring employees use the RPE provided to them OHS Regulations r319V
- the provision of information, instruction and training to employees in the use, fit, maintenance and storage of RPE when undertaking a permitted engineered stone process OHS Regulations r319W
- the provision of information, instruction and training to employees who use power tools or other mechanical plant to undertake a permitted engineered stone process OHS Regulations r319W
- cleaning of the work area where an engineered stone process has been undertaken, and the clothing a person was wearing where an engineered stone process is being, or has been, undertaken. OHS Regulations r319X Information about using specific measures to control risks associated with engineered stone is in Part 3.

56. Employers must use these specific risk control measures when carrying out an engineered stone process. For example, an employer must not carry out engineered stone work without using these specific risk controls.

Duties relating to crystalline silica dust

57. Part 4.1 (Hazardous substances) of the OHS Regulations also imposes duties on employers specific to crystalline silica dust. This includes dust generated from work on engineered stone that is not prohibited by the OHS Regulations. This may include dust from the grinding, cutting or polishing of silica-containing materials such as engineered stone. Employers must:

- ensure that the risks associated with exposure to silica dust in the workplace are eliminated or reduced, so far as is reasonably practicable OHS Regulations r163
- review and, if necessary, revise any measures implemented to control risks associated with silica dust at the workplace OHS Regulations r164

- ensure that employees, including independent contractors, are not exposed to an atmospheric concentration of silica dust generated at the workplace above the exposure standard OHS Regulations r165
- ensure that atmospheric monitoring is carried out when required and the results provided to relevant employees as soon as possible OHS Regulations r166 and r167
- keep a record of the results of atmospheric monitoring, and keep it readily accessible to any employee who has been exposed to the substance OHS Regulations r168 for
  - a period, not exceeding 30 years, that is determined by WorkSafe, or
  - 30 years if no period has been determined by WorkSafe
- ensure that health monitoring is carried out under the supervision of a registered medical practitioner for employees exposed to crystalline silica and a copy of any report is provided to WorkSafe when required. OHS Regulations r169

58. Former engineered stone licence holders have additional obligations in regard to health monitoring. See Part 5 for more information.

59. If the health monitoring report recommends an employer ensure an employee is not exposed to the hazardous substance for a specified period, the employer must give a copy of the report to the Authority. OHS Regulations r170

General duties

60. Employers must provide and maintain a working environment for their employees that is safe and without risks to health. Employers must do this so far as is reasonably practicable. OHS Act s21

For information about what reasonably practicable means when complying with Part 3 of the OHS Act or the OHS Regulations, see the WorkSafe Position – *How WorkSafe applies the law in relation to reasonably practicable* at **worksafe.vic.gov.au**.

61. To ensure that employers provide a working environment that is safe and without risks to health, they must eliminate risks to health and safety. They must do this so far as is reasonably practicable. If it is not reasonably practicable to eliminate the risks to health and safety, employers must reduce those risks so far as is reasonably practicable. OHS Act s20

62. Employers must have regard to the following matters when determining what is or was at a particular time reasonably practicable in relation to ensuring health and safety:
    - the likelihood of the hazard or risk concerned eventuating
    - the degree of harm that would result if the hazard or risk eventuated
    - what the person concerned knows, or ought reasonably know, about the hazard or risk and any ways of eliminating or reducing the hazard or risk
    - the availability and suitability of ways to eliminate or reduce the hazard or risk
    - the cost of eliminating or reducing the hazard or risk. OHS Act s20

63. Employers must, so far as is reasonably practicable, monitor conditions at any workplace under the employer's management and control. OHS Act s22(1)(b)

64. In labour hire situations, more than one person has duties in relation to the same worker. Those with duties are the labour hire provider and the host employer. Labour hire providers and host employers must, so far as is reasonably practicable, consult, cooperate and coordinate with each other where they share duties to the same worker. OHS Act s35A

65. An employer's duties under section 21 and section 35 of the OHS Act and some of the duties under the OHS Regulations extend to independent contractors engaged by the employer and any employees of an independent contractor working at the workplace. OHS Act s21(3) and s35(2) and OHS Regulations r8(1) However, these extended duties relate to matters over which the employer has control or would have control if there was not an agreement in place purporting to limit or remove that control.

66. Employers must, so far as is reasonably practicable, ensure that persons other than employees are not exposed to risks to their health or safety arising from the business activities undertaken by the employer. OHS Act s23

Self-employed persons

67. A self-employed person must ensure, so far as is reasonably practicable, that persons are not exposed to risks to their health or safety arising from the business activities of the self-employed person. OHS Act s24 and OHS Regulations r11

68. Specific risk controls are required when carrying out an engineered stone process. This includes when carrying out work on engineered stone benchtops, panels and slabs that are exceptions to the ban.

69. An engineered stone process is also considered HRCSW. OHS Regulations r319C Self-employed persons must comply with the HRCSW obligations, in addition to the specific controls required for an engineered stone process. These obligations include:

- to only perform HRCSW if a crystalline silica hazard control statement is prepared before work starts OHS Regulations r319L(1)(a)
- to make sure the work is performed in accordance with the hazard control statement OHS Regulations r319L(1)(b)
- if HRCSW is not performed in accordance with the hazard control statement, to stop work immediately and not start the work again until the statement is complied with, or reviewed and revised OHS Regulations r319L (2)
- to review and revise a crystalline silica hazard control statement whenever the HRCSW changes, or if there is an indication that risk control measures are not controlling the risk adequately OHS Regulations r319M
- to keep a copy of a crystalline silica hazard control statement for the duration of the HRCSW for which the statement has been prepared. OHS Regulations r319N

70. Self-employed persons must use specific measures to control risks when working with engineered stone products that are not prohibited by the ban, or when work is carried out on existing engineered stone benchtops, panels or slabs that are exceptions to that ban. Those risk control measures include:

- the use of integrated water delivery systems, on-tool dust extraction systems and LEV systems when using power tools or other mechanical plant to undertake an engineered stone process OHS Regulations r319S
- the design and installation of integrated water delivery systems, on-tool dust extraction systems or another type of LEV system OHS Regulations r319T
- the maintenance of integrated water delivery systems, on-tool dust extraction systems and LEV systems OHS Regulations r319U
- cleaning of the work area where an engineered stone process has been undertaken, and the clothing a person was wearing where an engineered stone process is being, or has been, undertaken. OHS Regulations r319X Information about using specific measures to control risks associated with engineered stone is in Part 3.

Employees

71. Employees while at work must take reasonable care for their own health and safety and that of others who may be affected by their acts or omissions in the workplace. Employees must also cooperate with their employer's actions to make the workplace safe and to comply with a requirement under the OHS Act or Regulations. OHS Act s25(1) In a workplace where employees are doing permitted engineered stone work with existing engineered stone products, this may include:

- following specific information, instruction or training provided for the purpose of undertaking permitted engineered stone processes safely
- participating in health monitoring
- the correct use of RPE provided by their employer.

Suppliers of engineered stone

72. From 1 July 2024, the manufacture, supply, processing or installation of engineered stone benchtops, panels or slabs is banned in Victoria.

73. There is an exception to the ban on supplying engineered stone benchtops, panels or slabs for the following purposes:

- Research or analysis.
- To sample or identify engineered stone.
- To dispose of engineered stone. OHS Regulations r319ZA

74. Suppliers of crystalline silica substances have certain duties under the OHS Act. This includes a duty to provide information about the conditions necessary to ensure their products are safe to work with. OHS Act s30

75. Suppliers of a crystalline silica substance, such as engineered stone, have duties under the OHS Regulations to give information about the crystalline silica substances they are supplying. OHS Regulations r319G and r319H Go to **worksafe.vic.gov.au** for information on these duties.

Consultation

76. Employers must, so far as is reasonably practicable, consult with employees on certain matters related to health or safety that directly affect, or are likely to directly affect them. OHS Act s35

77. If employees are represented by an HSR, the consultation must involve that HSR, with or without the direct involvement of the employees. OHS Act s35(4) and OHS Regulations r21

78. The duty to consult also extends to independent contractors, including any employees of the independent contractor, engaged by the employer in relation to matters over which the employer has control. OHS Act s35

79. Labour hire providers and host employers must, so far as is reasonably practicable, consult, cooperate and coordinate with each other where they share duties to the same worker. OHS Act s35A

The characteristics of the workplace will have an impact on the way consultation is done. For example, consider:

- the size and structure of the business
- the nature of the work
- work arrangements, such as shift work
- characteristics of employees, such as disability, gender, language or literacy
- any agreed procedures between the employer and employee for undertaking consultations
- the presence and number of HSRs
- the health and safety committee.

Go to **worksafe.vic.gov.au** for more information on consultation.

80. The duty to consult with employees and independent contractors includes, for example, when an employer is:
    - identifying or assessing hazards or risks to health or safety at the workplace
    - making decisions about measures to control such risks
    - proposing changes to the workplace, plant or substances used at the workplace that may affect the health or safety of employees. OHS Act s35

81. It is important to consult with your employees as early as possible when planning to:
    - introduce new work or change existing work
    - select new plant
    - refurbish, renovate or redesign existing workplaces
    - carry out work in new environments.

82. Employers who are required to consult with employees must share information about the matter with employees, including independent contractors and any HSRs. Employees must be given a reasonable opportunity to express their views and those views must be taken into account before a decision is made. OHS Act s35(3) If the employer and the employees have agreed to procedures for undertaking consultation about health and safety matters, the consultation must be undertaken in accordance with those procedures. OHS Act s35(5)

83. Employees and contractors may have practical suggestions or potential solutions that can be implemented.

Involving HSRs in consultation

Regulation 21 of the OHS Regulations details how employers must involve HSRs in consultation where it is required under the OHS Act or OHS Regulations. This includes:

- providing the HSR with all the information about the matter that the employer provides, or intends to provide, to the employees
- providing that information to the HSR a reasonable time before providing the information to the employees, unless it is not reasonably practicable to do so
- inviting the HSR to meet, and meeting to consult on matters
- giving the HSR a reasonable opportunity to express views about the matter
- taking into account the HSR's views about the matter.

Go to **worksafe.vic.gov.au** for more information on consultation with HSRs.

Information, instruction, training and supervision

84. Employers must provide employees with the necessary information, instruction, training or supervision to enable them to perform their work in a way that is safe and without risks to health. This duty also extends to independent contractors, including any employees of the independent contractor, engaged by the employer in relation to matters over which the employer has control. OHS Act s21(2)(e)

85. The mix of information, instruction, training and supervision required will depend on the frequency and type of hazards in the workplace, and how much employees already know about the risks and necessary risk control measures.

86. Information, instruction and training needs to cover:

- the nature of the hazards associated with engineered stone
- the need for and proper use of measures to control risk
- the selection, use, fit, testing and storage of any personal protective equipment (PPE).

87. Training programs need to be practical and 'hands on'. The structure, content and delivery of the training need to take into account any special requirements of the employees and independent contractors being trained. For example, information, instruction and training may need to be provided in a language other than English. Other considerations for how training is delivered include specific skills or experience, disability, literacy and age.

88. Employers must provide supervision to employees where such supervision is necessary to work safely. OHS Act s21(2)(e)

89. Effective supervision means closely monitoring employees' work practices and conditions, correcting any unsafe work habits and being available for questions.

90. Where the employees undertaking the work are new and inexperienced, such as apprentices or young employees, it is often necessary to provide additional supervision. For example, employers may consider using a mentoring system where new or inexperienced employees are partnered with experienced employees.

91. Employers need to review their training programs regularly and also when:

- there is a change to work processes, plant or equipment
- there is an incident
- new risk control measures are implemented
- there is a request by an HSR
- changes are made to relevant legislation, or
- any other issues affect the way the work is performed.

92. Employers should keep records of employees' induction and training.

93. Refresher training should be provided as appropriate for a particular workplace. The frequency of refresher training should be determined having regard to the frequency with which employees and independent contractors are required to carry out tasks involving engineered stone or crystalline silica.

94. In addition to these duties under the OHS Act, there are specific requirements under the OHS Regulations to provide employees with information, instruction or training in the use of a power tool or other form of mechanical plant to undertake an engineered stone process. OHS Regulations r319WThere are also requirements for the use, training in the use, fit, maintenance and storage of RPE. See Part 3 for more information.

Part 2 – The risk management process

95. This Code outlines a risk management process to help employers comply with their duties under the OHS Act and OHS Regulations, see Diagram 1. The risk management process involves the following steps:

    1. **identifying** hazards associated with exposure to crystalline silica dust in the workplace
    2. **assessing**, where necessary, any associated risks to determine appropriate risk controls
    3. **controlling** risks associated with exposure to crystalline silica dust in the workplace
    4. **monitoring**, **reviewing** and, where necessary, **revising** risk controls.

Diagram 1: The risk management process.

Identifying hazards

96. Engineered stone processes, including the cutting, grinding or abrasive polishing of engineered stone, generate crystalline silica dust. When these processes are performed without appropriate risk controls in place, employees can be exposed to hazardous levels of respirable crystalline silica. An engineered stone process must be identified as HRCSW. OHS Regulations r319C

97. Inhaling respirable crystalline silica from poorly controlled engineered stone processes creates a risk of developing silicosis. It can also lead to other related health issues. Engineered stone processes typically performed include, for example:

- cutting a hole in an existing engineered stone kitchen splashback
- removing an engineered stone kitchen or bathroom countertop
- re-polishing an engineered stone kitchen bench to repair a scratch.

98. Poor housekeeping can be a secondary source of exposure to respirable crystalline silica, including the build-up of settled dust around equipment and workstations, on floors or in waste collection areas, particularly when slurry solutions are allowed to dry out. For example, once settled dust is dry, it can be disturbed by:

- dry sweeping, compressed air or high-pressure water
- people or vehicles moving around the work area
- wind or air movement.

Part 2 – The risk management process

Where exposure to respirable crystalline silica can occur

99. Employees such as stonemasons and tradespersons such as plumbers and electricians who cut, grind, drill, polish or otherwise do work with engineered stone are at the highest risk of exposure to respirable crystalline silica. Risks can arise both in the workshop and at the installation site. Other people can also be at risk, for example, residents of houses where engineered stone work is taking place.

100. If crystalline silica dust becomes airborne, it can travel through the workplace. Employees performing other tasks in or near the immediate work area are at risk of exposure to crystalline silica dust. Other people in or near the immediate work area are also at risk.

101. Engineered stone processes create very fine dust particles, which are often invisible. Employees can breathe in respirable dust even if they cannot see it in the air. If not controlled, the particles can spread into the workplace environment and be inhaled. These fine particles can stay airborne for a very long time after larger dust particles have settled.

102. The level of a person's exposure to respirable crystalline silica from engineered stone is also affected by work procedures, such as housekeeping and waste management, after the permitted processing work is complete. For example, even if water suppression is used to control the risk of employee exposure while engineered stone is being processed, the use of inappropriate cleaning methods can significantly increase the level of respirable crystalline silica dust. Inappropriate cleaning methods can include, for example, the use of compressed air or other gases to clean the area or not cleaning the area promptly and allowing water to evaporate so that dust is regenerated into the air.

Crystalline silica hazard control statement

103. If carrying out an engineered stone process that is not prohibited, as outlined in Part 1 of this Code, employers, self-employed persons and employees must comply with their duties under the OHS Act and Regulations.

104. An employer or self-employed person must not perform an engineered stone process unless:

- a crystalline silica hazard control statement is prepared before the work starts, and
- the work is performed in accordance with that crystalline silica hazard control statement. OHS Regulations r319L(1)

105. A crystalline silica hazard control statement is a document that:

- sets out the hazards and risks arising from HRCSW
- describes the measures to control those risks
- describes how those risk controls will be implemented, and
- is set out in a way that is readily accessible and understood by people who use it. OHS Regulations r319D

106. If the HRCSW is being undertaken as part of high risk construction work, the hazard control statement can be incorporated into a SWMS. The SWMS must include the information required by the crystalline silica hazard control statement.

107. More information about preparing a crystalline silica hazard control statement for HRCSW is available at **worksafe.vic.gov.au**.

Part 2 – The risk management process

Identify engineered stone

If you are unable to determine if already installed stone is engineered stone, then you should:

- have the product tested at an accredited National Association of Testing Authorities (NATA) laboratory or an equivalent laboratory that is signed up to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA), or
- treat the stone as if it is engineered stone until determined otherwise. You must use specific risk controls for an engineered stone process and must treat the work as HRCSW.

For more information, see WorkSafe's guidance, *Interpreting data sheets to identify engineered stone*, at **worksafe.vic.gov.au**.

Assessing the risks

108. A risk assessment involves:
    - identifying hazards or risks to health or safety at a workplace, and
    - considering what could happen if employees are exposed to a hazard, and
    - the likelihood of it happening.

109. The work environment the engineered stone process is carried out in affects an employee's exposure to crystalline silica dust. When assessing the risks, employers need to consider the work environment in which the most effective risk control measures can be implemented to reduce employees' exposure to crystalline silica dust.

110. When assessing the risks of carrying out the engineered stone work, employers should consider:
    - the scale of the modification
    - the amount of dust that could be generated
    - where the most effective risk control measures can be implemented.

111. The assessment will determine whether the employer should:
    - remove the engineered stone and relocate it to another location, such as a workshop, to carry out the work before re-installing it, or
    - leave the engineered stone in place to modify or repair it.

    See information about the exemption for re-installation of engineered stone at paragraphs 32 to 37 in Part 1.

112. Following are examples of how employers might assess options for the most appropriate work environment for engineered stone work:

    Example 1

    An employer is installing a new type of tap in an engineered stone bench in a domestic kitchen. The job will involve widening an existing cavity in the kitchen bench. The employer has considered the scale of the modification to be small and the amount of dust generated minimal. The employer has assessed the risk and determined they can implement effective controls when doing the work onsite. The employer must ensure that their employees use the prescribed risk controls measures, such as hand-held tools with on-tool water suppression, dust extraction or local exhaust ventilation to control the risk of exposure to crystalline silica dust. Work must not proceed if these risk control measures are not in place.

Example 2

An employer needs to convert an L-shaped engineered stone bench to an island bench as part of a kitchen renovation. The employer has considered the scale of the modification and the amount of dust to be generated. The employer has determined that it is not possible to implement the most effective risk control measures if the benchtop remains in place. The employer decides to take the bench offsite and carry out the modifications in a workshop equipped with isolated wet-cutting machines, extraction systems and more effective housekeeping practices to capture dust. The bench will be re-installed in the same location after the work is done.

113. As well as considering the employees doing the work, employers should also consider the potential risk to other employees in workplaces where engineered stone processes are carried out. These employees may be exposed if background levels of respirable crystalline silica are high. For example, people may be exposed if they walk through or perform tasks in or near areas where work is taking place.

114. Employers should also consider the potential risk to persons other than employees, particularly where workplaces are in congested, built-up areas surrounded by areas accessible by the public or in a domestic premises.

Controlling the risks

115. So far as is reasonably practicable, an employer must provide and maintain for employees a working environment that is safe and without risks to health. OHS Act s21 This includes controlling any risks to health or safety associated with work on engineered stone.

116. There are specific measures to control risks associated with engineered stone processes. OHS Regulations r319S to r319X See Part 3 for more information.

117. When considering risk control options, employers need to consider relevant information about the nature of the work to be performed, the setting and how this may create a risk to health or safety. As detailed previously in *Assessing the risks*, it may be safer to remove engineered stone and modify it offsite in a workshop setting where more effective risk control measures may be available.

118. Employers also need to consider whether a risk control measure will introduce additional risks. For example, when carrying out engineered stone work in an existing kitchen, an employee using on-tool water suppression may be at risk of slipping due to the water spray generated from this risk control measure. This risk of slipping may require the employer to use additional risk controls such as non-slip mats.

119. Employers must, so far as is reasonably practicable, consult with their employees, including any HSRs, when making decisions about how to control risks. OHS Act s35 Consulting with employees is likely to result in better risk control measures because it gives employees the opportunity to contribute ideas and is likely to improve the uptake of risk control measures when they are implemented.

Part 2 – The risk management process

Hierarchy of control

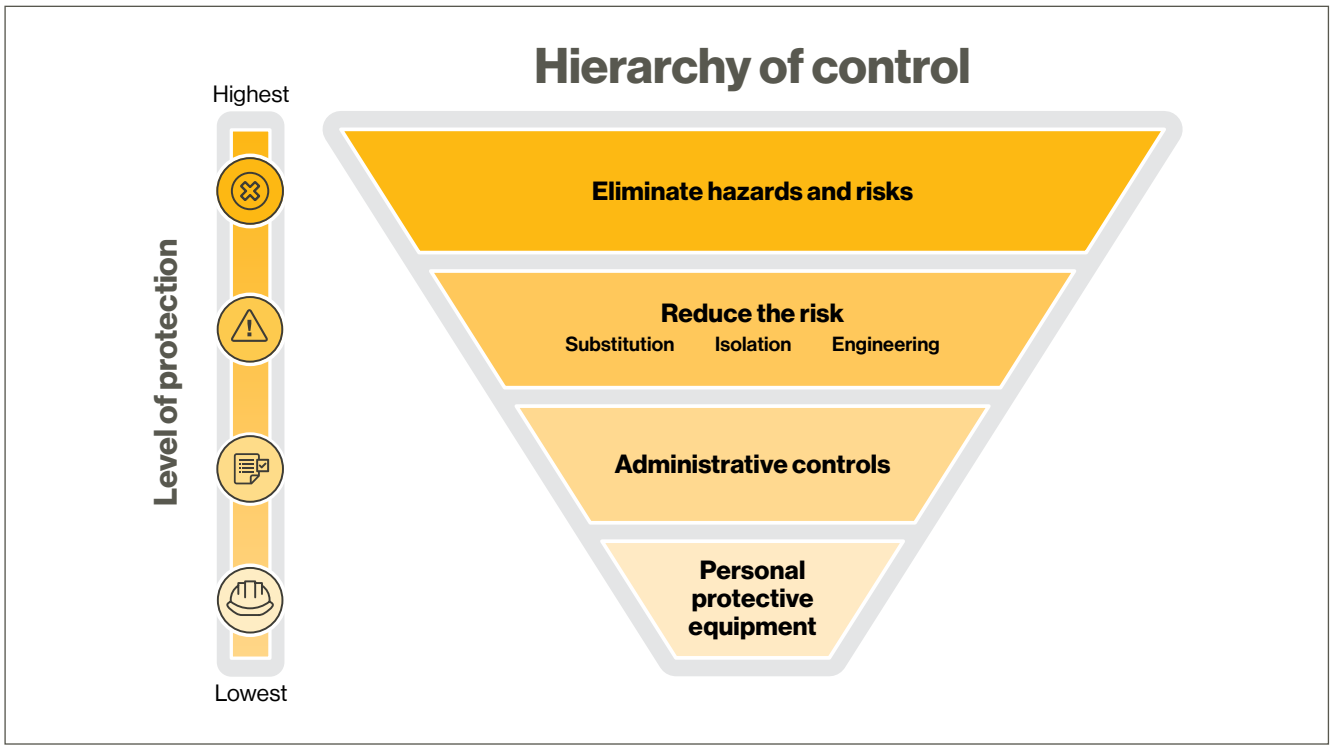


Diagram 2: The structure of the hierarchy of control.

120. The hierarchy of control is a system for controlling risks in the workplace. It ranks risk controls from the highest level of protection and reliability through to the lowest and least reliable.

121. When carrying out engineered stone processes, employers and self-employed persons have duties to control risks under Part 4.5 of the OHS Regulations (Crystalline Silica), and the hierarchy of control set out in Part 4.1 of the OHS Regulations (Hazardous Substances).

122. Employers must, so far as reasonably practicable, eliminate any risk associated with crystalline silica at the workplace. OHS Regulations r163(1)

123. If it is not possible to eliminate the risk, employers must reduce, so far as is reasonably practicable, risks associated with exposure to crystalline silica dust in a workplace. OHS Regulations r163(2)

124. Table 1 contains an example hierarchy of control for working with engineered stone that is not prohibited. Starting from Level 1, employers must consider and apply the highest level of control so far as is reasonably practicable before considering the level below it. Controlling the risk may involve a single control measure or a combination of 2 or more different controls.

Part 2 – The risk management process

Table 1: An example hierarchy of control for working with engineered stone.

Table 1 – Hierarchy of control	
Level	**Example**
Level 1: Eliminate the risk	Use materials that do not contain crystalline silica.
Level 2: Reduce the risk by using substitution	Use materials with a lower crystalline silica content, such as natural stone.
Level 3: Reduce the risk by using isolation	Use automated wet machines to cut, grind or polish engineered stone slabs.
Level 4: Reduce the risk by using engineering controls	Use prescribed engineering controls such as hand-held tools with on-tool water suppression, dust extraction or local exhaust ventilation.
Level 5: Reduce the risk by using administrative controls	For example, housekeeping, scheduling, zones policies, procedures, layout of work environment .
Level 6: Reduce the risk by providing personal protective equipment	Employers are required to provide respiratory protective equipment (RPE) to employees who undertake engineered stone processes and ensure that employees use the RPE provided.

125. Using administrative risk controls and PPE to reduce risks does not control the hazard at the source. Administrative risk controls and PPE rely on human behaviour and supervision. Used on their own, administrative risk controls and PPE tend to be least effective in minimising risks.

Part 3 – Engineered stone controls

Specific measures to control risks associated with engineered stone

126. Regardless of where the engineered stone process is carried out or the size of the job, the following risk control measures must be implemented.

127. If a power tool or other form of mechanical plant is used to undertake an engineered stone process that is not prohibited as referred to in Part 1, an employer or a self-employed person must ensure that the power tool or mechanical plant is used with:

a) an integrated water delivery system, or

b) an on-tool dust extraction system, or

c) if it is not reasonably practicable to use the systems listed at a) and b), another type of LEV. OHS Regulations r319S(1)

128. An integrated water delivery system, also known as on-tool water suppression, must:

- deliver a continuous supply of water to the point of contact with the stone while the power tool or mechanical plant is in use, and
- if the system uses recycled or recirculated water, adequately treat that water. OHS Regulations r319S(2)

129. An on-tool dust extraction system must:

- be commercially available, and
- be connected to a Dust Class H vacuum or another system that captures any dust generated by the power tool or mechanical plant. OHS Regulations r319S(1)(b)

130. Dust Class H vacuum means a vacuum that complies with the Class H requirements in AS/NZS 60335.2.69:2017 *Household and similar electrical appliances—Safety—Part 2.69: Particular requirements for wet and dry vacuum cleaners, including power brush, for commercial use*, or its equivalent. OHS Regulations r5

131. Local exhaust ventilation (LEV) means an engineering risk control that captures the emission of an airborne contaminant at its source and transports it to a safe emission point, filter or scrubber. OHS Regulations r5

132. An employer or a self-employed person who is required to use one of the systems outlined previously must ensure that the system is designed and installed to, so far as is reasonably practicable, eliminate any risk of exposure to crystalline silica dust. If it is not reasonably practicable to eliminate the risk, the system must reduce the risk so far as is reasonably practicable. OHS Regulations r319T For information about an integrated water delivery system, on-tool dust extraction and LEV, see paragraphs 137 to 166.

Part 3 – Engineered stone controls

Maintaining risk controls

133. An employer or a self-employed person who is required to use a system outlined previously must ensure that the system is used and maintained in a manner that, so far as is reasonably practicable, eliminates any risk of exposure to crystalline silica dust. If it is not reasonably practicable to eliminate the risk, the employer or self-employed person must ensure the system is used and maintained in a manner that reduces the risk so far as is reasonably practicable. OHS Regulations r319U For more information about inspection and maintenance of controls, see paragraphs 252 to 265.

Review and revision of risk controls

134. It is important to monitor risk controls to ensure they remain effective. Employers must review and, if necessary, revise any risk control measures used to control risks associated with hazardous substances at the workplace to ensure the risk controls adequately control the risks. OHS Regulations r164(1)(d) For more information about reviewing and revising risk controls, see paragraphs 266 to 267.

135. An employer must, so far as is reasonably practicable, monitor conditions at any workplace under the employer's management and control. OHS Act s22(1)(b)

136. Employers need to determine and regularly review the effectiveness of risk controls in their workplace through atmospheric monitoring. For information about when atmospheric monitoring is required, see paragraphs 203 to 226 .

Integrated water delivery system

137. An integrated water delivery system, also known as on-tool water suppression, is one of the most effective ways to reduce exposure to crystalline silica dust.

138. Water suppression uses water at the point of dust generation to dampen down or suppress dust before it is released into the air. It is one of the most common dust control measures.

139. Where water suppression is used with power tools or other mechanical plant, such as grinders, bridge saws, routers or polishing machines, to undertake a permitted engineered stone process, an integrated water delivery system must:

- deliver a continuous supply of water to the point of contact with the stone while the power tool or mechanical plant is in use, and
- if the system uses recycled or recirculated water, adequately treat that water. OHS Regulations r319S(2)

140. Integrated water delivery systems may be connected to fresh water or recycled water depending upon the setting where the permitted work is carried out. For example, if an engineered stone process is carried out onsite, fresh mains or pump water may be used.

Part 3 – Engineered stone controls

Electrical hazards when using water suppression

Only tools and machinery that have been designed for use with water attachments should be used with water suppression.

141. While water-suppressed machinery and tools provide an effective means of reducing exposure to crystalline silica dust, their use needs to be controlled to ensure other hazards are not created. For example, electrical hazards or the spread of mist containing crystalline silica dust. If you are working in a workshop context, automated machines are available that fully submerge the engineered stone under water. These machines enable the entire engineered stone process to be carried out underwater. Dust is captured within the water bed.

142. The appropriate tool needs to be used for the task or the setting. For example, in some cases a pneumatic tool may be more appropriate than an electrical tool. To help determine which tool is best for the job, consult with the supplier.

143. Where possible, water-suppressed powered handheld tools should be interlocked with the water feed so that when the tool is activated, spraying begins slightly before processing such as cutting or grinding begins.

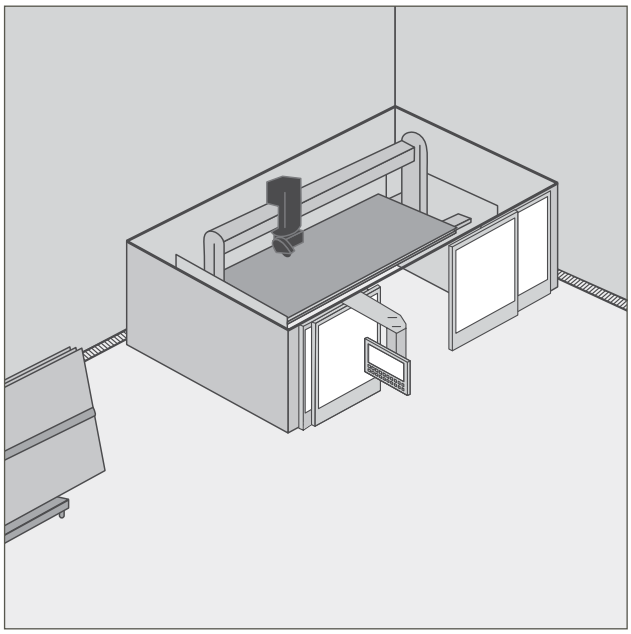


Figure 1: Automated wet cutting machine, isolated from other work areas.

Figure 2: Suitable water suppression. A grinder being used to modify an existing benchtop.

Part 3 – Engineered stone controls

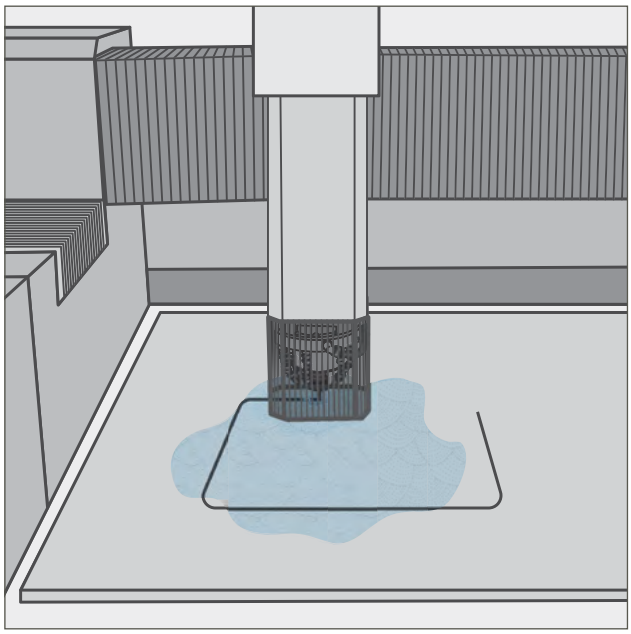


Figure 3: CNC machine for cutting shapes, such as sink holes.

Figure 5: Inappropriate water suppression. Separate hose being directed at work.

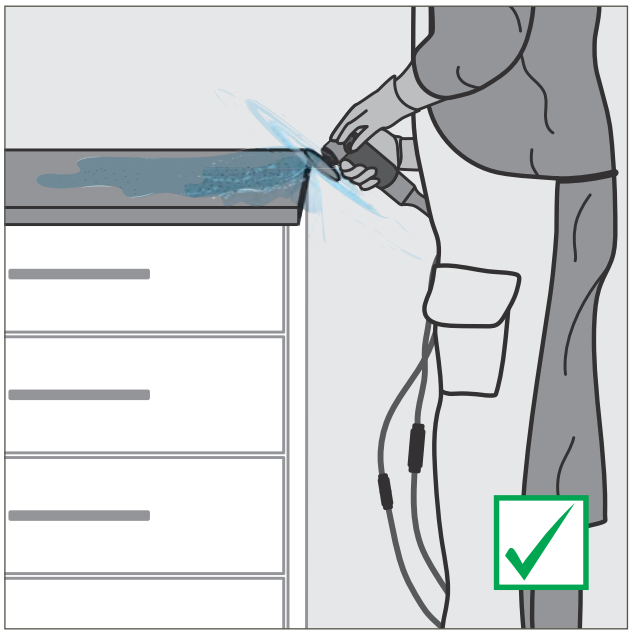


Figure 4: Suitable water suppression. A polisher being used to repair a benchtop.

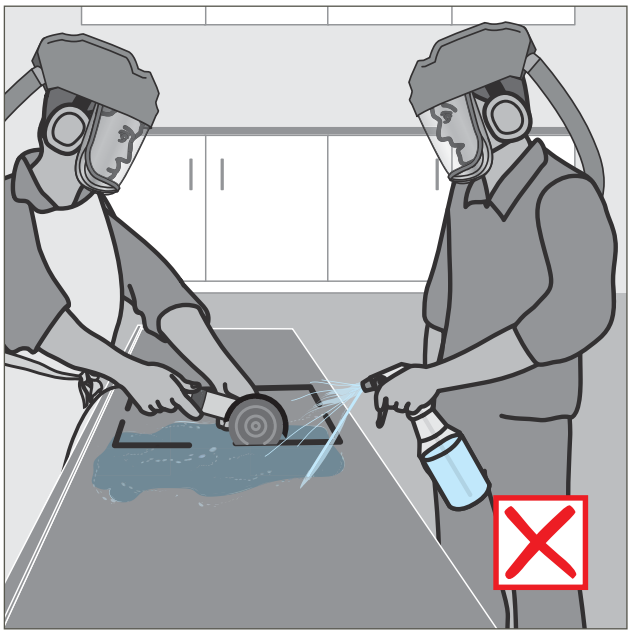


Figure 6: Inappropriate water suppression. Using a spray bottle.

144. Equipment or machinery used for water suppression should:
    - be designed for use with water suppression
    - be designed to minimise overspray
    - have the water feed attached and an adequate number of water feeds directed at the contact point to prevent dust being released during the process
    - have adequate water pressure, usually 0.5L/min, during operation
    - be fitted with guards, plastic flaps or brush guards designed to manage the water spray.

145. Integrated water delivery systems must be used and maintained in a manner that eliminates any risk of exposure to crystalline silica dust, so far as is reasonably practicable. If it is not reasonably practicable to eliminate the risk, the system must be used and maintained in a manner that reduces the risk so far as is reasonably practicable. OHS Regulations r319U

Enclosing water spray

146. When water is applied to rotating tools, water spray contaminated with crystalline silica dust is ejected from the process. This spray can expose employees to crystalline silica dust by:
    - being breathed in as water mist
    - depositing on surfaces, including clothing, and drying, then becoming airborne when it is disturbed.

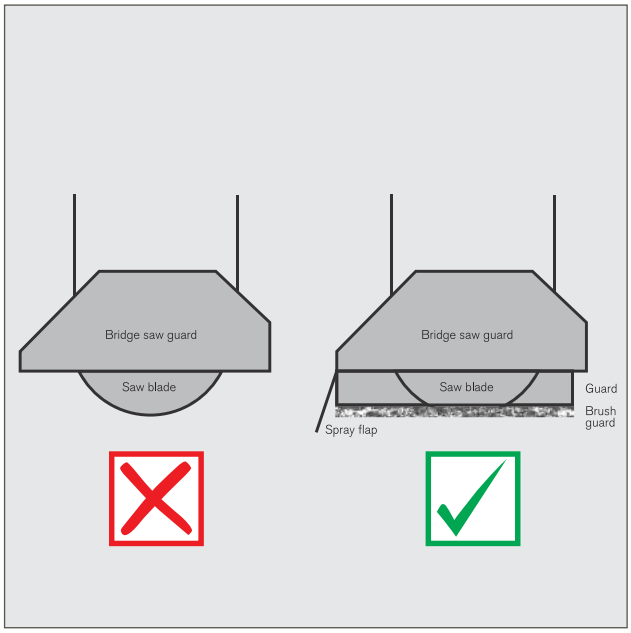


Figure 7: Additional guards to a bridge saw.

147. Risk controls need to be used to enclose water spray when using water suppression systems. Controls include, for example, guards, plastic flaps or brush guards around the rotating blade, tool or equipment. Employers need to ensure guards are routinely maintained and cleaned.

Part 3 – Engineered stone controls

148. The design of power tools or other mechanical plant is important in determining whether employees are protected from water mist containing crystalline silica dust particles. An employer or self-employed person required to use an integrated water delivery system with power tools or other mechanical plant must ensure the system is:

- designed and installed to, so far as is reasonably practicable, eliminate any risk of exposure to crystalline silica dust or, if it is not reasonably practicable to eliminate the risk, reduce the risk so far as is reasonably practicable OHS Regulations r319T
- used and maintained in a manner that, so far as is reasonably practicable, eliminates any risk of exposure to crystalline silica dust or, if it is not reasonably practicable to eliminate the risk, reduces the risk so far as is reasonably practicable. OHS Regulations r319U

149. Guarding needs to be fitted so that it will appropriately suppress water mist when the operator is using the tool at different angles.

150. In addition, other risk controls that further minimise exposure by managing the water spray from water suppression processes include:

- increasing the distance between the work process and the employees, for example, operator positioning when using bridge saws or routers
- increasing the distance between employees using powered handheld tools and others at the workplace.

Figure 8: Good spray control. Guarding deflects water down towards the slab.

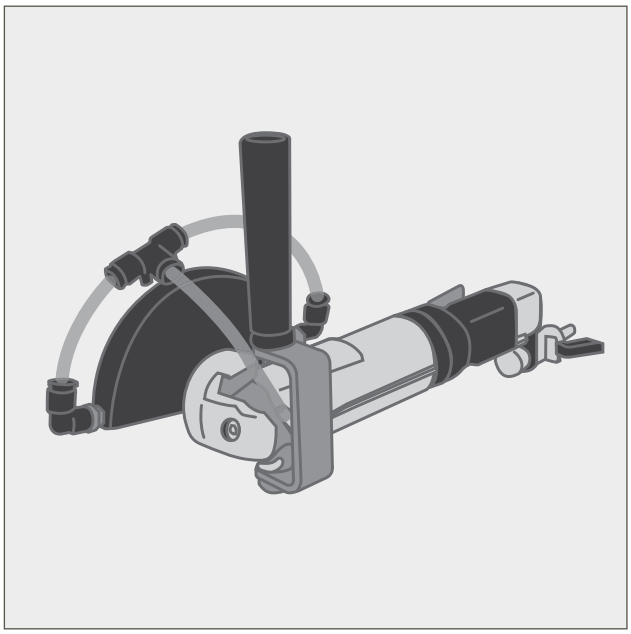


Figure 9: Example of appropriate guarding on a wet grinder.

Water run-off

151. Employers need to ensure that run-off from wet processes is captured. This can be done by, for example:

- using plastic drop sheets to prevent contamination of the work area
- collecting wet slurry by using HEPA filtered Dust Class H vacuums
- mopping, squeegeeing or wet-wiping surfaces.

152. If in a workshop, water run-off should be captured by purpose-built channels underneath the work area. It should also be contained by floor bunding to prevent water from spreading to other work areas and to direct water towards drains.

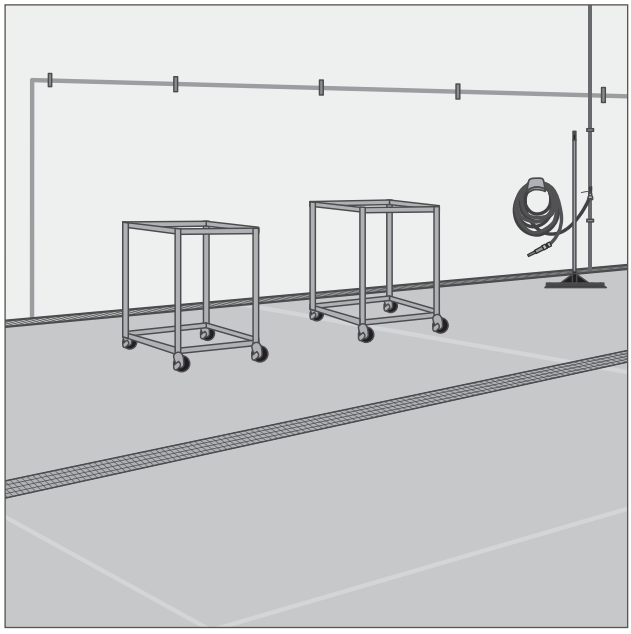


Figure 10: Effective workplace design in a workshop to capture water run-off, with in-built drains and floor bunding.

153. Wet slurry needs to be managed to ensure it does not dry and release crystalline silica dust into the air. For more information about the management of wet slurry, see paragraphs 244 to 246.

On-tool dust extraction

154. On-tool dust extraction removes dust as it is being produced. The extraction system includes a captor hood or shroud fitted over the dust-generation point. The hood captures the dust as it is produced and transports it through a hose to an extraction unit.

155. On-tool extraction systems must be of a type that is commercially available and connected to a Dust Class H vacuum or another system that captures any dust generated by the use of the power tool or mechanical plant. OHS Regulations r319S(1)(b)

Dust Class H Vacuum means a vacuum that complies with the Class H requirements in AS/NZS 60335.2.69:2017 Household and similar electrical appliances—Safety—Part 2.69: Particular requirements for wet and dry vacuum cleaners, including power brush, for commercial use or its equivalent. OHS Regulations r5

156. Tools fitted with dust extraction need to be set-up with the captor hood as close as possible to the point where the dust is generated. This will ensure as much dust as possible is captured.

157. Employers and self-employed persons should select on-tool dust extraction systems that are interlocked with tool activation, where available. With interlocked tool activation, extraction begins shortly before the tool can be used and continues after the tool operation is complete.

158. The captor hood is an important part of the system and needs to be properly designed for the tool and tasks. The captor hood should sit as close as possible to the work surface when in use to ensure all airborne dust created from the work process is captured.

Part 3 – Engineered stone controls

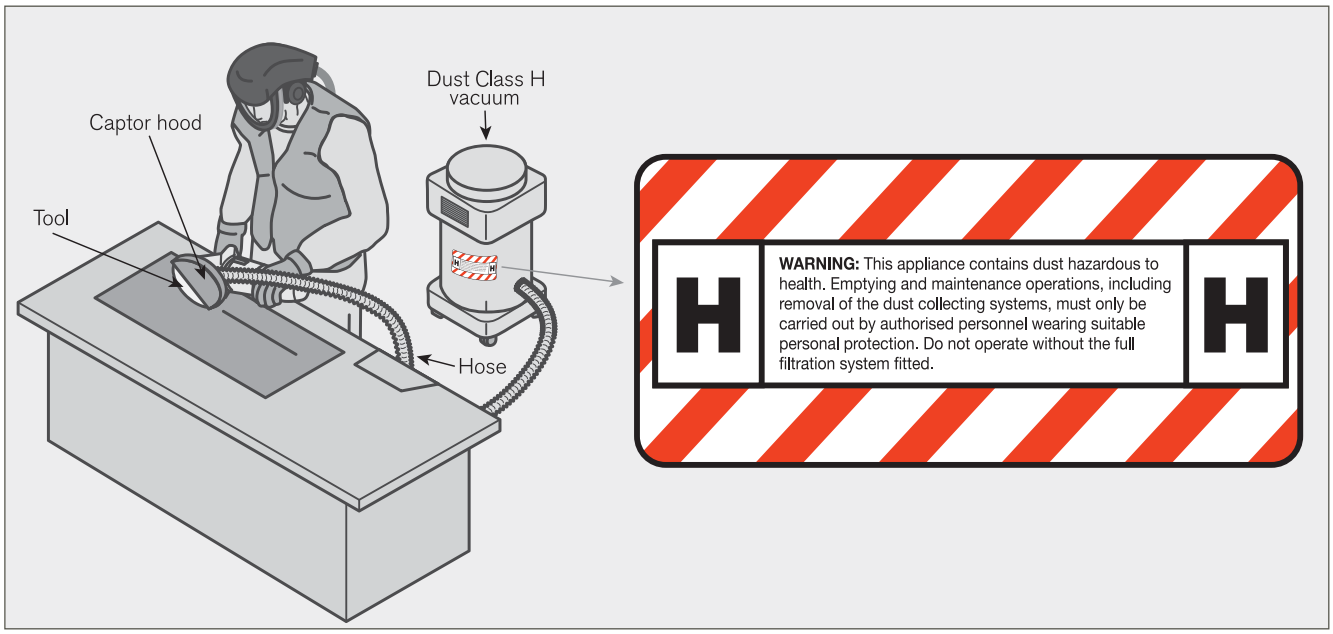


Figure 11: A grinder fitted with on-tool extraction, including a Dust Class H vacuum. The vacuum has a notice warning that it contains hazardous dust.

159. When working in a workshop context and using on-tool dust extraction while cutting and trimming engineered stone, a sacrificial backer board or spoil board may be used. These boards help ensure the engineered stone benchtop or panel being modified can be lifted safely. This prevents dust from being released below the slab and increases the effectiveness of on-tool dust extraction. MDF or particle board would be suitable for this purpose.

Local exhaust ventilation

160. LEV is an engineering risk control that captures the emission of an airborne contaminant at its source and transports it to a safe emission point, filter or scrubber. On-tool dust extraction is one form of LEV. OHS Regulations r5

161. While LEV may reduce background levels of silica dust, it is not as effective as water suppression or on-tool dust extraction for reducing the exposure of employees. LEV other than on-tool extraction is generally not recommended.

162. If it is not reasonably practicable to use an integrated water delivery system or commercially available on-tool dust extraction system for permitted engineering stone processes, then another type of LEV, such as a portable LEV system, hoods, booth or extractor wall, must be used. OHS Regulations r319S(1)(c)

Part 3 – Engineered stone controls

163. LEV that is not on-tool requires proper design, installation, use and maintenance to ensure dust is effectively captured as close as possible to the source. It must, so far as is reasonably practicable, eliminate or reduce the risk of exposure to crystalline silica dust.

164. If there is too much distance between an extraction unit and the dust generation point, the capture strength or velocity of extraction at the point of dust generation is too low to adequately capture all of the dust generated.

165. For extraction to be effective, the cutting point needs to be close to the extraction hood. The nature of the work may not allow this, or it may require the employee to constantly reposition the work piece or hood. For example, a stonemason cutting a sink hole into a benchtop is regularly moving and turning the tool, which generates dust in a range of directions.

166. An employer or self-employed person required to use LEV must ensure that the system is:

- designed and installed to, so far as is reasonably practicable, eliminate any risk of exposure to crystalline silica dust or, if it is not reasonably practicable to eliminate the risk, reduce the risk so far as is reasonably practicable OHS Regulations r319T
- used and maintained in a manner that, so far as is reasonably practicable, eliminates any risk of exposure to crystalline silica dust or, if it is not reasonably practicable to eliminate the risk, reduces the risk so far as is reasonably practicable. OHS Regulations r319U

Design of work environment

Workshop environment

167. If an engineered stone process is being carried out in a workshop, the layout needs to be designed to minimise exposure to and contamination from crystalline silica dust generated in neighbourhood work areas. This includes work that is performed on existing engineered stone benchtops, panels or slabs that are exceptions to the ban, and work on engineered stone products that are not benchtops, panels and slabs. Designing to minimise exposure and contamination can be done, for example, by including enough distance between workstations and positioning work areas for each stage of processing in sequence.

168. The work should be undertaken in a controlled exclusion zone with access restricted to people involved in the task. The exclusion zone should be in a well-ventilated area, for example, outside or in a dedicated room at the site. Employers need to ensure contaminated dust does not travel in the direction of other employees, people or premises.

Figure 12: Controlled exclusion zone with restricted access.

Part 3 – Engineered stone controls

Occupied premises

169. When performing an engineered stone process in an occupied premises such as a shop, hotel or domestic premises, specific risk controls must be used. This includes taking steps to reduce debris and dust falling on surfaces or entering vents in the immediate area. To support these controls, plastic drop sheets to cover adjacent surfaces would assist in cleaning the area. If a wet process is being undertaken, ensure slurry and run-off is collected. For more information on reducing dust, see paragraphs 227 to 251.

170. If you determine that performing an engineered stone process at the site of the installed stone may generate and disperse dust, consider whether more effective risk control measures could be implemented by carrying out the work offsite in a workshop. The engineered stone would need to be reinstalled when the process was complete.

Work practices

171. The way in which work is done can affect the generation of silica dust and exposure of employees and others. The following work practices, among others, may help reduce the amount of exposure:

- Identify where to undertake the work, for example, in place or in a workshop, to ensure the most effective risk control measures can be implemented.
- Plan to make the minimum number of cuts for each job.
- Use machinery and equipment that generates less dust, for example, routers, water-jet cutters and edge or surface polishing machines.
- Implement systems to ensure routine or daily checks of critical risk controls, such as guards.
- Wetting engineered stone before cutting, grinding or abrasive polishing to remove dust and help water suppression.
- Ensure good housekeeping, including regular cleaning of work areas and equipment.
- Ensure employees remove contaminated clothing before leaving the work area.

For information on reducing dust, see paragraphs 227 to 251.

172. In addition to safe work practices, warning signs need to be erected to clearly communicate the presence of silica dust hazards and the required personal protection risk controls, such as RPE.

Figure 13: Safety signs warning about the presence of silica dust.

Providing information for high risk crystalline silica work

173. An employer must ensure that employees who are likely to be exposed to risks associated with HRCSW are given information, instruction and training in:

- the health risks associated with exposure to crystalline silica dust
- the need for, and proper use of, risk control measures
- how the risk control measures are to be implemented. OHS Regulations r319R

174. An employer must ensure that an employee who uses a power tool or other form of mechanical plant to undertake a permitted engineered stone process is provided with information, instruction and training in:

- the use of that power tool or mechanical plant with an integrated water delivery system, or
- an on-tool dust extraction system or LEV, and
- the use, fit, maintenance and storage of RPE. OHS Regulations r319W

Part 3 – Engineered stone controls

175. An employer must ensure that an applicant who applies for employment involving HRCSW is given information about:

- the health risks associated with exposure to crystalline silica dust
- the need for, and details of, measures to control those risks.

OHS Regulations r319Q

176. The amount of information to be provided to job applicants relating to risk control measures does not need to be as extensive as the amount of information that must be provided to employees. But it should include general details of the types of risk control measures used to control risks in the particular workplace. For example, the types of risk control measures used when cutting, grinding or abrasive polishing with a power tool or mechanical plant.

Personal protective equipment

177. An employee doing an engineered stone process must be provided with specific PPE. Specific PPE includes respiratory protective equipment (RPE). PPE such as safety footwear, gloves and hardhats is not sufficient of itself to control the risk of exposure to crystalline silica dust from doing permitted work with engineered stone. But a risk assessment may determine that PPE is required, in addition to other risk control measures, to control other risks associated with the work being undertaken.

178. Any PPE that may become contaminated with crystalline silica dust needs to be cleaned regularly to ensure the dust is not transferred into other areas of the workplace. See paragraphs 235 to 243 for information about personal decontamination.

Respiratory protective equipment

179. An employer must ensure that an employee who undertakes an engineered stone process is provided with RPE.

OHS Regulations r319V(1)

180. RPE means PPE that is:

- designed to protect the wearer from the inhalation of airborne contaminants, and
- complies with AS/NZS 1716 *Respiratory protective devices*, or requirements equivalent to those of that standard.

OHS Regulations r5

181. The employer must ensure that employees use the RPE provided to them.

OHS Regulations r319V(2)

182. Employers need to provide an RPE program that complies with the AS/NZS 1715:2009 *Selection, use and maintenance of respiratory protective equipment*, or equivalent standard, which includes:

- providing suitable RPE for the task
- fit testing
- maintenance and repair procedures
- a facial hair policy for respirators that rely on an effective seal around the face
- facilities for appropriate storage
- training.

Part 3 – Engineered stone controls

Selection of respiratory protective equipment

183. A person with the required knowledge, skills and experience needs to determine the most appropriate respirator for work involving engineered stone, following a risk assessment. This person needs to have knowledge of the risks to health from exposure to crystalline silica dust, the nature of the work to be performed and the risk control measures in place to control the risk. The person also needs to be familiar with the appropriate Australian Standards for RPE.

184. When choosing the most appropriate RPE, employers need to consider:

- whether it provides the required level of protection from the risks associated with the task
- whether it is suitable for the wearer's size and build
- whether the employee has facial hair
- the wearer's need for mobility, dexterity, clear vision and communication.

185. Powered air purifying respirators (PAPRs) provide the highest level of protection and are more comfortable for wearing over longer periods. PAPRs work by using a fan to draw or push air through the filter. They are less fatiguing than negative pressure respirators, which require wearers to draw air through a filter.

186. Where an individual has a particular medical or respiratory condition that may be impacted by the use of a respirator, advice from a registered medical practitioner needs to be considered and this may result in a loose-fitting PAPR being recommended.

187. Respirators must comply with the requirements of AS/NZS 1716 *Respiratory protective devices*, or equivalent. Check the product information to make sure RPE complies with AS/NZS 1716. If unsure, ask the supplier or contact the manufacturer. Detailed guidance about RPE can also be found in AS/NZS 1715 *Selection, use and maintenance of respiratory protective equipment*.

188. The risks to health from exposure to crystalline silica dust must be assessed for any persons working next to or visiting the processing area, and appropriate risk control measures, such as providing RPE, need to be implemented. Procedures should be in place to minimise incidental access to the processing area when processing, cleaning or maintenance is occurring.

Part 3 – Engineered stone controls

Recommended RPE for working with engineered stone		
PAPR loose-fitting helmet High level of protection		• Positive pressure reduces fatigue. • Can be worn with facial hair. • Does not require fit testing.
PAPR loose-fitting hood High level of protection		• Positive pressure reduces fatigue. • Can be worn with facial hair. • Does not require fit testing.
Half-face PAPR Medium level of protection		• More comfortable over longer periods. • Positive air pressure reduces fatigue. • Cannot be worn with facial hair. • Requires fit testing. • Needs to be fit checked with each wear.
Half-face negative pressure respirator Minimum level of protection	 	• Does not impair vision or mobility. • Cannot be worn with facial hair. • Requires fit testing. • Needs to be fit checked with each wear.

Figure 14: Recommended RPE for working with engineered stoAne.

Note: When undertaking an engineered stone process, filters used in respirators must be of a particulate type. When undertaking a gluing process, organic type filters may also be required.

Part 3 – Engineered stone controls

Fit testing respiratory protective equipment

189. Fit testing measures the effectiveness of the seal between a respirator and the wearer's face. If there is not a good seal, contaminated air, including respirable crystalline silica, could leak into the respirator. Hood and helmet-type respirators do not require fit testing as they cover the whole head and do not rely on a tight seal.

190. Fit testing ensures employees wear a respirator that is suitable to their individual facial characteristics. As these characteristics vary from person to person, it is unlikely that one model or size of RPE will fit everyone. Different sizes and models of respirators are available to accommodate these differences.

191. Facial hair, including beards, moustaches, sideburns and stubble, impinging on the seal will stop a respirator from sealing properly. Respirable crystalline silica particles are much smaller than facial hair and will be able to leak into the respirator if it is not sealed completely.

192. Employees who are required to wear tight-fitting respirators need to be clean-shaven or ensure there is no hair between their face and the seal of the respirator facepiece. They also need to ensure facial hair, clothing or jewellery do not interfere with the respirator seal or operation of the inhalation/exhalation valve.

193. Fit testing needs to be carried out:

- by a competent person, manufacturer, supplier or consultant who is properly trained and proficient in the fit-testing method being used
- before wearing a tight-fitting respirator for the first time
- when a new make or model of tight-fitting respirator is issued
- whenever there is a change in the employee's facial characteristics or features that may affect the facial seal, for example, significant weight loss or gain
- on a regular basis as part of risk assessment and review of risk control measures.

Fit checking

For RPE that requires a facial seal, such as a half-face powered air purifying respirator, a fit check is a quick check to ensure it is properly positioned on the face when it is put on. Ensure employees do a fit check in accordance with the manufacturer's instructions every time they put on their respirator.

Part 3 – Engineered stone controls

Maintenance of respiratory protective equipment

194. RPE must be properly stored and regularly maintained, repaired or replaced to ensure it continues to be effective. Maintenance should be carried out by a competent person in accordance with the manufacturer's instructions.

195. Particulate filters need to be replaced regularly. For example, the filter should be replaced as soon as any resistance is experienced.

196. A maintenance program for RPE needs to include:

- daily cleaning and inspections for wear, damage and low or flat batteries, where batteries are being used
- appropriate storage, for example, in a dry, clean and sealed container, with each employee provided with a dedicated container for their RPE
- regularly replacing particulate filters
- identification and repair or replacement of any worn or defective components of the equipment
- maintenance and testing of RPE in accordance with the manufacturer's instructions
- record keeping of any issues, training provided and fit testing details, including style, size, make and model for each employee
- maintenance records, including filter replacement and maintenance schedules
- RPE program records, including procedures for use and audits or evaluations.

Note: Compressed air or other compressed gases must not be used to clean respirators worn by persons who have been in a work area where an engineered stone process has been undertaken unless the use of that air or gas does not result in a concentration of respirable crystalline silica that exceeds the exposure standard. OHS Regulations r319X

Training in the use of respiratory protective equipment

197. The effectiveness of RPE as a risk control measure relies on its correct use and maintenance.

198. An employer must ensure that an employee who uses a power tool or other form of mechanical plant to undertake a engineered stone process is provided with information, instruction and training in the use, fit, maintenance and storage of RPE. OHS Regulations r319W(b)

199. An employer must ensure that employees who are likely to be exposed to risks associated with high risk crystalline silica work (HRCSW) are given information, instruction, and training in:

- the health risks associated with exposure to crystalline silica dust
- the need for, and proper use of risk control measures
- how the risk control measures are to be implemented. OHS Regulations r319R

200. This would include information, instruction and training in the need for and proper use of RPE. Specifically, employees must be familiar with why RPE is required and how to use it correctly, including putting it on, taking it off and conducting a fit check.

Part 3 – Engineered stone controls

201. Training in RPE use and maintenance should be provided in accordance with *AS/NZS 1715 Selection use and maintenance of respiratory protective devices*.

202. Training needs to be provided by a competent person, and cover:

- when RPE is required to be worn
- how RPE works
- the limitations of RPE
- how to clean and maintain RPE
- when and how to replace filters and batteries, including rechargeable batteries
- how and where to store RPE when it is not in use.

Atmospheric monitoring

203. Atmospheric monitoring is a procedure by which air is sampled within the breathing zone of a person to measure and evaluate the person's exposure to airborne contaminants. OHS Regulations r5

204. The breathing zone is a hemisphere with a radius of 300 mm, extending in front of a person's face, and measured from the midpoint of an imaginary straight line joining the ears.

205. Crystalline silica includes the forms quartz, tridymite, tripoli, cristobalite, and any other crystalline polymorphs that may be present in a sample. Quartz, tridymite, tripoli and cristobalite have their own workplace exposure standards.

206. When undertaking atmospheric monitoring, it is the sum of these concentrations that must be compared with the respirable crystalline silica exposure standard, as all forms of crystalline silica target the lungs. Information from suppliers of engineered stone will indicate what forms of crystalline silica are present in the engineered stone being processed. Atmospheric monitoring, analysis and subsequent exposure estimations must account for the different forms of crystalline silica present.

207. The workplace exposure standards are based on the levels found in a person's breathing zone, outside of any RPE that may be in use. For more information on workplace exposure standards, see paragraphs 45 to 52.

Part 3 – Engineered stone controls

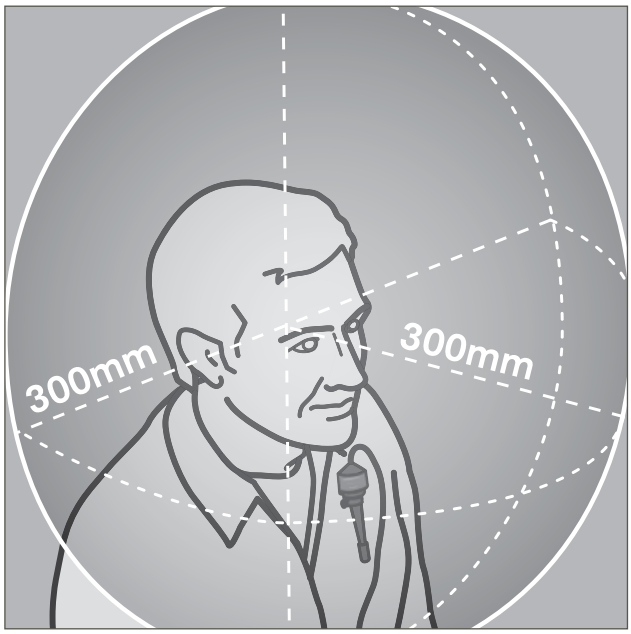


Figure 15: The breathing zone.

Figure 16: Personal atmospheric monitoring equipment.

208. While atmospheric monitoring does not prevent disease and is not an alternative to controlling exposure, it is important to:
    - monitor conditions at the workplace
    - ensure employee exposure is not exceeding the exposure standard
    - check the ongoing effectiveness of any risk control measures
    - check that any new risk controls are working effectively
    - inform employees of the pattern of exposure to the risk of respirable crystalline silica
    - help choose the right kind of respiratory protection
    - inform health monitoring requirements.

When is atmospheric monitoring required?

209. Under the OHS Act, an employer must, so far as is reasonably practicable, monitor conditions at any workplace under the employer's management and control. OHS Act s22(1)(b)

210. Under the OHS Regulations, employers must ensure that atmospheric monitoring is carried out for crystalline silica dust generated at or supplied to the employer's workplace where:
    - there is uncertainty, based on reasonable grounds, as to whether the exposure standard is or may be exceeded, or
    - atmospheric monitoring is necessary to determine whether there is a risk to health. OHS Regulations r166(1)

Part 3 – Engineered stone controls

211. There is insufficient evidence to show that any single risk control or combination of risk controls is guaranteed to keep exposure to respirable crystalline silica below the exposure standard when power tools or other forms of mechanical plant are used on engineered stone.

212. Employers should conduct atmospheric monitoring:

- when there are changes to work practices, the materials being used or the work environment
- if a health monitoring report for an employee indicates a negative change in health status that may be related to silica exposure
- if an HSR requests a review of risk control measures
- if there are changes to the workplace exposure standard and previous atmospheric monitoring results have indicated levels above the new standard.

Who can do atmospheric monitoring?

213. Atmospheric monitoring and the interpretation of the results, including comparison with the exposure standard, need to be undertaken by a person with the requisite skills, knowledge and experience, such as an occupational hygienist.

214. The Australian Institute of Occupational Hygienists (AIOH) represents the occupational hygiene field. A list of service providers to conduct atmospheric monitoring for silica dust can be found at **aioh.org.au**.

What does atmospheric monitoring involve?

215. Atmospheric monitoring needs to be conducted in a way that ensures sufficient samples are collected to be truly representative of the usual employee exposure levels in the workplace. Depending on the number of employees in the workplace, monitoring may need to be undertaken on more than one occasion. For example, in a small workplace with 6 or fewer employees, several employees may need to be monitored over consecutive days to gather enough sampling for accurate results. More information about personal sampling can be found in AS 2985 *Workplace atmospheres – Method for sampling and gravimetric determination of respirable dust.*

Part 3 – Engineered stone controls

Who can analyse atmospheric monitoring samples?

216. The analysis of crystalline silica dust samples needs to be done by a laboratory accredited by the National Association of Testing Authorities (NATA) for crystalline silica analysis. To confirm whether a laboratory is accredited, go to the NATA website at **nata.com.au**.

Results of atmospheric monitoring

217. An employer must provide the results of any atmospheric monitoring at the workplace as soon as reasonably possible to any employee who has been, or who may be, exposed to the hazardous substance that is the subject of the monitoring, such as crystalline silica dust. OHS Regulations r167

218. The atmospheric monitoring results must also be made available to:

- a WorkSafe inspector, if required OHS Act s100
- HSRs for any designated work groups, where applicable. OHS Act s69(1)

219. If health monitoring is being conducted at the workplace, any atmospheric monitoring results should be provided to the relevant medical practitioner.

220. Employers must keep records of atmospheric monitoring results for 30 years. Those records must be readily accessible to any employees who have been, or may be, exposed to the hazardous substance. OHS Regulations r168

Results exceeding the exposure standard

221. Where atmospheric monitoring results indicate that risk control measures are not adequately controlling risks, an employer must review and revise any measures implemented to control risks associated with respirable crystalline silica dust at the workplace.

222. Employers must consult with employees and any HSRs, so far as is reasonably practicable, on certain matters related to health or safety that directly affect or are likely to directly affect them. This includes when making decisions about measures to control risks associated with engineered stone. For more information, see the Consultation section in Part 1 of this Code.

223. As soon as corrective action has been taken to eliminate or reduce the exposure to below the exposure standard, follow-up atmospheric monitoring needs to be conducted to confirm that the exposure standard is no longer being exceeded and that there is no risk to health.

224. Information related to the outcome of any corrective actions taken must be provided to a WorkSafe inspector where required. OHS Act s100 The information must also be provided to an HSR where required. OHS Act s69

Static monitoring

225. Static or fixed position monitoring involves taking samples of air from fixed locations outside the immediate area where engineered stone is being processed.

226. The results of static monitoring cannot be used as an indicator of actual employee exposure to a substance. However, in certain circumstances, static or fixed position monitoring can help assess the presence of respirable crystalline silica and the effectiveness of risk controls.

Part 3 – Engineered stone controls

Reducing dust

Cleaning the work area

227. Employers need to ensure that the work area for permitted engineered stone processes is kept clean. For example, the area should be cleaned after each job is completed to ensure there is no build-up of silica dust on plant, equipment, working surfaces, walls and the floor. RPE needs to be worn during clean-up activities.

228. Cleaning methods need to be carefully selected to ensure they do not have the potential to disturb or spread crystalline silica dust beyond the work area. For example, wet methods such as low-pressure hosing, mopping, squeegeeing or wet-wiping surfaces will suppress residual dust.

229. An employer or a self-employed person must not use or cause to be used compressed air or other compressed gases to clean a work area where a permitted engineered stone process has been undertaken, unless the use of that air or gas does not result in a concentration of respirable crystalline silica that exceeds the exposure standard for respirable crystalline silica. OHS Regulations r319X(a)

230. Employers need to ensure that brooms, brushes and high-pressure water jets are not used in areas that may be dusty.

231. A Dust Class H vacuum cleaner is suitable for cleaning if the area is dry. If the area is wet, an appropriate wet and dry Dust Class H vacuum cleaner would be required. A household vacuum cleaner should not be used, even if it has a HEPA filter.

232. Damp rags or wet wipes can be used to clean dusty surfaces or equipment that are hard to reach with a Dust Class H vacuum cleaner. Rags used to clean up silica dust are contaminated waste and need to be contained and disposed of as soon as possible in a manner that eliminates the release of airborne respirable crystalline silica. Rags should not be re-soaked after they have been used as this will contaminate the water.

233. As part of decontamination, particular attention needs to be paid to walls, ledges, fittings and furnishings where silica dust may accumulate.

234. At a minimum, cleaning of the work area needs to be conducted at the end of each day. To ensure good housekeeping practices:

- implement daily and thorough housekeeping and cleaning procedures for wet slurry and settled dust
- use low-pressure water, wet mopping with a squeegee or a Dust Class H vacuum cleaner to clean floors, walls and other surfaces
- prohibit the use of dry sweeping or compressed air or other compressed gases to clean surfaces, clothing or PPE, including RPE
- provide low-pressure water from hoses for cleaning between tasks.

Personal decontamination

235. Personal decontamination needs to be done each time a person leaves the area where permitted engineered stone work is taking place. This is to ensure dust is not transferred to, for example, other areas of the workplace or into a home.

236. At the exits of areas where permitted work has taken place, employers need to provide:

- Dust Class H vacuum cleaners for removing excess dust from clothing, including aprons, boots and any other PPE
- running water for washing hands, face and hair
- a low-pressure hose or tray of water for cleaning footwear.

237. An employer or a self-employed person must not use or cause to be used compressed air or other compressed gases to clean the clothing of a person who has been in a work area where an engineered stone process is being or has been undertaken, unless the use of that air or gas does not result in a concentration of respirable crystalline silica that exceeds the exposure standard for respirable crystalline silica. OHS Regulations r319X(b)

238. All PPE needs to be cleaned after each use to ensure dust does not accumulate. For example, by using a low-pressure hose to spray down clothing, including aprons and boots.

239. Work clothes should not gather dust if exposure is appropriately controlled during processing work. However, if silica dust has settled on clothing, the contaminated clothing needs to be dampened, bagged, and labelled with 'Silica dust hazard'. Silica-contaminated clothing should only be laundered in washing machines that are not used for other clothing. If working in a workshop, either launder at a dedicated on-site laundry equipped to deal with silica dust or use a commercial laundry. If carrying out work on installed engineered stone in a domestic premises, ensure that work clothes are appropriately dampened, bagged and labelled. It is recommended that silica-contaminated clothing is laundered at a commercial laundry. Employers need to talk to the commercial laundry first about how the laundry wants to receive contaminated clothing.

Figure 17: Spray down with a low-pressure hose to decontaminate PPE.

Part 3 – Engineered stone controls

Managing crystalline silica waste

240. An employer must ensure that containers of silica dust waste produced or generated at a workplace are identified. OHS Regulations r161 For example, when wet slurry is collected or dust captured by an extraction system is ready for disposal, it needs to be contained and handled in a way that minimises the release of dust. Containers of waste contaminated by silica dust must be identified, for example, by a label that clearly states 'Silica dust hazard'.

241. Waste contaminated by silica dust can include any disposable clothing or PPE, rags used to clean the work area or tools or equipment that cannot be decontaminated or are no longer required.

242. Employers need to have a waste management system in place that eliminates the risk of crystalline silica dust being released and becoming airborne.

243. Bags used for containing waste need to be strong enough to ensure they will not tear and release dust. To minimise the risk of a bag tearing or splitting, bags should not be filled more than half full and excess air gently evacuated from the bag in a way that does not cause the release of dust.

Figure 18: Waste contaminated by silica dust needs to be bagged and labelled.

Waste disposal

Waste containing silica should be disposed of in line with EPA classification requirements. Crystalline silica dust is classified as reportable priority waste. Other engineered stone waste is classified as industrial waste. Contact that EPA for more information about your obligations: **epa.vic.gov.au**

Part 3 – Engineered stone controls

Wet slurry

244. Wet slurry is the waste from dust-generating processes that are water suppressed. While it is wet, the slurry is not hazardous. If it is allowed to dry, some dust may be disturbed and become airborne. If there is any risk of exposure to dust for people who may handle the waste, for example, employees, waste collectors or waste transfer station staff, the waste needs to be bagged and sealed before it is disposed of.

245. When carrying out engineered stone processes, wet slurry needs to be managed to prevent dust from being released. This can be achieved by:

- using containment measures such as plastic drop sheets to prevent contamination of the work area
- collection of wet slurry by using an appropriate HEPA filtered Dust Class H vacuum or mopping, squeegeeing or wet-wiping surfaces
- regular cleaning, including at the end of each day, to prevent wet slurry drying overnight
- bagging and labelling waste and ensuring it is disposed of in accordance with waste disposal requirements.

246. Waste and debris in collection skips or bins should be regularly wetted down and covered.

Recycled water

247. If carrying out an engineered stone process in a workshop, recycled or recirculated water filtration systems used for water suppression need to be designed and installed by a competent person to ensure they effectively remove silica particles and prevent contaminated water continually passing through the system.

248. If an integrated water delivery system is used with a power tool or other form of mechanical plant when undertaking an engineered stone process, any recycled or recirculated water that is used in the system must be adequately treated. OHS Regulations r319S(2)(b)

249. In a workshop, water recycling systems can filter slurry so that crystalline silica and other dust particles are removed from the water before it is reused. These systems may include:

- a pit that collects slurry from drains, and
- a slurry collection tank and filter press that compacts silica and other particles into a solid block for disposal, or
- a slurry settlement tank and waste bag, where waste forms into a solid block
- a bag dehydrator system that filters slurry through the filter bags, where the slurry is captured within the bags and the excess water is filtered
- a filtered water tank that recirculates clean water back into the water supply.

250. Settling products, such as commercially available flocculants and coagulants, will consolidate crystalline silica particles in recycled water.

251. Water that is recycled needs to be visually assessed to ensure it is clear. Water that has a cloudy or milky appearance is likely to contain a high concentration of respirable crystalline silica particles and creates a risk that airborne particles will be released.

Part 3 – Engineered stone controls

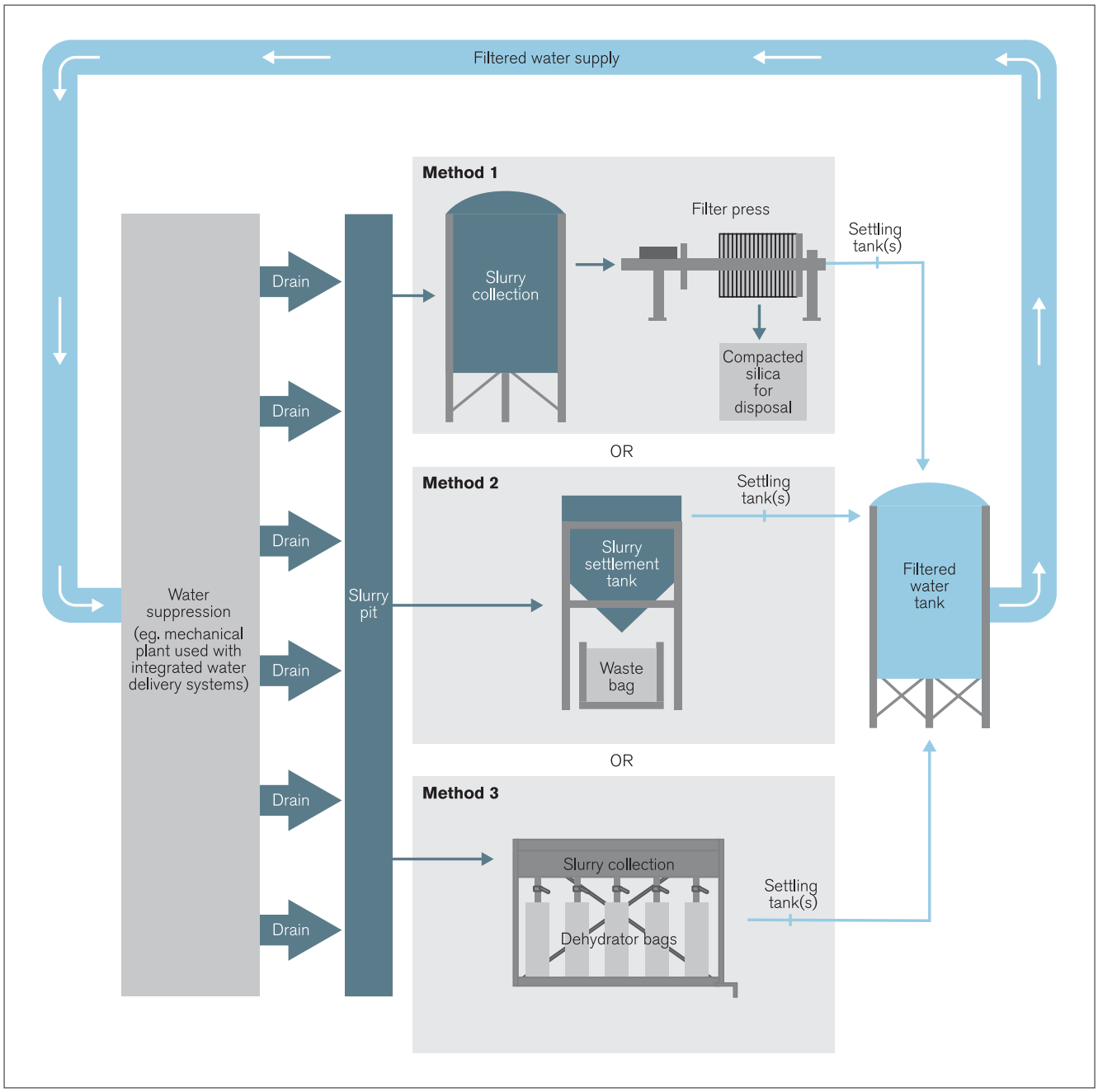


Diagram 3: Water recycling system in a workshop.

Part 4 – Maintaining effective control measures

252. Employers and self-employed persons undertaking an engineered stone process have duties when using an integrated water delivery system, on-tool dust extraction system or LEV to control risks from power tools or other mechanical plant. This may include processing engineered stone that is not prohibited by the Regulations or is an exception to the ban where the work is undertaken on existing engineered stone benchtops, panels and slabs for repair or modification. An employer or self-employed person must ensure the risk control measures are properly:

    - designed
    - installed
    - used
    - maintained.

For information on integrated water delivery systems, on-tool dust extraction or LEV, see paragraphs 137 to 166.

253. The effectiveness of any risk control measure used to control exposure to respirable crystalline silica from engineered stone depends on how the risk control is designed, installed, used and maintained. For example, the level of exposure to airborne dust is affected by whether:

    - water spray is appropriately contained when power tools with water suppression are used
    - integrated water systems use fresh or sufficiently filtered water
    - wet slurry is managed so that it does not dry out
    - RPE is properly fitted.

254. An employer or a self-employed person must ensure that the system is designed and installed to eliminate any risk of exposure to crystalline silica dust, so far as is reasonably practicable. If it is not reasonably practicable to eliminate the risk, an employer or a self-employed person must ensure that the system is designed and installed to reduce the risk so far as is reasonably practicable. OHS Regulations r319T

255. An employer or a self-employed person must ensure that the system is used and maintained in a manner that eliminates any risk of exposure to crystalline silica dust, so far as is reasonably practicable. If it is not reasonably practicable to eliminate the risk, an employer or a self-employed person must ensure the system is used and maintained in a manner that reduces the risk so far as is reasonably practicable. OHS Regulations r319U

256. Maintaining risk control measures ensures they are performing as originally intended and continuing to prevent or adequately control the risks associated with engineered stone.

257. It may be necessary to improve, extend or replace existing risk control measures to ensure they continue to prevent or adequately control the risk.

258. Employers should have maintenance and inspection procedures in place to ensure any defects in risk control measures are detected as early as possible.

Part 4 – Maintaining effective control measures

259. Employers and self-employed persons need to have an ongoing maintenance procedure for all risk control measures used in the workplace. This will ensure any defects are detected as early as possible. Inspections, maintenance and cleaning should be performed in accordance with the manufacturer's instructions.

260. The maintenance procedure needs to include:

- daily visual checks
- frequent inspections of plant and equipment, performed at least once every 3 months
- supervision to ensure risk controls that rely on human behaviour are being properly applied
- testing of equipment
- preventative maintenance of engineering risk controls, such as hand tools and RPE
- any necessary remedial work to ensure physical risk controls continue to operate effectively.

261. For information about inspecting plant, see the Plant compliance code at **worksafe.vic.gov.au**.

262. Integrated water delivery systems, on-tool dust extraction systems and LEV need to be inspected regularly to confirm they are working effectively, for example, by checking the water flow rate or extraction air flow. Inspections should also check for:

- wear and tear, corrosion or damaged parts
- air leaks in pneumatic tools
- kinks, holes or leaks in water-suppression or dust-extraction equipment
- filters that need to be replaced
- damage to guards and flaps that contain water spray.

263. Mechanical plant and power tools need to be regularly inspected, repaired or replaced when necessary, and any damaged or worn parts, such as grinding wheels, replaced.

264. RPE must be used and maintained properly to ensure it continues to be effective. A maintenance program should include procedures for daily cleaning and inspection of RPE for wear and damage, and identification and repair or replacement of any worn or defective components. For more information about maintaining RPE, see paragraphs 194 to 196.

265. Employers should keep a record of any inspections and maintenance carried out. These records should:

- be kept for the life of each item of plant or equipment
- be in a clear format that can be readily accessed
- provide a clear understanding of what has taken place in relation to inspection and maintenance activities.

Part 4 – Maintaining effective control measures

Review and revise risk controls

266. Employers must review risk controls to make sure they are working as planned. OHS Regulations r164 They also must revise risk controls, if necessary, in the following circumstances:

- Before any alteration is made to a system of work that is likely to result in changes to risk associated with the use of hazardous substances, including exposure to crystalline silica dust from working with engineered stone. For example, where the concentration of respirable crystalline silica in the workplace is increased.
- If advice is received from a registered medical practitioner that health monitoring has identified adverse health effects.
- Following a notifiable incident involving a hazardous substance. For example, an incident that results in a person requiring medical treatment within 48 hours of exposure to a substance, or injury requiring immediate inpatient treatment in a hospital. For more information, see **worksafe.vic.gov.au**
- If, for any other reason, the risk control measures do not adequately control the risks.
- After receiving a request from an HSR. An HSR can make a request if they believe, on reasonable grounds, that
  - any of the circumstances listed exist, or
  - the employer has failed to properly review the risk controls, or
  - in conducting a review of, or revising the risk controls, the employer has failed to take into account any of the circumstances listed. For example, an HSR believes that the employer has failed to consider changes to risk associated with a change to a work system during their review of risk controls. OHS Regulations r164

267. Employers can review the effectiveness of risk controls by, for example, conducting regular safety inspections and asking for feedback from employees using the risk controls. Employers must consult with employees and any HSRs, so far as is reasonably practicable, on certain matters related to health or safety that directly affect or are likely to directly affect them. For more information, see paragraphs 76 to 83.

Crystalline silica hazard control statement

268. An employer must review and revise a crystalline silica hazard control statement:

- whenever the HRCSW changes
- whenever there is an indication that risk control measures are not adequately controlling the risk
- after any incident that occurs during the HRCSW.

269. If the hazard control statement has been incorporated into a SWMS, the SWMS must be reviewed and revised in line with the conditions of reviewing and revising a crystalline hazard control statement.

Part 5 – Health monitoring

270. Health monitoring is the process of monitoring a person to identify changes in the person's health status. It may include audiometric testing, medical examinations, including audiological examinations, and biological monitoring. OHS Regulations r5

271. An employer must ensure that health monitoring is carried out for an employee if:

- the employee is exposed to crystalline silica, and
- the exposure is reasonably likely to have an adverse effect on the employee's health under the particular conditions of work at the workplace. OHS Regulations 169(1)

272. The purpose of the health monitoring is to monitor the employee's health to identify changes in the employee's health status due to exposure to hazardous substances in the workplace.

273. Health monitoring for exposure to crystalline silica primarily screens for silicosis. However, there are other conditions associated with exposure. They include chronic obstructive pulmonary disease, lung cancer, autoimmune disease and kidney disease.

274. Working with engineered stone can lead to serious and potentially life-threatening health conditions. In many cases, employees with silicosis do not experience symptoms until the disease is advanced. Early identification and treatment of respiratory disease, including silicosis, can improve health outcomes.

When health monitoring is required

275. An employer must, so far as is reasonably practicable, monitor the health of employees. OHS Act s22

276. In workplaces where employees are exposed to crystalline silica, employers must ensure that health monitoring is carried out where the exposure of the employee is reasonably likely to have an adverse effect on the employee's health under the particular conditions at the workplace. OHS Regulations r169

277. If there is uncertainty about whether exposure is likely to have an adverse effect on employees' health, employers must carry out atmospheric monitoring. Atmospheric monitoring will help determine employees' exposure to airborne contaminants when checked against the exposure standard for respirable crystalline silica. If the exposure standard is exceeded, then health monitoring must occur.

278. Where health monitoring is required, it should be completed when an employee is hired with a new employer, before the employee starts work.

279. Ongoing monitoring needs to be undertaken regularly while the employee remains in the job. The frequency of regular monitoring will be determined by the registered medical practitioner.

Part 5 – Health monitoring

280. A final monitoring session needs to be undertaken when the employee finishes working for the employer, unless health monitoring was undertaken within the last 6 months, and the results of any tests that were undertaken must be available to the employer and employee.

281. Former engineered stone licence holders must continue to ensure the health monitoring is conducted under the supervision of a specialist registered medical practitioner if they have an employee who:

- is required to have health monitoring under regulation 169, and
- was employed by them immediately before 1 July 2024, and
- was previously required to have health monitoring under the supervision of a specialist registered medical practitioner. OHS Regulations r319ZC

282. A specialist registered medical practitioner under OHS Regulations 319ZC means a specialist occupational and environmental physician or specialist respiratory and sleep medicine physician. Refer to paragraphs 289 to 291 for more information on specialist registered medical practitioners.

283. This means if you were previously required to provide health monitoring to employees because of their exposure to crystalline silica dust from engineered stone, and the employees continue to require health monitoring because of exposure to respirable crystalline silica in the future, then you must ensure that health monitoring continues to be supervised by a specialist registered medical practitioner.

Health monitoring

It is recommended that health monitoring be undertaken by a specialist registered medical practitioner if an employee has ever worked for an engineered stone licence holder and continues to:

- undertake engineered stone processes or
- work involving exposure to crystalline silica.

Statement of work

Employees who previously worked for a former engineered stone licence holder before 1 July 2024 were required to be provided with a statement of work.

The statement of work:

- specified the period to 1 July 2024, during which the employee worked with the manufactured composite stone material (engineered stone), and
- advised the employee to have periodic health assessments and details of the types of tests that are relevant.

Employers should ask any new employees if they hold a statement of work. This will help employers determine the recommended health monitoring for their employee.

Part 5 – Health monitoring

Health monitoring flow chart

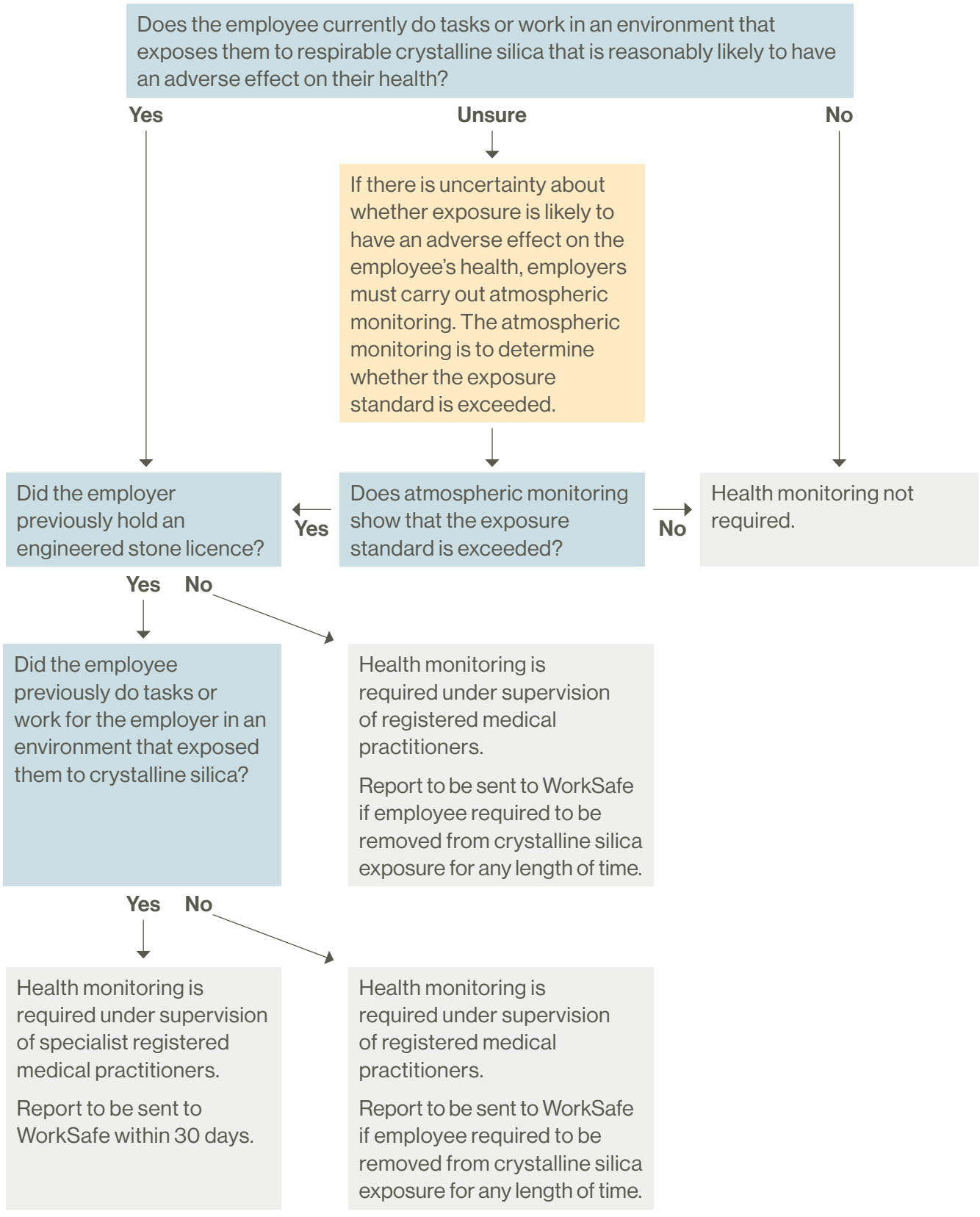


Diagram 4: Health monitoring flow chart.

Part 5 – Health monitoring

Health monitoring flowchart – accessible layout

- Does the employee currently do tasks or work in an environment that exposes them to respirable crystalline silica that is reasonably likely to have an adverse effect on their health?
  - **Yes**. Did the employer previously hold an engineered stone licence?
    - > **No**. Health monitoring is required under supervision of registered medical practitioners. Report to be sent to WorkSafe if employee required to be removed from crystalline silica exposure for any length of time.
    - > **Yes**. Did the employee previously do tasks or work for the employer in an environment that exposed them to crystalline silica?
      - ◦ **No**. Health monitoring is required under supervision of registered medical practitioners. Report to be sent to WorkSafe if employee required to be removed from crystalline silica exposure for any length of time.
      - ◦ **Yes**. Health monitoring is required under supervision of specialist registered medical practitioners. Report to be sent to WorkSafe within 30 days.
  - **Unsure**. If there is uncertainty about whether exposure is likely to have an adverse effect on the employee's health, employers must carry out atmospheric monitoring. The atmospheric monitoring is to determine whether the exposure standard is exceeded.
    - > Does atmospheric monitoring show that the exposure standard is exceeded?
      - ◦ **No**. Health monitoring is not required.
      - ◦ **Yes**. Did the employer previously hold an engineered stone licence?
        - » **No**. Health monitoring is required under supervision of registered medical practitioners. Report to be sent to WorkSafe if employee required to be removed from crystalline silica exposure for any length of time.
        - » **Yes**. Did the employee previously do tasks or work for the employer in an environment that exposed them to crystalline silica?
          - + **No**. Health monitoring is required under supervision of registered medical practitioners. Report to be sent to WorkSafe if employee required to be removed from crystalline silica exposure for any length of time.
          - + **Yes**. Health monitoring is required under supervision of specialist registered medical practitioners. Report to be sent to WorkSafe within 30 days.
  - **No**. Health monitoring not required.

Part 5 – Health monitoring

What health monitoring involves

284. Employers have an obligation to provide their employees with information about the purpose and the type or nature of the health monitoring being provided. OHS Regulations r19(2) The health monitoring is to be undertaken at the employer's expense. OHS Regulations r19(3)

285. The types of medical tests required for employees who have been exposed to crystalline silica can vary according to their medical and family history, the period over which the exposure has occurred and the level of exposure. The registered medical practitioner or the specialist registered medical practitioner supervising the health monitoring will determine which tests are required.

286. Health monitoring for exposure to crystalline silica may involve:

- collection of demographic data, for example, age, gender
- a review of work and medical histories
- a review of workplace exposure, including atmospheric monitoring data, where available
- physical examination, with emphasis on the respiratory system
- blood tests
- lung function testing, for example, spirometry and gas transfer tests
- chest x-rays
- low-dose CT scans.

Best practice health monitoring for crystalline silica exposure

Best practice for health monitoring tests is developing, so the advice from a specialist registered medical practitioner may differ from the guidance in this Code. For more information on the recommended tests, go to the WorkSafe website at **worksafe.vic.gov.au**.

Suitable medical practitioners

287. Employers must ensure that health monitoring is carried out under the supervision of a registered medical practitioner. OHS Regulations r169(2)(a)

288. Former engineered stone licence holders must continue to ensure the health monitoring is conducted under the supervision of a specialist registered medical practitioner. OHS Regulations r319ZC

289. A specialist occupational and environmental physician means a person who is registered under the Health Practitioner Regulation National Law as a medical practitioner, other than as a student, in the specialty of occupational and environmental medicine. OHS Regulations r319ZC(3)

290. A specialist respiratory and sleep medicine physician means a person who is registered under the Health Practitioner Regulation National Law as a medical practitioner, other than as a student, in the specialty of physician in the field of specialty practice of respiratory and sleep medicine. OHS Regulations r319ZC(3)

Part 5 – Health monitoring

291. A list of specialist occupational and environmental physicians can be found on the Royal Australasian College of Physicians website at **racp.edu.au**. Employers should speak to the specialist medical practitioner to ensure the practitioner has experience with silicosis and other silica dust diseases.

292. An employer must, so far as is reasonably practicable, consult with employees who are or are likely to be directly affected when making decisions about the procedures for monitoring the health of employees at the workplace. OHS Regulations 35(1)(d) If the employees are represented by an HSR, the consultation must involve that representative, with or without the direct involvement of the employees. OHS Regulations 35(4)

293. Information provided to the specialist medical practitioner needs to include:

- the name and address of the business
- the name and date of birth of the employee
- a description of any of the employee's tasks that relate to exposure to respirable crystalline silica
- how long the employee has been doing the work
- atmospheric monitoring data from the workplace, where available
- any previous health monitoring reports relating to the employee's exposure to crystalline silica.

Refusal to participate in health monitoring

294. While at work, employees must take reasonable care for their own health and safety and cooperate with any actions their employer takes to comply with the OHS Act and OHS Regulations. OHS Act s25

295. Employers should encourage employees to participate in health monitoring because early detection and treatment can prevent serious and life-threatening conditions from developing.

296. Employers should support employees in these circumstances by:

- providing job applicants who may carry out HRCSW with information about the health risks associated with exposure to crystalline silica dust, and the need for, details of and measures to control those risks
- ensuring they understand how health monitoring will benefit them
- making the process easy to follow
- making sure interpreters are available to help employees where necessary
- reminding employees that their workplace, family and community want them to be as safe and healthy as possible
- ensuring any HSRs are involved in supporting the health monitoring process and encouraging employees to participate.

297. If employees are still not willing to participate, employers can ask WorkSafe to attend the workplace and speak with employees about the importance of health monitoring. Employers can also arrange for a medical practitioner to speak to employees about their concerns.

Part 5 – Health monitoring

298. Employers should have procedures in place for managing health and safety issues, including when employees refuse to participate in health monitoring. These procedures must be developed in consultation with employees and any HSRs and made known to all employees before they undertake an engineered stone process.

299. Where health monitoring of an employee is required, the employer is responsible for ensuring the health monitoring is carried out. If taking the steps outlined in this Code does not result in an employee agreeing to take part in health monitoring, employers must consider any agreed procedures to resolve health and safety issues at the workplace.

Health monitoring report

300. The employer must ensure that a health monitoring report is prepared by the registered medical practitioner and a copy of the report is given to the employer. OHS Regulations r169(2)(b) A *Hazardous substances health monitoring report* template can be found at **worksafe.vic.gov.au**.

301. Employers must ensure the health monitoring report includes:

- any indications of adverse health effects that may be attributed to crystalline silica exposure
- any recommendations on measures the employer should take to ensure the employee is not exposed to crystalline silica for a specified period
- an interpretation of the results of the health monitoring, including a statement of the registered medical practitioner's opinion as to whether the employee should continue working with crystalline silica. OHS Regulations r169(2)(c)

302. The employer must provide a copy of the report or summary of the results of the report from the registered medical practitioner to:

- the person to whom the report or summary relates as soon as reasonably possible after the employer receives the report or summary
- a third party, if the person to whom the report or summary relates authorises in writing a third party to have access to it, and
- a WorkSafe inspector who requests a copy of the report or summary. OHS Regulations r20(2)

Part 5 – Health monitoring

303. Former engineered stone licence holders who are required to undertake health monitoring in line with paragraph 281 must provide a copy of these health monitoring reports to WorkSafe within 30 days of being received by the licence holder. OHS Regulations r319ZC and r319ZD(1) For more information about how to provide health monitoring reports to WorkSafe, go to the WorkSafe website at **worksafe.vic.gov.au**.

304. Former engineered stone licence holders are not required to provide a health monitoring report under regulation 170 if they have already provided that report under regulation 319ZD(1). OHS Regulations r319ZD(2)

305. An employer must allow HSRs of a designated work group access to information that the employer has relating to the health and safety of the members of the designated work group. This includes access to relevant medical information relating to an employee's health and safety that does not identify individual employees and, with the consent of an employee, medical information that identifies that employee. OHS Act s69 and OHS Regulations r20

306. An employer must ensure that any report resulting from the medical examination or other health monitoring of a person required under the OHS Regulations, and any summary of the results of such a report, is otherwise kept confidential. OHS Regulations r20(1)

For more information on keeping health information confidential, see the Office of the Victorian Information Commissioner's website: **ovic.vic.gov.au**

307. If the specialist medical practitioner advises that adverse health effects have been identified by the health monitoring, employers must review and, if necessary, revise any measures implemented to control the risks associated with employees' exposure to crystalline silica at the workplace. OHS Regulations r164(1)(b) For information about the review and revision of risk controls, see paragraphs 266 and 267.

308. Employers must keep any health monitoring reports they are given for 30 years. OHS Regulations r171

Employees should obtain a copy of detailed test results

It is recommended that employees are provided with a copy of the detailed assessment and results of any testing undertaken as part of their health monitoring. This will be useful information to bring to appointments with GPs or other medical practitioners.

Employees should request a copy of the results directly from the registered medical practitioner or specialist registered medical practitioner supervising the health monitoring.

Part 5 – Health monitoring

Removing an employee from exposure

309. If the health monitoring report recommends that an employee is to be removed from work that involves exposure to crystalline silica, employers need to act on this recommendation straight away. For example, by transferring the employee to other work or a location where there is no risk of exposure.

310. In addition to removal from exposure to crystalline silica, employees may need to be removed from exposure to other potentially hazardous dusts, fumes or vapours if recommended by the registered medical practitioner or specialist registered medical practitioner.

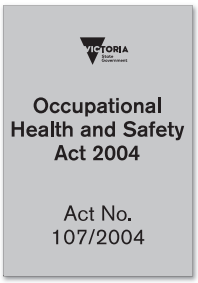
311. The employer should discuss any recommendations with the registered medical practitioner or specialist registered medical practitioner to clarify any uncertainties.

312. Employers must consult with the employee when making decisions about how to control the risk to the employee's health and safety. This might include transferring the employee to other work or a location where there is no risk of exposure to crystalline silica. The employee should only return to work that involves a risk of exposure to crystalline silica when cleared to do so by the registered medical practitioner or specialist registered medical practitioner.

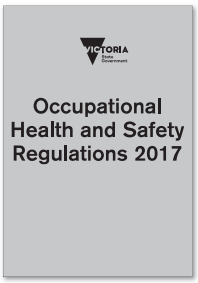
313. Employers need to continue to provide employees who have been removed from work or transferred to other work with information about their health monitoring.

314. Employees who have been diagnosed with a silica-related disease may be entitled to workers' compensation. For more information about how to make a claim, go to the WorkSafe website at **worksafe.vic.gov.au**

Appendix A – The compliance framework

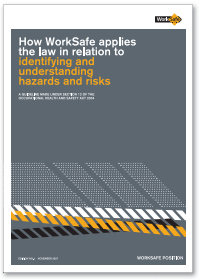


The Occupational Health and Safety Act 2004 (OHS Act) sets out the key principles, duties and rights in relation to occupational health and safety.



The Occupational Health and Safety Regulations 2017 (OHS Regulations) specify the way in which a duty imposed by the OHS Act must be performed, or prescribe procedural or administrative matters to support the OHS Act. For example, requiring licences for specific activities, the keeping of records or giving notice.

Compliance codes provide practical guidance to duty holders. If a person complies with a provision of a compliance code, they are deemed to comply with the OHS legislative duty covered by the code provision. However, compliance codes are not mandatory, and a duty holder may choose to use some other way to achieve compliance.



WorkSafe positions are guidelines made under section 12 of the OHS Act that state how WorkSafe will apply the OHS Act or OHS Regulations or exercise discretion under a provision of the OHS Act or OHS Regulations. WorkSafe positions are intended to provide certainty to duty holders and other affected parties.

Non-statutory guidance includes information published by WorkSafe aimed at building people's knowledge and awareness of OHS issues, risks to health and safety, and the disciplines and techniques that can be applied to manage and control risks. Non-statutory guidance is not mandatory, nor does it provide any *deemed* to *comply* outcomes for duty holders. This guidance does, however, form part of the *state* of *knowledge* about OHS.

Appendix B – References

The following references are not incorporated into this Compliance Code. This means that they do not form part of this Compliance Code, although they may have regulatory status in their own right. They are included only to provide an indication of sources of further information.

Australian Standards

- AS/NZS 1716 *Respiratory protective devices*
- AS/NZS 1715 *Selection, use and maintenance of respiratory protective equipment*
- AS 2985 *Workplace atmospheres – Method for sampling and gravimetric determination of respirable dust*
- AS/NZS 60335.2.69 *Particular requirements for wet and dry vacuum cleaners, including power brush, for industrial and commercial use*

National guidance

The following Safe Work Australia guidance is national guidance. It provides additional information on managing risks associated with engineered stone and crystalline silica. Victoria has different engineered stone and crystalline silica laws.

To ensure you are meeting your legal obligations as an employer or self-employed person in Victoria, always refer to The *Occupational Health and Safety Act 2004*, The Occupational Health and Safety Regulations 2017 and Victorian guidance material.

- Safe Work Australia: *Managing the risks of respirable crystalline silica from engineered stone in the workplace: Code of Practice*
- Safe Work Australia: *Workplace exposure standards for airborne contaminants*
- Safe Work Australia: *Health monitoring – Guide for medical practitioners*
- Safe Work Australia: *Health monitoring when you work with hazardous chemicals – Guide for workers*
- Safe Work Australia: *Health monitoring – Guide for crystalline silica*
- Safe Work Australia: *Working with silica and silica-containing products*

Professional associations

- Australian Institute of Occupational Hygienists: **aioh.org.au**
- Australasian Faculty of Occupational and Environmental Medicine: **racp.edu.au**
- National Association of Testing Authorities: **nata.com.au**
- The Thoracic Society of Australia and New Zealand: **thoracic.org.au**
- Lung Foundation Australia: **lungfoundation.com.au**

Appendix C – Crystalline silica-containing products

Material	Crystalline silica content %
Engineered stone	1% or more crystalline silica, determined as a weight/weight concentration.
Quartzite	20% to 99%
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%
Porcelain	14% to 18%
Brick	5% to 15%

Notes

This document is intended for general guidance purposes only. The Code provides practical guidance for those who have duties or obligations in relation to the *Occupational Health and Safety Act 2004* and the Occupational Health and Safety Regulations 2017. Employers and employees should always check the legislation and make their own assessment about what action they need to take to ensure compliance with the law.

WorkSafe Victoria

WorkSafe Agents
Agent contact details are all available at
worksafe.vic.gov.au/agents

Advisory Service
Toll-free 1800 136 089
Email info@worksafe.vic.gov.au

Head Office
1 Malop Street, Geelong 3220
Phone (03) 4243 7000
Toll-free 1800 136 089
Website worksafe.vic.gov.au

Information in your language
For information about WorkSafe in your own language, call our Translating and Interpreting Service (TIS National) on **131 450**.

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