

Compliance code

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# Removing asbestos in workplaces

Edition 2

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This Compliance Code (**Code**) provides practical guidance for those who have duties or obligations in relation to asbestos under the *Occupational Health and Safety Act 2004* (**OHS Act**) or the Occupational Health and Safety Regulations 2017 (**OHS Regulations**).

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 Robin Scott MP, Minister for Finance.

Duty holders under the OHS Act and OHS Regulations should use the Code together with this legislation. This Code replaces the *Removing asbestos in workplaces* (2008) code, which is no longer in force and effect.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 and OHS Regulations – be considered to have complied with those duties or obligations.

If conditions at the workplace or the way work is done raise different or additional risks not covered by the Code, compliance must be achieved by other means. WorkSafe publishes guidance to assist with this at **[worksafe.vic.gov.au](https://www.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 or obligation 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 a prohibition notice as a suggested means of achieving compliance.

A health and safety representative (**HSR**) may cite the Code in a provisional improvement notice when providing directions as to 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](https://www.worksafe.vic.gov.au)**.

1. Exposure to airborne asbestos fibres through inhalation can cause a range of debilitating medical conditions affecting the respiratory system, including mesothelioma, asbestosis and lung cancer. These asbestos-related conditions are life threatening and severely affect a person's quality of life.

For further information about the risks to health from airborne asbestos fibres go to [worksafe.vic.gov.au](http://worksafe.vic.gov.au).

## Purpose

2. 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 'Part 4.4 – Asbestos' of the OHS Regulations in relation to asbestos removal work.

## Scope

3. This Code provides information about the safe removal of asbestos from workplaces and domestic premises.
4. It is not possible for this Code to deal with every risk arising from asbestos a duty holder may encounter at their workplace. The guidance in this Code needs to therefore be considered with regard to the particular characteristics and circumstances of the workplace.

For guidance about managing asbestos see WorkSafe's *Managing asbestos in workplaces compliance code* (2018).

For information on the transport and disposal of asbestos waste go to [epa.vic.gov.au](http://epa.vic.gov.au).

## Application

5. This Code applies to a range of duty holders, including:
  - employers and self-employed persons carrying out limited asbestos removal work at a workplace
  - asbestos removal licence holders
  - persons who have commissioned asbestos removal work
  - persons who have management or control of a workplace where asbestos removal work is carried out
  - employees who are involved in or affected by asbestos removal work.
6. Additionally, it may be useful for HSRs.

For information about what 'reasonably practicable' means see the WorkSafe Position – *How WorkSafe applies the law in relation to reasonably practicable* at [worksafe.vic.gov.au](http://worksafe.vic.gov.au).

**Note:** The word 'must' indicates a legal requirement that has to be complied with. The words 'need/s 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 (for the definition of key terms used in this Code see 'Appendix B – Definitions' on page 114).

## Key abbreviations used in this Code

ACM:	asbestos-containing material
AC:	asbestos cement
ACD:	asbestos-contaminated dust
AIOH:	Australian Institute of Occupational Hygienists
Code:	Compliance Code
DWG:	designated work group
F/ml:	fibres per millilitre
HEPA filter:	high efficiency particulate air filter
HSR:	health and safety representative
MFM:	Membrane Filter Method
NATA:	National Association of Testing Authorities
OHS Act:	Occupational Health and Safety Act 2004
OHS Regulations:	Occupational Health and Safety Regulations 2017
PPE:	personal protective equipment
RPE:	respiratory protective equipment
RTO:	Registered Training Organisation
SWA:	Safe Work Australia
SWMS:	safe work method statement

## Consultation

7. Employers must, so far as is reasonably practicable, consult with employees and HSRs, if any, on matters related to health or safety that directly affect, or are likely to directly affect them. This 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**

**Note:** The characteristics of the workplace will have an impact on the way consultation is undertaken. 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 language or literacy).

For more information on consultation go to **[worksafe.vic.gov.au](https://www.worksafe.vic.gov.au)**.

8. An employer has a duty to consult with employees (including HSRs, if any) when, for example, identifying or assessing hazards or risks to health or safety at the workplace, making decisions about measures to control such risks and proposing changes that may affect the health or safety of employees at the workplace. **OHS Act s35** It is important to consult with your employees as early as possible when planning to introduce measures identified in this Code or making decisions to implement alternative measures.

9. Employers who are required to consult on a matter must share information about the matter with employees, including relevant independent contractors and HSRs (if any), give them a reasonable opportunity to express their views, and take those views into account before making a decision. If employees are represented by an HSR, the consultation must involve that HSR (with or without the involvement of the employees directly). If the employer and the employees have agreed to procedures for undertaking consultation, the consultation must be undertaken in accordance with those procedures. [OHS Act s35](#)

For more information on consultation go to [worksafe.vic.gov.au](https://www.worksafe.vic.gov.au).

# ❖ General requirements of Part 4.4 of the Occupational Health and Safety Regulations 2017

## Duty to control exposure to airborne asbestos fibres

10. A person who manages or controls a workplace must, so far as is reasonably practicable, eliminate the exposure of persons at the workplace to airborne asbestos fibres. If it is not reasonably practicable to eliminate that exposure, they must reduce that exposure so far as is reasonably practicable. [OHS Regulations r209\(1\)](#) Other key requirements include:
- a person who manages or controls a workplace must ensure that:
    - a person at the workplace is not exposed to an atmospheric concentration of asbestos fibres in excess of the **asbestos exposure standard** [OHS Regulations r209\(2\)](#)
    - a determination of an employee's exposure to airborne asbestos fibres at the workplace is carried out if there is uncertainty (based on reasonable grounds) as to whether the asbestos exposure standard has been exceeded [OHS Regulations r209\(3\)](#)
    - copies of the results of **atmospheric monitoring** are readily accessible to an employer at the workplace (for more information about atmospheric monitoring see 'Appendix H – Exposure standard and atmospheric monitoring' on page 132). [OHS Regulations r209\(4\)](#)
11. An employer or self-employed person must, so far as is reasonably practicable, eliminate the exposure of persons at the workplace to airborne asbestos fibres, arising from the undertaking of the employer or self-employed person. If it is not reasonably practicable to eliminate the exposure, the employer or self-employed person must reduce that exposure so far as is reasonably practicable. [OHS Regulations r210\(2\)](#) and [\(3\)](#) Other key requirements include:
- an employer must ensure that:
    - a person is not exposed to an atmospheric concentration of asbestos fibres arising from the conduct of an undertaking of the employer in excess of the asbestos exposure standard [OHS Regulations r210\(1\)](#)
    - a determination of an employee's exposure to airborne asbestos fibres at the workplace is carried out if there is uncertainty (based on reasonable grounds) as to whether the asbestos exposure standard has been exceeded. [OHS Regulations r211](#)
  - a self-employed person must ensure that:
    - a person is not exposed to an atmospheric concentration of asbestos fibres arising from the conduct of an undertaking of the self-employed person in excess of the asbestos exposure standard. [OHS Regulations r210\(1\)](#)



# General requirements of Part 4.4 of the Occupational Health and Safety Regulations 2017

An employer must ensure that copies of the results of atmospheric monitoring for airborne asbestos fibres at the workplace are readily accessible to the HSR of any affected DWG and to affected employees.  
OHS Regulations r212

12. An employer's duty to, so far as is reasonably practicable, provide and maintain a working environment that is safe and without risks to health, and to consult with employees, extends to independent contractors and employees of independent contractors at the workplace.  
OHS Regulations r8
13. **Employees**, while at work, have a duty to take reasonable care for their own health and safety and that of others who could be affected by their acts or omissions in the workplace. Employees must also cooperate with their employer's actions in relation to complying with duties under the OHS Act or OHS Regulations in order to make the workplace safe (for example, by following any information, instruction or training provided by the employer).  
OHS Act s25(1)(c), s25(2)

## Asbestos exposure standard

0.1 fibres per millilitre (f/ml) of air measured in a person's **breathing zone** and expressed as a time weighted average fibre concentration of asbestos calculated over an eight-hour working day and measured over a minimum period of four hours in accordance with:

- (a) the Membrane Filter Method, or
- (b) a method determined by WorkSafe.

**Note:** If WorkSafe makes a determination of an exposure measurement method it will publish a notice in the Government Gazette and, as soon as reasonably possible, in a newspaper circulating generally throughout Victoria. For further information go to [worksafe.vic.gov.au](http://worksafe.vic.gov.au).

**Note:** Respiratory protective equipment (RPE) should not be considered in establishing whether there is a risk of exposure to airborne asbestos fibres.

For more information about the asbestos exposure standard and atmospheric monitoring see 'Appendix H – Exposure standard and atmospheric monitoring' on page 132.

# General requirements of Part 4.4 of the Occupational Health and Safety Regulations 2017

## Determining who has management or control of a workplace

14. To determine who has management or control of a workplace (or plant within a workplace), it is necessary to consider matters such as ownership and who can make changes to the workplace or plant.

### *Ownership*

An **owner of a commercial property who leases or rents the property to one or more employers (but does not occupy the property)** will typically have management or control over:

- the building (including walls, floor and roof), and
- associated plant that forms part of the building or structure (eg a lift, boiler, air conditioner).

An **employer or self-employed person who occupies and owns a property** will typically have management or control of the building, associated plant that forms part of the building or structure and any plant that they own and use at the workplace.

### *Who can make changes*

In general, the extent to which **an employer or self-employed person who leases a building** can undertake structural changes, for example, by installing lighting into a ceiling, will typically depend on the terms of the lease agreement. Therefore, the extent to which an employer or self-employed person has management or control of a workplace may vary from workplace to workplace.

Where a **building is leased to multiple tenants** (who are employers or self-employed persons), management or control may be shared by those tenants and the owner of the premises.

**An employer or self-employed person who occupies but does not own the property** should review their lease (or similar agreement) as a way of determining the extent of their management or control in relation to the building and any associated structures and plant. An employer or self-employed person may have management or control over any plant that they own and use at the workplace.

### *Delegation of responsibilities*

The owner of commercial property that is a workplace, may delegate the responsibility associated with the management or control of that workplace to, for example, a **commercial property agent or manager**. Although such delegation may include the management of any asbestos present in that workplace, the owner cannot delegate their duties under the OHS Act and OHS Regulations.

In other words, the owner of commercial property may ultimately be in contravention of, for example, a duty in relation to asbestos management in a workplace under the OHS Regulations and face enforcement action (including prosecution) in the event that its agent or manager contravenes that duty.

Where management of asbestos is delegated, the property owner needs to ensure that its agent or manager is competent to manage exposure to asbestos.

# General requirements of Part 4.4 of the Occupational Health and Safety Regulations 2017

**The following examples illustrate instances where employers or self-employed persons who lease workplaces (where the building requires maintenance or repairs) may not have management or control of asbestos:**

- Sealed building riser shafts that contain asbestos insulation.
- Leaking/damaged asbestos cement (AC) roofing.
- Plant rooms or lifts that contain asbestos.
- Ceiling spaces that contain asbestos.
- Fire doors that contain asbestos.

Contractual leasing arrangements should be examined in these scenarios as a way of determining the extent of an employer or self-employed person's management or control over asbestos.

## **Determining who has management or control of plant or structures in the workplace**

15. If an employer or self-employed person purchases/owns or hires/rents plant or structures that contain asbestos, they are deemed to have management and control over that plant or structure. For example, if an employer owns an oven fitted with an asbestos lining, the employer is responsible for the management and control of risks associated with the presence of asbestos in relation to that plant.

For more information on managing and controlling risks associated with the presence of asbestos see WorkSafe's *Managing asbestos in workplaces compliance code* (2018).

# Prohibitions

16. The OHS Regulations contain prohibitions made under the OHS Act and *Dangerous Goods Act 1985*. Guidance in relation to prohibitions on the manufacture, supply, storage, transport, sale, use, and re-use of asbestos is covered in WorkSafe's *Managing asbestos in workplaces compliance code (2018)*.



# ❖ Prohibitions under the *Occupational Health and Safety Act 2004*

## Asbestos removal work

17. An employer, a self-employed person or a person who manages or controls a workplace must not perform **asbestos removal work**, or arrange for asbestos removal work to be performed, at a workplace unless the asbestos removal work:
- is conducted in accordance with 'Division 7 – Removal of asbestos' in 'Part 4.4 – Asbestos' of the OHS Regulations (see page 15), or [OHS Regulations r214\(1\)](#)
  - is for the purpose of sampling and identification (for more information see 'Appendix C – Taking asbestos samples' on page 80 of WorkSafe's *Managing asbestos in workplaces compliance code* (2018)), or [OHS Regulations r214\(2\)\(a\)](#)
  - is for the removal of asbestos encountered in the course of non-asbestos mining or the extraction of stone. [OHS Regulations r214\(2\)\(b\)](#)

## Removal of contaminated protective clothing

18. An employer or self-employed person must not remove protective clothing contaminated with asbestos from a workplace unless the clothing is disposed of as asbestos waste or laundered at a laundry equipped to launder clothing contaminated with asbestos.
19. Where clothing is removed for disposal as asbestos waste, it must be disposed of as soon as is reasonably possible, in an appropriate manner that eliminates the release of airborne asbestos fibres, at a **waste disposal site licensed or exempted by the EPA**. [OHS Regulations r215\(1\)\(a\)](#)

A waste disposal site licensed or exempted by the EPA means premises:

- in respect of which the occupier is licensed by the EPA to dispose of asbestos waste
- to which regulation 12 of the Environment Protection (Scheduled Premises and Exemptions) Regulations 2007 applies in relation to the disposal, or
- set out in a classification issued under regulation 11(1)(b) of the Environment Protection (Industrial Waste Resource) Regulations 2009 that classifies asbestos waste as non-prescribed industrial waste.

# Prohibitions under the *Occupational Health and Safety Act 2004*

20. Where non-disposable clothing is removed for laundering at a laundry equipped to launder clothing contaminated with asbestos, it must be contained so as to eliminate the release of airborne asbestos fibres (for example, double bagged in two 200 micron-thick asbestos waste bags). The exterior of the container must be decontaminated before being removed from the asbestos work area and must indicate the presence of asbestos (for example, labelled with an appropriate warning such as 'Caution Asbestos – Do not open or damage bag. Do not inhale dust') before being transferred to the laundry. [OHS Regulations r215\(1\)\(b\)](#)
21. An employer or self-employed person must ensure, so far as is reasonably practicable, that any person (for example, the launderer) is not exposed to risks to their health or safety arising from the conduct of the undertaking of the employer or self-employed person. [OHS Act s23, s24](#).
22. Protective clothing needs to be wetted down with a fine water mist spray before bagging to minimise the potential for asbestos fibres to become airborne. The launderer needs to be informed about the potential for asbestos contamination on the clothing prior to arrival at the laundry.

**Note:** Regulation 215(1) of the OHS Regulations does not apply where contamination of protective clothing arises from asbestos removal work under 'Division 7 – Removal of asbestos' or the carrying out of asbestos-related activities under 'Division 8 – Activities involving asbestos' in 'Part 4.4 – Asbestos' of the OHS Regulations. [OHS Regulations r215\(2\)](#)

This is because specific regulations apply to disposal or laundering where contamination of protective clothing arises from asbestos removal work (see pages 56 and 83) or an asbestos-related activity (see pages 70 and 73 of WorkSafe's *Managing asbestos in workplaces compliance code* (2018) for more information on asbestos-related activities).

# Prohibitions under the *Occupational Health and Safety Act 2004*

## Use of certain tools or instruments on asbestos

23. An employer or self-employed person must not use or cause the following to be used on asbestos unless the use is controlled:

- brooms
- brushes
- high-pressure water jets, power tools or other similar tools or instruments.

[OHS Regulations r216\(1\)](#)

**Note:** Brushes may be used for the purposes of sealing asbestos (for more information see 'Controlling risk using the hierarchy of control' on page 38 of WorkSafe's *Managing asbestos in workplaces compliance code* (2018)).

24. This prohibition does not apply if airborne asbestos fibre levels are not in excess of 0.01 f/ml while the tool or instrument is in use. [OHS Regulations r216\(2\)](#)

25. The use of a tool or instrument is controlled if, while in use,:

- the tool or instrument is enclosed (not the operator and tool or instrument together), or
- engineering controls are used (for example, extraction ventilation), or
- a combination of these methods is used

so that a person is not likely to be exposed to airborne asbestos fibres exceeding one half of the asbestos exposure standard (ie 0.05 f/ml). [OHS Regulations r216\(3\)](#)

For example, following the removal of AC sheeting, a Dust Class H vacuum cleaner should be used to collect debris from the asbestos removal area (see 'Tools and equipment' on page 43). A broom must not be used, unless its use is controlled, as it is likely to result in a concentration of airborne asbestos fibres exceeding one half of the asbestos exposure standard. A Dust Class H vacuum cleaner may be an acceptable engineering control to ensure that a person is not likely to be exposed to more than one half of the asbestos exposure standard when using a broom.

26. An employer or self-employed person must not rely on respiratory protective equipment (RPE) to ensure that one half of the asbestos exposure standard is not exceeded (for more information about RPE see 'Appendix E – Guide to the selection of respiratory protective equipment' on page 122). [OHS Regulations r216\(4\)](#)

For information about the decontamination of tools and equipment see page 51.

Atmospheric monitoring is the only method to determine if one half the exposure standard is being exceeded. Appropriate RPE must be worn by all persons in the area where atmospheric monitoring is undertaken. The type of RPE selected needs to be determined by a person with the requisite knowledge, skills and experience. For more information about the asbestos exposure standard and atmospheric monitoring see 'Appendix H – Exposure standard and atmospheric monitoring' on page 132.

# Prohibitions under the *Occupational Health and Safety Act 2004*

## Use of compressed air and other compressed gases

27. An employer or self-employed person must not use or cause to be used compressed air or other compressed gases:

- on asbestos, except in areas enclosed to prevent the release of airborne asbestos fibres from the enclosed area, or [OHS Regulations r216\(5\)\(a\)](#)

For example, using compressed air to dislodge asbestos-contaminated dust from a difficult-to-access unenclosed area is prohibited under the OHS Regulations.

- within six metres of an activity involving asbestos unless the use of that air or gas does not result in airborne asbestos fibres that exceed one half of the asbestos exposure standard. [OHS Regulations r216\(5\)\(b\)](#)

**Note:** The use of compressed air within an enclosed area is not recommended as it can result in the release of airborne asbestos fibres and asbestos-contaminated dust (ACD) spreading and making it more difficult to decontaminate the asbestos removal area.

28. An employer or self-employer person must not rely on RPE to ensure that one half the exposure standard is not exceeded (for more information about RPE see 'Appendix E – Guide to the selection of respiratory protective equipment' on page 122). [OHS Regulations r216\(6\)](#)

Atmospheric monitoring is the only method to determine if one half the exposure standard is being exceeded. Appropriate RPE must be worn by all persons in the area where atmospheric monitoring is undertaken. The type of RPE selected needs to be determined by a person with the requisite knowledge, skills and experience.

For more information about the asbestos exposure standard and atmospheric monitoring see 'Appendix H – Exposure standard and atmospheric monitoring' on page 132.



# Asbestos removal work

## What is asbestos removal work?

29. **Asbestos removal work** means the removal of asbestos that is present at a workplace, building, structure, ship or plant so that the asbestos is no longer present in that workplace, building, structure, ship or plant, up to the point of containment. [OHS Regulations r5](#)

## Asbestos removal at workplaces

30. In general, the OHS Regulations apply to workplaces. A **workplace** means a place, whether or not in a building or structure, where employees or self-employed persons work. [OHS Act s5](#)

## Asbestos removal at domestic premises

31. 'Division 5 – Asbestos in workplaces' in 'Part 4.4 – Asbestos' of the OHS Regulations does not apply to domestic premises that become a workplace only due to asbestos removal work being performed. [OHS Regulations r225\(2\)](#)
32. This means that duties under Division 5 to:
- identify asbestos [OHS Regulations r226, r233](#)
  - notify the person who manages or controls the workplace about any risks associated with the presence of asbestos and activities carried out at the workplace [OHS Regulations r234](#)

- record the results of asbestos identification in an asbestos register/ employer's asbestos register [OHS Regulations r227, r235](#)
- review and revise the asbestos register/employer's asbestos register [OHS Regulations r228, r236](#)
- provide access to the asbestos register/employer's asbestos register [OHS Regulations r229, r237](#)
- provide a copy of the asbestos register to the person, if any, assuming management or control of a workplace [OHS Regulations r230](#)
- control risk associated with the presence of asbestos [OHS Regulations r231, r238](#)
- review and, if necessary, revise any risk control measures [OHS Regulations r232, r239](#)

do not apply to:

- employers or self-employed persons engaged to perform work at domestic premises
- the owner of the domestic premises (for example, the homeowner or landlord)
- the occupier of the domestic premises (for example, the homeowner or tenant)
- the person who manages the domestic premises (for example, a real estate agent).

33. Where an asbestos removal licence holder, employer or self-employed person is engaged to perform asbestos removal work at domestic premises, it becomes the workplace of that person and the relevant duties under the OHS Act and 'Division 7 – Removal of asbestos' in 'Part 4.4 – Asbestos' of the OHS Regulations apply for the duration of the work (see 'General requirements for all asbestos removal work' on page 27, 'Additional requirements for asbestos removal licence holders' on page 66, and 'Additional requirements for Class A asbestos removal work' on page 85).
34. Where asbestos removal is being performed by a person in domestic premises which is their own home, the OHS Regulations do not apply because the home is not regarded as a workplace. It is recommended that this Code be used to minimise the risks associated with asbestos removal work in such instances. The Department of Health also provides guidance for homeowners who intend to work with or remove asbestos in their home.

For more information go to [health.gov.au](http://health.gov.au).

## Limited asbestos removal work

35. An asbestos removal licence is not required where non-friable ACM or ACD is permitted to be removed as **limited asbestos removal** work (see Table 1).

Table 1: Limited asbestos removal work

### Permitted asbestos removal work:

- Limited asbestos removal work includes: OHS Regulations r250
  - the removal of **non-friable** ACM if –
    - > the area of non-friable ACM to be removed **does not exceed 10 square metres** in total, and
    - > the employer or self-employed person does not perform more than **one hour** of asbestos removal work in total **during a seven day period**, or
  - the removal of **ACD** if –
    - > the asbestos removal work **does not exceed 10 minutes** in total, and
    - > the employer or self-employed person does not perform more than **one hour** of asbestos removal work in total **during a seven day period**, or
  - the removal of **ACD** if an independent person has determined that airborne asbestos fibre levels are likely to be **less than one half of the asbestos exposure standard** (0.05 f/ml) (see paragraph 36).

# Asbestos removal work

**Non-friable:** means, when dry may not be crumbled, pulverised or reduced to powder by hand pressure.

**Note:** non-friable ACM may become friable as a result of work processes over time (for example, degradation due to chemical exposure, the operation of an excavator results in the ACM being crumbled, pulverised or reduced to powder) or due to other factors (for example, damage by fire).

**Asbestos-contaminated dust (ACD):** means, dust that is, or is assumed under 'Part 4.4 – Asbestos' to be, contaminated with asbestos. [OHS Regulations r5](#)

If there is uncertainty (based on reasonable grounds) as to whether dust is contaminated with asbestos a person must assume the dust is contaminated with asbestos or arrange for analysis of a sample to be undertaken.

[OHS Regulations r208](#)

Reasonable grounds for assuming asbestos to be present in dust may include knowledge of:

- the presence of ACM in other areas of the workplace or in immediate and adjacent areas of the workplace, for example:
  - dust surrounding an AC flue
  - dust on horizontal surfaces below an AC roof
  - dust in an electrical switchboard cupboard which has asbestos-backed panels
- previous asbestos removal, demolition or renovation work undertaken at the workplace on buildings or structures known or suspected to contain asbestos (unless a clearance certificate is available).

An employer or self-employed person must ensure that the time spent performing asbestos removal work without an asbestos removal licence does not exceed what is permitted as limited asbestos removal work (see Table 1 on page 16). It is recommended that a log be kept of any limited asbestos removal work performed.

For the purposes of determining the total amount of time an employer or self-employed person performs asbestos removal work, the total cumulative time during a seven day period that all employees, independent contractors, and self-employed persons will perform such work is to be included.

For example, if a company is to perform an asbestos removal job involving two employees working for approximately 30 minutes each, the company will have carried out 60 minutes of work.

Asbestos removal work **starts** as soon as RPE is required to be worn by people who will remove (ie collect/clean-up) the asbestos and **finishes** when RPE is no longer required to be worn as part of the removal task.

# Asbestos removal work

36. An **independent person** may determine that the removal of ACD is limited asbestos removal work where airborne asbestos fibre levels are likely to be less than one half of the asbestos exposure standard (0.05 f/ml). [OHS Regulations r250\(1\)\(c\)](#) For more information on independent persons see page 106.

**Note:** An employer must ensure, so far as is reasonably practicable, that persons other than employees of the employer are not exposed to risks to their health or safety arising from the conduct of the undertaking of the employer. [OHS Act s23](#) 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 conduct of the undertaking of the self-employed person. [OHS Act s24](#) This includes where the employer or self-employer person is an independent person carrying out the determination of airborne asbestos fibres under regulation 250 of the OHS Regulations.

When making a determination of airborne asbestos fibre levels, an independent person needs to take into account factors such as the results of atmospheric monitoring and analysis of settled dust samples identifying the likely level of asbestos present in ACD.

37. Limited asbestos removal work must be performed in accordance with 'Division 7 – Removal of asbestos' in 'Part 4.4 – Asbestos' of the OHS Regulations (see 'General requirements for all asbestos removal work' on page 27).
38. The duties of an employer performing limited asbestos removal work include:
- providing employees with such information, instruction, training and supervision that will enable the employees to perform their work in a way that is safe and without risks to health (see page 32) [OHS Act s21\(2\)\(e\)\(3\)](#)
  - making and retaining a record of training undertaken (see page 32) [OHS Regulations r251](#)
  - providing people performing the work with appropriate personal protective clothing and RPE and ensuring that it is correctly fitted (see page 34) [OHS Regulations r254](#)
  - ensuring that appropriately placed signs and barricades are used to indicate the area where the asbestos removal work is being performed (see page 41) [OHS Regulations r255](#)
  - arranging for appropriate medical examinations to be conducted (see page 60) [OHS Regulations r262\(1\)](#)
  - obtaining and keeping a copy of the summary of results of medical examinations (see page 60) [OHS Regulations r263](#).
39. The duties of a self-employed person performing limited asbestos removal work include:
- not performing limited asbestos removal work unless they are informed, instructed and trained to perform the work in a way that does not, so far as is reasonably practicable, expose other persons to risks (see page 32) [OHS Regulations r252\(1\)](#)
  - making and retaining a record of training undertaken (see page 32) [OHS Regulations r252\(2\)](#)
  - ensuring that appropriately placed signs and barricades are used to indicate the area where the asbestos removal work is being performed (see page 41) [OHS Regulations r255](#).



# Asbestos removal work

## Examples of limited asbestos removal work – non-friable ACM

- A single AC sheet is required to be removed in order to install an air conditioner. The sheet is two square metres in total and will take less than 30 minutes for two employees to remove. No employees of the company have undertaken any other asbestos removal work over the previous seven days. This job may be performed by a company that is not an asbestos removal licence holder.
  - A self-employed person is required to remove an AC eave to enable access for pipes. The AC eave is 1.6 square metres in total and will take less than one hour to remove. The self-employed person has not undertaken any other asbestos removal work over the previous seven days. This job may be performed by the self-employed person who is not an asbestos removal licence holder.
  - An employee finds an unfixed flue in a roof space and some AC debris. Removal will take 20 minutes in total. An employer or self-employed person is permitted to carry out the removal provided that any other removal of unfixed or uninstalled non-friable ACM does not result in the total cumulative time exceeding one hour over a seven-day period.
  - A self-employed person is required to remove a non-friable ACM-backed electrical switchboard panel which is one square metre and will take 30 minutes to remove. The clean-up of ACD associated with this removal work will take a further 5 minutes. The total cumulative time spent by the self-employed person is 35 minutes, no other asbestos removal work has been undertaken over the previous seven days. This job may be performed by the self-employed person who is not an asbestos removal licence holder.
- A self-employed person has been engaged to collect three dumped unfixed AC sheets and their associated fragments. The AC sheets are approximately 1.8 metres by 0.8 metres. The quantity is less than 10 square metres and the time required to collect this material is less than 1 hour. This job may be performed by the self-employed person who is not an asbestos removal licence holder.
  - A series of posts are to be installed to form a fence. On inspecting of the small soil mounds generated beside each post hole, two mounds are noted to have 5 and 6 (respectively) fragments of suspect non-friable AC sheet – none of the other soil mounds have suspect material. All soil mounds were turned over to thoroughly inspect for the presence of suspect asbestos. The quantity of non-friable fragments would make up less than 10 square metres and the time to collect them would be less than 1 hour. An asbestos removal licence holder is not required to collect the suspect non-friable AC fragments.

# Asbestos removal work

## Examples of limited asbestos removal work – ACD

- An employer has two employees carrying out ACD clean-up for five minutes each. The total cumulative time spent by the employer is 10 minutes, no other asbestos removal work has been undertaken over the previous seven days. This job may be performed by the employer who is not an asbestos removal licence holder.
- An employer is required to remove dust that is present on surfaces at a workplace. Wipe-sampling has identified that the dust is ACD – as reported in a NATA-endorsed report. An independent person has determined that although the clean-up will take more than 10 minutes it will not result in airborne asbestos fibre levels equal to or exceeding one half the asbestos exposure standard. This job may be performed by the employer who is not an asbestos removal licence holder.

## Class A or Class B asbestos removal work

40. A Class B asbestos removal licence is required where non-friable ACM, or ACD associated with or derived from the removal of non-friable ACM, exceeds what is permitted as limited asbestos removal work (see Table 2).
41. A Class A asbestos removal licence is required where friable ACM is to be removed, or ACD not associated with or derived from the removal of non-friable ACM exceeds what is permitted as limited asbestos removal work (see Table 2).
42. Only the asbestos removal work specified in an asbestos removal licence can be performed under that licence.  
**OHS Regulations r461(1)**

WorkSafe may issue licences which restrict licence holders to removing specific types of ACM or ACD.

# Asbestos removal work

Table 2: Types of asbestos removal licences

Licence type:	Permitted asbestos removal work:
<p><b>Class A asbestos removal licence</b> OHS Regulations r264, r265</p>	<ul style="list-style-type: none"> <li>▪ <b>Class A asbestos removal work:</b> OHS Regulations r5               <ul style="list-style-type: none"> <li>– friable asbestos, or</li> <li>– <b>ACD</b> (other than ACD associated with or derived from the removal of non-friable asbestos)</li> </ul> </li> <li>▪ <b>Class B asbestos removal work</b> (see below) OHS Regulations r5</li> <li>▪ <b>Limited asbestos removal work</b> (see Table 1 on page 16) OHS Regulations r250</li> </ul>
<p><b>Class B asbestos removal licence</b> OHS Regulations r265</p>	<ul style="list-style-type: none"> <li>▪ <b>Class B asbestos removal work:</b> OHS Regulations r5               <ul style="list-style-type: none"> <li>– non-friable asbestos, or</li> <li>– <b>ACD associated with or derived from</b> the removal of <b>non-friable asbestos</b></li> </ul> </li> <li>▪ <b>Limited asbestos removal work</b> (see Table 1 on page 16) OHS Regulations r250</li> </ul>
<p><b>Specific Class A asbestos removal licence</b></p>	<ul style="list-style-type: none"> <li>▪ <b>Class A asbestos removal work</b> for a specific type of friable ACM or ACD as specified in the asbestos removal licence OHS Regulations r461</li> <li>▪ <b>Limited asbestos removal work</b> (see Table 1 on page 16) OHS Regulations r250</li> </ul>
<p><b>Specific Class B asbestos removal licence</b></p>	<ul style="list-style-type: none"> <li>▪ <b>Class B asbestos removal work</b> for a specific type of non-friable ACM (and ACD that is associated with or derived from the removal of that non-friable ACM) as specified in the asbestos removal licence OHS Regulations r461</li> <li>▪ <b>Limited asbestos removal work</b> (see Table 1 on page 16) OHS Regulations r250</li> </ul>

# Asbestos removal work

**Friable:** means, when dry –

- (a) may be crumbled, pulverised or reduced to powder by hand pressure; or
- (b) as a result of a work process becomes such that it may be crumbled, pulverised or reduced to powder by hand pressure. [OHS Regulations r5](#)

**Non-friable:** means, when dry may not be crumbled, pulverised or reduced to powder by hand pressure.

**Note:** non-friable ACM may become friable as a result of work processes over time (for example, degradation due to chemical exposure, the operation of an excavator results in the ACM being crumbled, pulverised or reduced to powder) or due to other factors (for example, damage by fire).

**Asbestos-contaminated dust (ACD):** means, dust that is, or is assumed under 'Part 4.4 – Asbestos' to be, contaminated with asbestos. [OHS Regulations r5](#)

If there is uncertainty (based on reasonable grounds) as to whether dust is contaminated with asbestos a person must assume the dust is contaminated with asbestos or arrange for analysis of a sample to be undertaken. [OHS Regulations r208](#)

Reasonable grounds for assuming asbestos to be present in dust may include knowledge of:

- the presence of ACM in other areas of the workplace or in immediate and adjacent areas of the workplace, for example:
  - dust surrounding an AC flue
  - dust on horizontal surfaces below an AC roof
  - dust in an electrical switchboard cupboard which has asbestos-backed panels

- previous asbestos removal, demolition or renovation work undertaken at the workplace on buildings or structures known or suspected to contain asbestos (unless a clearance certificate is available).

- 43. **Class A or Class B asbestos removal work** must be performed in accordance with 'Division 7 – Removal of asbestos' in 'Part 4.4 – Asbestos' of the OHS Regulations (see 'General requirements for all asbestos removal work' on page 27, 'Additional requirements for asbestos removal licence holders' on page 66, and 'Additional requirements for Class A asbestos removal work' on page 85).
- 44. The duties of an asbestos removal licence holder performing Class A or Class B asbestos removal work include:
  - providing information to applicants seeking to be employed or engaged by the asbestos removal licence holder to perform the asbestos removal work (see page 66) [OHS Regulations r268](#)
  - not permitting a person to perform asbestos removal work unless they are informed, instructed and trained to perform that work in a manner that is safe and without risks to health (see page 32) [OHS Regulations r269](#)
  - making and retaining a record of training undertaken (see page 32) [OHS Regulations r270\(1\)\(2\)\(a\)](#)
  - ensuring that a copy of the asbestos control plan is readily accessible for the duration of the asbestos removal work (see page 67) [OHS Regulations r273\(2\)](#)
  - providing appropriate personal protective clothing and RPE and ensuring that it is correctly fitted (see page 34) [OHS Regulations r276](#)



# Asbestos removal work

- ensuring that appropriately placed signs and barricades are used to indicate the area where the asbestos removal work is being performed (see page 41) [OHS Regulations r277\(a\)](#)
- arranging for appropriate medical examinations to be conducted (see page 60) [OHS Regulations r282](#)
- obtaining and keeping a copy of the summary of results of medical examinations (see page 60) [OHS Regulations r283](#).

## Examples of Class A or Class B asbestos removal work

- A person is engaged to remove non-friable AC sheets from a factory toilet block. The area to be removed is 12 square metres in total. To perform this work, a Class A or Class B asbestos removal licence is required.
- A self-employed person is engaged to remove a non-friable AC eave to enable access for a pipe. The AC eave is 1.6 square metres in total and will take less than one hour to remove. However, the person has performed a similar job in the previous six days and the total time of the two jobs will exceed one hour. To perform more than one hour of non-friable ACM asbestos removal work in a seven-day period, a Class A or Class B asbestos removal licence is required.
- A company is engaged to dismantle and remove a small AC tool shed. It contains approximately 18 square metres of non-friable AC sheet. The company has two employees who will perform the job and it will take them 45 minutes each (working together). Therefore, the total time the company will spend performing the job is 90 minutes and it will exceed both the '10 square metres' and 'one hour in seven days' limits. To perform this work, a Class A or Class B asbestos removal licence is required.

- A company is required to remove 0.5 cubic metres of friable asbestos lagging from a pipe in order to carry out maintenance work. To perform this work, a Class A asbestos removal licence is required.
- A pile of AC roof sheeting is found at the rear of a factory. Collection and removal of the AC sheets will take more than one hour. To perform this work, a Class A or Class B asbestos removal licence is required.
- A large warehouse has surfaces covered in ACD. The ACD has come from the AC roof which has since been enclosed with a false ceiling. The total job would take more than 10 minutes. To perform this work, a Class A asbestos removal licence is required.
- An employer has two employees that service a number of workplaces. Part of their work involves carrying out incidental ACD clean-up for up to five minutes each time they perform a particular task. The task does not require removal of fixed or installed ACM. The number of these tasks performed each week can vary from none to 20. The total (cumulative) time over which removal of ACD is undertaken by the employer occasionally exceeds one hour in a period of seven days (ie five minutes per task multiplied by 20 tasks equates to 100 minutes). To continue performing this work in a seven day cycle, a Class A asbestos removal licence is required.
- A company is engaged to remove a 100 metre section of old underground AC water pipe. An occupational hygienist engaged by the person who commissioned the work has identified that the AC water pipe is in poor condition due to deterioration. The occupational hygienist has also identified that various parts of the pipe are friable because it may be crumbled by hand pressure as a result of a work process. To perform this work, a Class A asbestos removal licence is required.

- A small building has partially collapsed after a fire which damaged sections of AC sheeting in the walls and ceiling. An occupational hygienist engaged by the person who commissioned the work has determined that the otherwise non-friable ACM has become friable due to the fire damage and subsequent collapse. To perform this work, a Class A asbestos removal licence is required.

**Note:** If there is uncertainty as to whether fire damaged asbestos is friable or non-friable, asbestos needs to be assumed to be friable or a determination needs to be made by a person with the requisite knowledge, skills and experience (for example, an occupational hygienist).

## Who can perform Class A or Class B asbestos removal work?

45. A person must not perform Class A asbestos removal work unless that person:
- holds a Class A asbestos removal licence, or
  - is an employee of a person who holds a Class A asbestos removal licence, or
  - is an independent contractor, as outlined in paragraph 47. [OHS Regulations r264](#)
46. A person must not perform Class B asbestos removal work unless that person:
- holds a Class A asbestos removal licence or Class B asbestos removal licence, or
  - is an employee of a person who holds a Class A asbestos removal licence or Class B asbestos removal licence. [OHS Regulations r265](#)

**Note:** A person who holds a Class B asbestos removal licence or an employee of a person who holds a Class B asbestos removal licence is not permitted to perform Class A asbestos removal work.

## Independent contractors

47. An independent contractor must not perform Class A asbestos removal work unless that person is:
- engaged by a person who holds a Class A asbestos removal licence, and
  - only performing asbestos removal work involving the operation of an excavator, and
  - directly supervised at all times during the asbestos removal work by the person who holds the Class A asbestos removal licence and by that person's asbestos removal supervisor (see page 74). [OHS Regulations r264\(c\)](#)

**Note:** A Class B asbestos removal licence holder is not permitted to engage an independent contractor to perform asbestos removal work involving the operation of an excavator. [OHS Regulations r265](#)

An independent contractor engaged by a person who holds a Class A asbestos removal licence is permitted to perform asbestos removal work involving the operation of an excavator (for example, the removal of soil contaminated with non-friable asbestos).

An independent contractor, in these circumstances, can only be engaged to perform asbestos removal work involving the operation of an excavator (for example, the independent contractor is not permitted to remove ACM using hand held tools).

For further information see 'Asbestos-contaminated soil' on page 108.

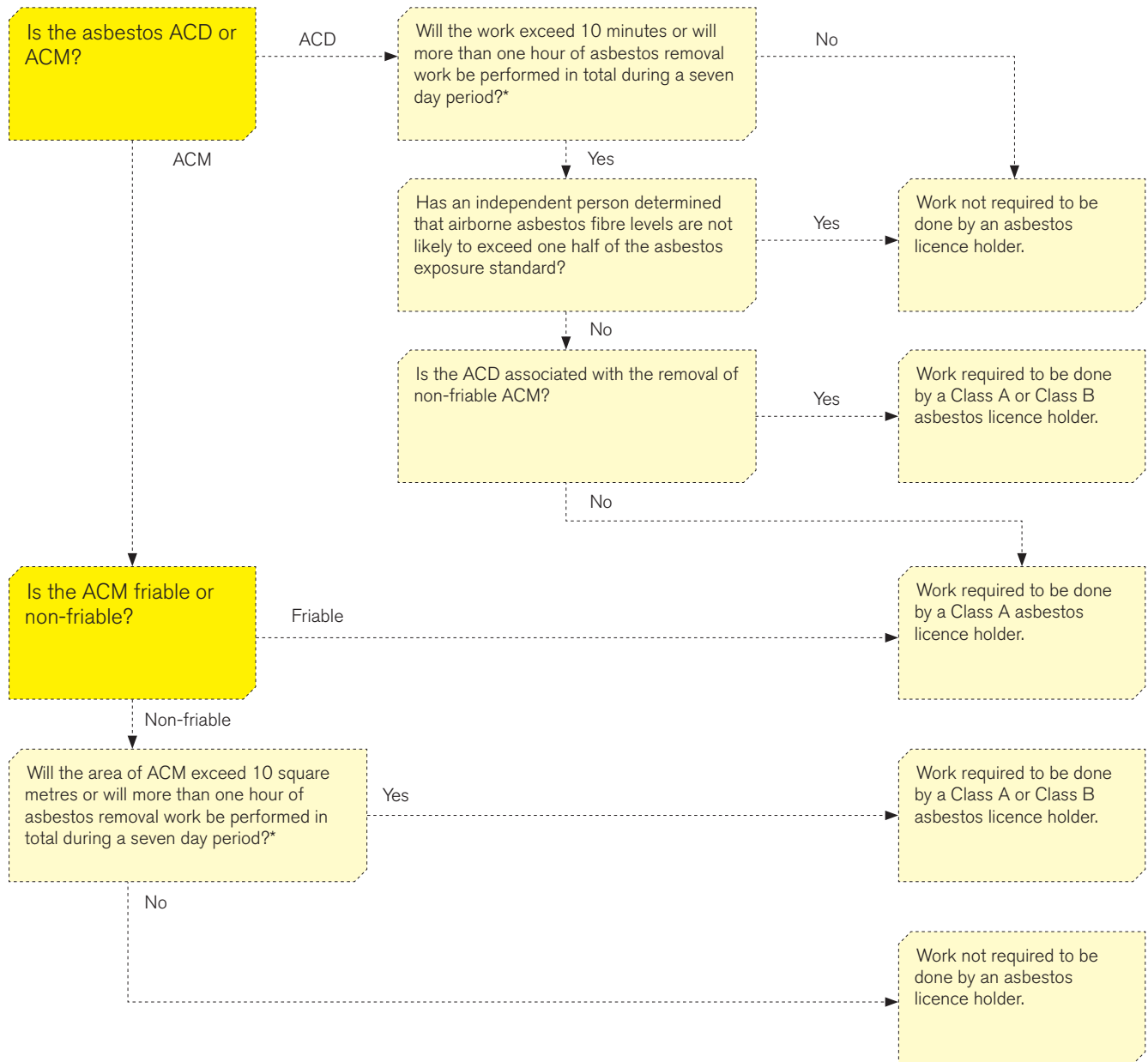
# Asbestos removal work

48. The requirements that apply to employees undertaking asbestos removal work also apply to independent contractors. This means that the Class A asbestos removal licence holder must:
- provide information to independent contractors seeking to be engaged by the asbestos removal licence holder (see page 66) [OHS Regulations r268](#)
  - not permit an independent contractor to perform asbestos removal work unless they are informed, instructed and trained to perform that work in a manner that is safe and without risks to health (see page 32) [OHS Regulations r269](#)
  - make and retain a record of training undertaken (see page 32) [OHS Regulations r270\(1\)\(2\)\(a\)](#)
  - ensure that a copy of the asbestos control plan is readily accessible for the duration of the asbestos removal work (see page 67) [OHS Regulations r273\(2\)\(c\)](#)
  - provide appropriate personal protective clothing and RPE and ensure that it is correctly fitted (see page 34) [OHS Regulations r276\(1\)\(a\)\(2\)](#)
  - arrange for appropriate medical examinations to be conducted (see page 60) [OHS Regulations r282\(3\)](#)
  - obtain and keep a copy of the summary of results of medical examinations (see page 60) [OHS Regulations r283](#).
49. Class A or Class B asbestos removal work cannot be sub-contracted to another employer or self-employed person (except as set out in paragraphs 45 to 48) unless that person or self-employed person holds an appropriate asbestos removal licence. The asbestos removal licence holder contracted for the job is responsible for the asbestos removal work.

For example, a sub-contractor is engaged by an employer whose core work is installing/modifying telecommunication lines. The sub-contractor is engaged to remove non-friable ACM from telecommunication pits and pipes. The asbestos removal work exceeds what is permitted as limited asbestos removal work; as such the sub-contractor must be a Class A or Class B asbestos removal licence holder to perform the work. Alternatively the employer should apply for a Class B or Class B specific asbestos removal licence and undertake the work themselves.

# Asbestos removal work

Figure 1: Who can perform asbestos removal work?



**\*Note:** for the purposes of determining the time spent performing asbestos removal work, the total cumulative time that all employees, independent contractors, and self-employed persons will spend performing such work is to be included.



# General requirements for all asbestos removal work

50. 'General requirements for all asbestos removal work' applies to Class A, Class B, and limited asbestos removal work. For additional guidance on the requirements of Class A and Class B asbestos removal work see 'Additional requirements for asbestos removal licence holders' on page 66.

## Planning

51. Planning asbestos removal work is essential as any misunderstanding could lead to the use of unsafe removal methods and potentially endanger the health of asbestos removal workers, people in adjoining properties and local residents.
52. Planning requirements for the removal of asbestos can differ greatly depending on many factors, including the:
- specific asbestos removal task
  - type, location, quantity and condition of the asbestos to be removed
  - presence of employees or other persons nearby.
53. Persons engaged to perform asbestos removal work:
- must obtain a copy of any relevant asbestos register or the employer's asbestos register from the person who commissioned the asbestos removal work (see page 30)  
OHS Regulations r253(1), r271(1)
- Note:** If the asbestos register is inadequate having regard to the proposed asbestos removal work (for example, location or condition have been inappropriately recorded), the person engaged to perform the work needs to obtain further information to ensure such work is performed in a manner that, so far as is reasonably practicable, eliminates the release of airborne asbestos fibres and prevents the contamination of areas adjacent to the asbestos removal area.
- should consult with the person who commissioned the asbestos removal work and advise them when the work will be taking place
  - must ensure that persons are not exposed to risks to their health or safety arising from the conduct of the asbestos removal work OHS Act s23, s24, this needs to involve excluding people from the asbestos removal area and surrounds (see page 41 for information on signs and barricades)
  - must provide facilities for decontamination of the work area, tools and equipment, and personal decontamination OHS Regulations r256(1), r278(1)
  - must establish emergency plans for prompt evacuation (such as for fire) and elevated airborne fibre detection (see page 62)

# General requirements for all asbestos removal work

- must provide such information, instruction, training and supervision to employees (including independent contractors engaged by the employer and any employees of independent contractors), as is necessary to enable them to perform their work in a way that is safe and without risks to health (see page 32) [OHS Act s21\(2\)\(e\)](#)
- must complete a safe work method statement (SWMS) if activities that fall within the meaning of 'high-risk construction work' are to be undertaken (see page 31) [OHS Regulations r327](#)
- must identify other hazards related to the job (eg working at height, working next to hot surfaces, electrical hazards), assess the risks and implement appropriate control measures. [OHS Act s21, s24](#)

If there is uncertainty (based on reasonable grounds) as to whether asbestos is present at a workplace, or if there are inaccessible areas that are likely to contain asbestos, the person who manages or controls the workplace or employer who has management or control of the material must assume that asbestos is present or arrange for analysis of a sample to be undertaken. [OHS Regulations r226\(2\), r233\(2\)](#)

For more information on identifying asbestos see WorkSafe's *Managing asbestos in workplaces compliance code* (2018).

## Informing people in immediate and adjacent areas

### An immediate and adjacent area

54. An *immediate and adjacent area* is an area near where asbestos removal work will take place or an area adjoining or directly facing the removal area (for example, one or more neighbouring buildings, or levels above and below the removal area within the same building). Informing all employers and other persons occupying premises (including domestic premises) in immediate and adjacent areas enables them to inform their employees and make appropriate arrangements to prevent people from approaching these areas.

### Asbestos removal work at workplaces

55. An employer at a workplace must, before asbestos removal work commences at the workplace, inform their employees in the immediate and adjacent areas of the workplace of the proposed asbestos removal work. [OHS Regulations r300](#) For example, employees working in areas adjacent to where ACM is proposed to be removed from plant.
56. An employer or self-employed person who is commissioned to perform work for a person and intends to perform limited asbestos removal work must, before the limited asbestos removal work commences, inform the person who commissioned the asbestos removal work about the proposed limited asbestos removal work. [OHS Regulations r301\(1\)](#) For example, where a plumber is engaged to provide plumbing services and proposes to perform limited asbestos removal work.



# General requirements for all asbestos removal work

57. A person who commissions asbestos removal work, or has been informed of proposed limited asbestos removal work, must, before the work commences, inform all employers and other persons occupying premises in the immediate and adjacent areas to where the work will take place about the work. [OHS Regulations r301\(2\)](#) For example, employers or residents in areas adjacent to where ACM roofing is proposed to be removed.
58. An employer who has been informed about the proposed asbestos removal work must, before the work commences, inform their employees in the immediate and adjacent areas to where the work will take place about the work. [OHS Regulations r301\(3\)](#)

## Asbestos removal work at domestic premises

59. For the purpose of informing employers and other persons in immediate and adjacent areas, the employer or self-employed person performing the asbestos removal work is the person who commissions the asbestos removal work if the work will be performed at domestic premises. [OHS Regulations r301\(4\)](#) Therefore, the employer or self-employed person must, before the work commences, inform all employers and other persons occupying premises in the immediate and adjacent areas to where the work will take place about the asbestos removal work.

## Asbestos register

60. A person who manages or controls a workplace must record in an asbestos register the results of an identification of asbestos. [OHS Regulations r227\(1\)](#)

### What information must be included in an asbestos register?

There is no mandatory format for an asbestos register. However, it must be current and include the following:

- Information that must be determined as part of the identification of asbestos, including:
  - the location of the asbestos
  - the likely source of asbestos that is not fixed or installed
  - In relation to ACM:
    - the type of ACM
    - whether the ACM is friable or non-friable
    - the condition of the ACM
    - whether the ACM is likely to sustain damage or deterioration.
- So far as is possible, any activities likely to be carried out at the workplace that are, in view of their nature or design, likely to damage or disturb the asbestos.
- Details of inaccessible areas that are likely to contain asbestos, and
- the date of each identification. [OHS Regulations r226\(4\), r227\(2\)](#)

61. An employer at a workplace must record in an employer's asbestos register the results of an identification of asbestos. [OHS Regulations r235\(1\)](#)

# General requirements for all asbestos removal work

## What information must be included in an employer's asbestos register?

There is no mandatory format for an employer's asbestos register, however it must be current and include the following information:

- information that must be determined as part of the identification of asbestos, including:
  - the location of the asbestos
  - the likely source of asbestos that is not fixed or installed
  - in relation to ACM:
    - > the type of ACM
    - > whether the ACM is friable or non-friable
    - > the condition of the ACM
    - > whether the ACM is likely to sustain damage or deterioration
- so far as is possible, any activities likely to be carried out at the workplace that are, in view of their nature or design, likely to damage or disturb the asbestos
- details of all inaccessible areas that are likely to contain asbestos
- date of each identification
- a copy of any asbestos register obtained if another person manages or controls the workplace, and
- information in relation to any activity carried out by the employer that could give rise to a risk of exposure to airborne asbestos fibres. OHS Regulations r233(4), r235(2)

For more information on asbestos registers see page 30 of WorkSafe's *Managing asbestos in workplaces compliance code* (2018). For an example of an asbestos register and a blank pro forma that can be used see Appendix D of WorkSafe's *Managing asbestos in workplaces compliance code* (2018).

62. An asbestos removal licence holder, employer or self-employed person must obtain a copy of any relevant asbestos register or employer's asbestos register from the person who commissioned the asbestos removal work. OHS Regulations r253(1), r271(1)
63. A person who manages or controls a workplace must provide a copy of their asbestos register to an asbestos removal licence holder engaged to do asbestos removal work. OHS Regulations r229(1)(b) An employer must provide a copy of the employer's asbestos register to an asbestos removal licence holder who has been engaged to do asbestos removal work. OHS Regulations r237(b)(ii)
64. Where asbestos removal work will be performed at domestic premises, an asbestos register or employer's asbestos register is not required and does not need to be obtained OHS Regulations r253(2), r271(2).  
**Note:** An employer or self-employed person performing demolition or refurbishment work on domestic premises must identify asbestos under their management or control that is likely to be disturbed by the proposed demolition or refurbishment work and if the proposed work is:
  - refurbishment work, ensure, so far as is reasonably practicable, that the asbestos is removed
  - demolition work, ensure, so far as is reasonably practicable, that the asbestos is removed before demolition work is commenced. OHS Regulations r244(5)
65. In some instances an asbestos register may not be adequate for proposed demolition, refurbishment or asbestos removal work, particularly for areas that have not been accessed previously but will require access as part of the proposed work.

# General requirements for all asbestos removal work

66. Before demolition or refurbishment work commences at a workplace, the person who manages or controls the workplace must review the asbestos register and revise the asbestos register if it is inadequate having regard to the proposed demolition or refurbishment work. [OHS Regulations r241\(1\)](#)
67. Before demolition or refurbishment work commences at a workplace, an employer who has management or control of asbestos, including ACM that is fixed or installed in any plant under the management or control of the employer, must review the employer's asbestos register and revise the employer's asbestos register if it is inadequate having regard to the proposed demolition or refurbishment work. [OHS Regulations r242\(1\)](#)
68. The asbestos register should be made clear to all relevant parties. Depending on the proposed work, the person with management or control of the site should engage the person who updated the register to explain it to all relevant parties.

**Note:** Where the asbestos register is revised before proposed demolition or refurbishment work the revised asbestos register is commonly referred to as a 'Division 6 asbestos register'.

For more information on demolition and refurbishment see page 44 of WorkSafe's *Managing asbestos in workplaces compliance code* (2018).

## Safe work method statements

69. High-risk construction work includes construction work involving demolition or the removal or likely disturbance of asbestos. [OHS Regulations r322\(c\) and \(d\)](#) An employer or self-employed person must not perform high-risk construction work if there is a risk to the health or safety of any person arising from the work, unless a SWMS is prepared for the work before the work commences and the work is performed in accordance with the statement. [OHS Regulations r327\(1\)](#)

For more information on SWMS and asbestos removal work see paragraphs 272 to 275.

## Elimination of airborne asbestos fibres

70. An asbestos removal licence holder, employer or self-employed person performing asbestos removal work must ensure that the asbestos removal work is performed in a manner that, so far as is reasonably practicable:
  - eliminates the release of airborne asbestos fibres, and
  - prevents the contamination of areas adjacent to the asbestos removal area. [OHS Regulations r258, r274](#)

# General requirements for all asbestos removal work

71. This requires planning to ensure methods of removal are used that minimise the generation of airborne asbestos fibres whether or not the removal is to be performed within an enclosure (see 'Additional requirements for Class A asbestos removal work' on page 85). Such methods need to include:
- hand tools in preference to power tools
  - careful unfixing of ACM
  - wet methods such as a fine water mist spray and damp rags (see 'Appendix P – How to use rags to clean asbestos contamination from smooth surfaces and equipment' on page 154) wherever reasonably practicable. A fine mist water spray should be applied at regular intervals during the day (particularly in warm weather) to ensure dust remains suppressed.
  - using a Dust Class H vacuum cleaner and damp rags to collect asbestos, no sweeping or brushing
  - drop sheets to collect asbestos-containing debris.
- Note:** A high pressure water jet must not be used on asbestos unless the use is controlled. [OHS Regulations r216\(1\)](#) The use of a high pressure water jet is not recommended as it may generate airborne asbestos fibres, spread the asbestos beyond the asbestos removal area and make clean-up more difficult.
72. Adjacent areas where there is potential (or any uncertainty about the potential) for asbestos contamination need to be well isolated to prevent access by persons not directly associated with the asbestos removal work. In a multi-storey building this may mean isolating the entire floor and floors directly above and below where asbestos removal is to take place.

## Information, instruction, training and supervision

73. Employers must provide such information, instruction, training or supervision to employees (including independent contractors and any employees of independent contractors) as is necessary to enable those persons to perform their work in a way that is safe and without risks to health. [OHS Act s21\(2\)\(e\) and s21\(3\)](#)
74. An employer performing limited asbestos removal work must:
- make a record of any training undertaken by each person engaged in the limited asbestos removal work, and
  - keep the record of training readily accessible where the asbestos removal work is being performed. [OHS Regulations r251](#)
75. A self-employed person must not perform limited asbestos removal work unless the person is informed, instructed and trained to perform the work in a manner that does not, so far as is reasonably practicable, expose other persons to risks arising from the asbestos removal work. [OHS Regulations r252\(1\)](#)
76. A self-employed person performing limited asbestos removal work must make a record of any training undertaken and keep that record while the person is engaged in asbestos removal work. [OHS Regulations r252\(2\)](#)

# General requirements for all asbestos removal work

77. An asbestos removal licence holder must not permit a person to perform asbestos removal work for the licence holder unless the person is informed, instructed and trained to perform that work in a manner that is safe and without risks to health and in particular in relation to:
- the nature of the hazard
  - the risks and health effects associated with exposure to airborne asbestos fibres including:
    - how asbestos can affect a person's health
    - the added dangers of smoking.
  - the need for, and proper use of, measures to control the risks including:
    - appropriate controls
    - what methods and equipment will do the job properly
    - how to choose, use, maintain, clean and store personal protective clothing and RPE
    - decontaminating the work area, tools and equipment and personal decontamination
    - asbestos waste disposal
    - emergency procedures
    - maintenance of risk controls.
- [OHS Regulations r269](#)
78. An asbestos removal licence holder performing asbestos removal work must make a record of the training undertaken by a person performing asbestos removal work. The asbestos removal licence holder must keep the record of training while the person performs asbestos removal work for the asbestos removal licence holder and ensure it is readily accessible where the asbestos removal work is being performed.
- [OHS Regulations r270](#)
79. Refresher training should be conducted every year for persons undertaking Class A asbestos removal work and every two years for persons undertaking Class B asbestos removal work. However, it needs to be conducted more often if:
- work methods change
  - the type of equipment used changes, or
  - the type of work changes.

Asbestos removal licence holders need to provide persons undertaking licensed asbestos removal work with training that covers all aspects of the removal work proposed to be undertaken. Refresher training may be provided in various ways, for example a full training course, a truncated training course that covers all aspects of asbestos removal work, or intermittent frequent training on various relevant subjects (such as the risk of exposure to airborne asbestos fibres, RPE, decontamination, safe methods of removal). All training needs to be provided by a person with the requisite knowledge, skills and experience (for example, Certificate IV in training and knowledge in the health hazards associated with asbestos and practical knowledge of asbestos removal work and controlling airborne asbestos fibres). All training provided needs to include an assessment to ensure that those attending the training have understood the content.

For further information on Registered Training Organisations (RTO) that provide training on removing asbestos go to [training.gov.au](http://training.gov.au) or contact WorkSafe's Advisory Service.

# General requirements for all asbestos removal work

## Personal protective equipment (PPE)

80. Employers and asbestos removal licence holders must ensure that persons performing asbestos removal work are provided with appropriate personal protective clothing and that it is correctly fitted and suitable for the removal work being performed.  
OHS Regulations r254(a)(i)(b), r276(a)(i)(b)

**Note:** Personal protective clothing needs to be made from materials that provide protection against fibre penetration and needs to be worn at all times during asbestos removal work in the asbestos removal area prior to achieving a satisfactory final clearance inspection.

81. PPE needs to be provided to individuals for their exclusive use. There is a risk of contracting respiratory problems where PPE is shared and not thoroughly cleaned and a risk of contracting tinea where footwear is shared.

## Coveralls

82. Personal protective clothing (including coveralls) must be suitable for the asbestos removal work being performed  
OHS Regulations r254(a)(i), r276(a)(i), this includes:
- having fitted hoods and cuffs
  - being made from material capable of providing adequate protection against asbestos fibre penetration
  - not having external pockets or velcro fastenings (as these can become easily contaminated and are difficult to decontaminate).

**Note:** Clothing made from wool or other materials that trap fibrous dusts (for example, polar fleece) should not be worn by persons in the barricaded area.

83. Personal protective clothing (including coveralls and any clothing worn under coveralls) that is likely to be contaminated with asbestos must not be removed from the area where asbestos removal is being performed unless the clothing is decontaminated (see 'Personal decontamination' on page 52) or contained before removal.  
OHS Regulations r256(2), r278(2)
84. Where contaminated coveralls or clothing worn under coveralls is contained and removed from the asbestos removal area, it must be:
- disposed of as asbestos waste as soon as reasonably possible (see 'Asbestos waste containment and disposal' on page 56) or stored for the purpose of disposal, or  
OHS Regulations r260, r280, r220(2)(a)
  - provided for laundering (see 'Laundering of clothing contaminated with asbestos' on page 83) or stored for the purpose of laundering.  
OHS Regulations r261, r281, r220(2)(a)

**Note:** Laundering of asbestos-contaminated protective clothing is not recommended due to physical damage/deterioration as a result of the work performed and cleaning process. If personal protective clothing is provided for laundering, the asbestos removal licence holder, employer or self-employed person need to demonstrate that the laundering process is effective.



# General requirements for all asbestos removal work

85. Disposable yet durable coveralls are recommended (disposable coveralls that can be easily torn are not suitable and should not be worn). Disposable coveralls used during asbestos removal work:
- must be disposed of as asbestos waste (see 'Asbestos waste containment and disposal' on page 56) and need to be disposed of after a single use
  - need to be of a suitable standard to prevent, so far as is reasonably practicable, penetration of asbestos fibres. Disposable type 5 category 3 coveralls (that meet EN ISO 13982 *Protective clothing for use against solid particulates*) or an equivalent would meet this standard
  - should be one size too big as this will help prevent ripping at the seams
    - if cuffs are loose ensure they are sealed with appropriate adhesive tape
    - ensure coverall legs are worn over footwear as tucking them in lets dust in
    - ensure the hood is worn over the respirator straps.
86. In some limited circumstances, for example if there is a fire hazard, disposable protective clothing is not appropriate and re-usable types need to be used.
87. Special consideration needs to be given to the risk of heat stress and burns from working in coveralls in hot conditions. When evaluating heat stress risks, humidity and air movement should be considered in addition to temperature. A person with the requisite knowledge, skills and experience needs to assess this risk and determine the most suitable protective clothing, decontamination procedures, and system of work (including work rest regimes) in these situations.

Disposable type 5 category 3 coveralls (that meet EN ISO 13982 *Protective clothing for use against solid particulates*) are tested to allow up to (or not permit more than) 15% inward leakage of fine particles in eight out of 10 suits tested. Coveralls that allow less inward leakage are available and may be used, however any risk of heat stress needs to be addressed/evaluated prior to using such coveralls – this may involve short use duration trials under supervision.

## Gloves

88. The use of gloves needs to be determined by a risk assessment. Personal protective clothing (including gloves) must be suitable for the removal work being performed. OHS Regulations r254(a)(i), r276(a)(i) If significant quantities of asbestos fibres are present, disposable gloves are recommended. If latex gloves are used, low protein (powder free) gloves should be selected.
89. Personal protective clothing (including gloves) that is likely to be contaminated with asbestos must not be removed from the area where asbestos removal is being performed unless the clothing is decontaminated (see 'Personal decontamination' on page 52) or contained before removal. OHS Regulations r256(2), r278(2)

# General requirements for all asbestos removal work

90. Where contaminated gloves are contained and removed from the asbestos removal area, they must be:
- disposed of as asbestos waste as soon as reasonably possible (see 'Asbestos waste containment and disposal' on page 56) or stored for the purpose of disposal, or OHS Regulations r260, r280, r220(2)(a)
  - provided for laundering (see 'Laundering of clothing contaminated with asbestos' on page 83) or stored for the purpose of laundering. OHS Regulations r261, r281, r220(2)(a)
- Note:** Laundering/cleaning gloves is not recommended due to physical damage/deterioration as a result of the work performed and cleaning process. If personal protective clothing is provided for laundering, the asbestos removal licence holder, employer or self-employed person need to demonstrate that the laundering process is effective.
91. While at work, an employee must take reasonable care of his or her own health and safety, this includes cleaning their hands and fingernails thoroughly after performing asbestos removal work regardless of whether gloves are used. OHS Act s25

## Footwear

92. Personal protective clothing (including footwear such as steel-capped, rubber-soled work shoes or gumboots) must be suitable for the asbestos removal work being performed. OHS Regulations r254(a)(i), r276(a)(i)  
Footwear needs to be laceless as laces and eyelets are easily contaminated and difficult to clean. Safety footwear should not be shared due to hygiene reasons.
93. When safety footwear is not in use it should be stored upside down to minimise asbestos-contamination inside the footwear. Storage facilities need to be provided inside the barricaded area or dirty decontamination area for footwear storage purposes. Disposable overshoes should be avoided because they may cause a slipping risk.
94. Personal protective clothing (including footwear) that is likely to be contaminated with asbestos must not be removed from the area where asbestos removal is performed unless the clothing is decontaminated (see 'Personal decontamination' on page 52) or contained before removal. OHS Regulations r256(2), r278(2)
95. Where contaminated footwear is contained and removed from the asbestos removal area, it must be disposed of as asbestos waste as soon as reasonably possible (see 'Asbestos waste containment and disposal' on page 56) or stored for the purpose of disposal. OHS Regulations r260, r280, r220(2)(a)

## Headwear

96. In some instances headwear such as a cap for protection from the sun or a hard hat for protection from overhead hazards may be required.
97. Personal protective clothing (including headwear) that is likely to be contaminated with asbestos must not be removed from the area where asbestos removal is performed unless the clothing is decontaminated (see 'Personal decontamination' on page 52) or contained before removal. OHS Regulations r256(2), r278(2)

# General requirements for all asbestos removal work

98. Where contaminated headwear is contained and removed from the asbestos removal area, it must be:

- disposed of as asbestos waste as soon as reasonably possible (see 'Asbestos waste containment and disposal' on page 56) or stored for the purpose of disposal OHS Regulations r260, r280, r220(2)(a)
- provided for laundering (see 'Laundering of clothing contaminated with asbestos' on page 83) or stored for the purpose of laundering. OHS Regulations r261, r281, r220(2)(a)

**Note:** Laundering/cleaning headwear is not recommended due to physical damage/deterioration as a result of the work performed and cleaning process. If personal protective clothing is provided for laundering, the asbestos removal licence holder, employer or self-employed person need to demonstrate that the laundering process is effective.

Contaminated personal protective clothing that is stored for the purposes of disposal or laundering at the asbestos removal site must be:

- stored securely (for example, in locked areas or containers)
- identified to indicate the likely or actual presence of asbestos (for example, labelled)
- contained so as to eliminate the release of asbestos fibres (for example, in solid containers such as drums, lidded bins, or lidded skips), and
- disposed of or laundered as soon as reasonably possible. OHS Regulations r220(2)(a)

For more information on the storage of asbestos waste see 'Asbestos waste containment and disposal' on page 56.

## Respiratory protective equipment

99. Employers and asbestos removal licence holders must ensure that persons performing asbestos removal work are provided with appropriate RPE and that it is correctly fitted and suitable for the removal work being performed. OHS Regulations r254(a)(ii) and (b), r276(1)(a)(ii) and (b)

## Selection and level of protection

100. All persons engaged in asbestos removal work need to be provided with RPE that conforms to the requirements of AS/NZS 1716 *Respiratory protective devices* or its equivalent.
101. The selection, use and maintenance of RPE needs to be in accordance with AS/NZS 1715 *Selection, use and maintenance of respiratory protective equipment* and manufacturer's instructions.

The selection of suitable RPE depends on the nature of the asbestos removal work, the probable maximum concentrations of airborne asbestos fibres likely to be encountered and any personal characteristics of the wearer (including medical conditions that may preclude the use of certain types of RPE). If there is uncertainty as to the suitability of a person to wear certain types of RPE (for example, negative pressure RPE), the asbestos removal licence holder or employer needs to seek an assessment by a registered medical practitioner.

# General requirements for all asbestos removal work

102. RPE needs to be provided to individuals for their exclusive use. Employers and asbestos removal licence holders must provide correctly fitted RPE OHS Regulations r254(b), r276(1)(b). A fit test, in accordance with AS/NZS 1715 *Selection, use and maintenance of respiratory protective equipment* and the manufacturer's instructions, needs to be performed to determine if RPE worn for asbestos removal work correctly fits a person's face.
103. Fit tests can either be qualitative (where a low level test contaminant is introduced and there is reliance on the respirator wearer's subjective response as to whether they have detected the contaminant, such as a saccharin mist test) or quantitative (where measuring equipment is used to determine the effectiveness of the respirator to the individual). It is recommended that the results of fit tests for persons performing asbestos removal work be kept and are available to demonstrate that such testing has been successfully undertaken.  
**Note:** 'Fit tests' are different to 'fit checks' which are discussed below.
104. It is recommended that non-disposable RPE be used where a half-face respirator has been determined as providing the required level of respiratory protection, as it is easier to establish if non-disposable RPE correctly fits a person's face.
105. Employers and asbestos removal licence holders need to ensure that persons performing asbestos removal work using negative-pressure respirators that require a facial seal are clean shaven – otherwise a correct fit and the required level of respiratory protection won't be achieved. Persons with beards, stubble or facial hair that come into contact with the respirator's facial seal need to use a continuous flow positive pressure respirator.
106. Where persons performing asbestos removal work wear glasses, a correct fit and facial seal needs to be ensured if full-face respirators are used. If a correct fit and facial seal cannot be ensured, air supply hoods need to be used instead of full-face respirators. However, employers and asbestos removal licence holders need to ensure these hoods provide a sufficient level of protection.
107. The level of respiratory protection required (eg P1, P2, P3 and supplied air respirators) needs to be determined by a person with the requisite knowledge, skills and experience in accordance with the asbestos removal task to be undertaken. For more information on the selection of suitable RPE for particular removal tasks see 'Appendix E – Guide to the selection of respiratory protective equipment' on page 122. RPE suppliers should also be contacted for more information on the selection of suitable RPE.
108. A person with the requisite knowledge, skills and experience (for example, an occupational hygienist) may change the level of respiratory protection at any stage during the removal process following a thorough assessment of the airborne asbestos fibre levels in the asbestos removal area. Typically, this may occur during the final clean-up after Class A asbestos removal work (for example, when the use of air-lines is no longer considered necessary).

# General requirements for all asbestos removal work



Figure 2: Fit check.

Full or half-face respirator fit check:

- close off inlet to filter
- inhale gently
- hold for 10 seconds
- face piece needs to remain slightly collapsed.

## Use and maintenance of respiratory protective equipment

109. Employers and asbestos removal licence holders need to ensure that a fit check (different to a fit test) is performed in accordance with AS/NZS 1715 *Selection, use and maintenance of respiratory protective equipment* and the manufacturer's instructions immediately before people commence asbestos removal work (see Figure 2).

110. RPE needs to be worn in accordance with the manufacturer's instructions with the coverall hood worn over the respirator straps. RPE needs to be worn at all times in the asbestos removal area and until the appropriate stage of personal decontamination (see 'Decontamination facilities and methods' on page 50 and 'The decontamination unit' on page 75). At the end of a shift or at a break, as part of the decontamination process, ensure the respirator is taken off last.
111. RPE that is likely to be contaminated with asbestos must not be removed from the area where asbestos removal is performed unless the RPE is decontaminated (see 'Personal decontamination' on page 52) or contained before removal. OHS Regulations r256(2), r278(2)
112. Where contaminated RPE is contained and removed from the asbestos removal area, it must be disposed of as asbestos waste as soon as reasonably possible (see 'Asbestos waste containment and disposal' on page 56) or stored for the purpose of disposal. OHS Regulations r260, r280, r220(2)(a)
113. The respirator should never be left lying around where it can collect dust and never be dangled around a person's neck.
114. RPE needs to be maintained in a clean and good working condition. All parts, including filters, valves and seals, need to be inspected before and after each use. RPE defects should be reported immediately by the user to the asbestos removal supervisor of the removal job for repair or replacement.

# General requirements for all asbestos removal work

115. The length of time a particulate filter for asbestos removal work is used depends on resistance to breathing and damage to the filter. The filter needs to be replaced when damaged or when resistance increases in accordance with the manufacturer's instructions. It also needs to be replaced before any manufacturer-recommended period has expired. A system of regular cleaning, inspection and maintenance needs to be provided for non-disposable respirators. Records of all respirator uses and maintenance should be established and kept up-to-date (for example, in a log book).
116. Certain brands of filters may not be able to be re-used after being exposed to certain conditions such as a full decontamination shower. Specific advice should be sought from the supplier regarding the effectiveness of a filter after it has been exposed to a decontamination shower to assist in determining whether it may continue to be used or needs to be disposed of as asbestos waste.
117. Disposable RPE (including contaminated filters) used during asbestos removal work must be contained and disposed of as asbestos waste (see 'Asbestos waste containment and disposal' on page 56). Filters should not be cleaned with for example, compressed air, in an effort to extend their life as this may cause damage and increase the risk of exposure to airborne asbestos fibres. Gently patting the respirator/filter with a damp cloth to remove any external dust is recommended as part of the decontamination process.
118. Ensure the correct filter is fitted to the face piece otherwise the respirator will not meet relevant standards and may not provide the required protection.

## Use of air-line respirators

119. Air-line respirators are recommended for certain types of Class A asbestos removal work (for example, dry stripping of friable asbestos in a confined area).
120. Where air-lines are used, they need to incorporate a backup filter. Where failure of the air supply system occurs, people performing asbestos removal work need to leave the asbestos removal area using normal decontamination procedures (see 'Decontamination facilities and methods' on page 50). The use of a backup filter device allows for adequate respiratory protection during this process.
121. If the number of people wearing air-line respirators inside an enclosure is likely to result in the tangling of air-lines, manifolds should be provided to reduce tangling and enable people to move around the enclosure. The capacity of the compressor needs to be adequate for the number of air-lines, and the location of the compressor's air intake needs to be assessed to ensure appropriate air quality and avoid contamination. *AS/NZS 1715 Selection, use and maintenance of respiratory protective equipment* provides guidance on the air quality requirements for supplied-air respirators.



# General requirements for all asbestos removal work

## Training about respiratory protective equipment

122. Employers and asbestos removal licence holders need to provide appropriate training on the safe use of RPE (see 'Information, instruction, training and supervision' on page 32). This should include:

- fit testing
- fit checking
- the importance of a correct facial fit
- the correct method of using their respirators
- the requirements of a regular system of cleaning, inspection and maintenance
- when to stop removal work and leave the area if they think their RPE is not working properly.

**Note:** All training needs to be provided by a person with the requisite knowledge, skills and experience (for example, Certificate IV in training).

123. Effective use of respirators is critical for preventing exposure to airborne asbestos fibres when undertaking asbestos removal work. RPE may not meet AS/NZS 1716 *Respiratory protective devices* if used in ways other than recommended by the manufacturer.
124. All training provided should include an assessment to ensure that those attending the training have understood the content. Regular refresher training on use and maintenance of respirators is recommended.

For more information on training see page 32.

## Signs and barricades

125. An asbestos removal licence holder, employer, or self-employed person performing asbestos removal work must ensure that appropriately placed signs and barricades are used to indicate the area where asbestos removal work is being performed. OHS Regulations r255, r277(a)

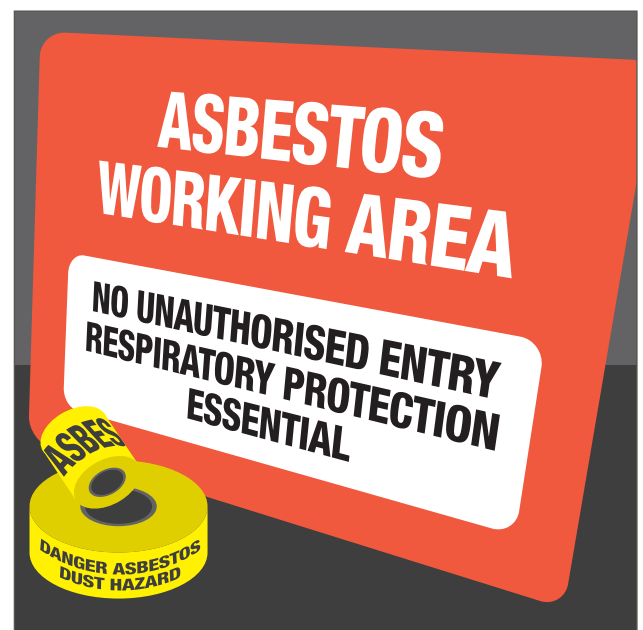


Figure 3: A warning sign informing people of asbestos work in the area.

# General requirements for all asbestos removal work

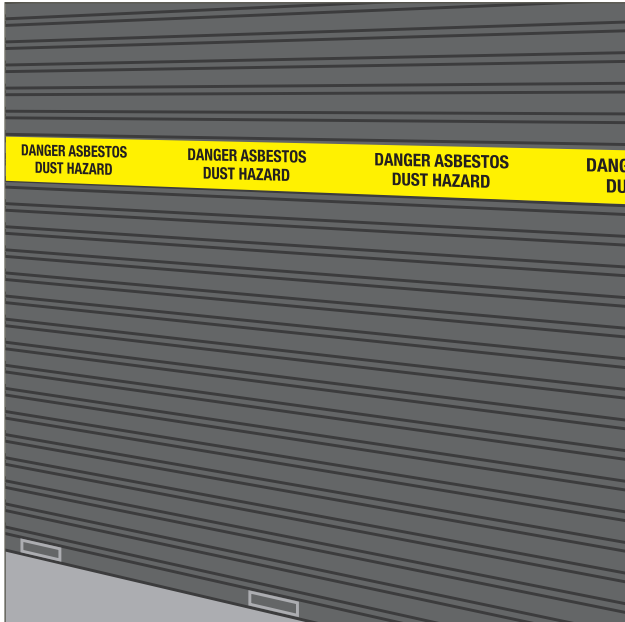


Figure 4: Barrier formed using tape (appropriate for small non-friable removal jobs or as part of system using other barriers such as hoarding).

126. Signs need to be legible and placed securely in prominent locations (such as entry points to the asbestos removal area) to ensure that all nearby people are informed that asbestos removal work is taking place in that area.
127. Signs should be in accordance with AS 1319 *Safety signs for the occupational environment* (for examples of signs see 'Appendix D – Examples of asbestos warning signs' on page 121).
128. Barricades can take various forms, from tape to solid hoarding. The type of barricading needs to reflect the level of risk, for example:
- tape may be appropriate for limited asbestos removal work
  - solid barricades may be appropriate for Class A asbestos removal work.
129. The placement of barricades will depend on the physical environment and needs to reflect the level of risk, for example:
- limited asbestos removal work where ACM is in good condition may use a wall located three metres from the asbestos removal area as the barrier
  - Class A asbestos removal work being performed dry due to electrical restrictions may require a barricade 15 metres from the asbestos removal area.
130. In determining the distance between barriers and the asbestos removal area, the assessment needs to take account of:
- whether the ACM is friable or non-friable
  - activity around the asbestos removal area (eg other workers, visitors, neighbours, the public) – other people's exposure
  - the methods of ACM or ACD removal
  - any existing barriers (eg walls, doors)
  - the quantity of ACM or ACD to be removed
  - the type of barrier used (for example, hoarding or tape).
131. An employer must ensure, so far as is reasonably practicable, that persons other than employees of the employer are not exposed to risks to their health or safety arising from the conduct of the undertaking of the employer. [OHS Act s23](#)

# General requirements for all asbestos removal work

132. In addition to the use of signs and barricades, the asbestos removal licence holder, employer, or self-employed person's system of work needs to include undertaking regular, and in some cases continuous, checks of the asbestos removal area to prevent unauthorised access.
133. An asbestos removal licence holder performing asbestos removal work must ensure that only persons performing asbestos removal work, persons engaged in work incidental to asbestos removal work who require access during that work (for example, an occupational hygienist), and persons with a statutory right to be present (for example, members of Victoria Police and WorkSafe inspectors) have access to the asbestos removal area. [OHS Regulations r277\(b\)](#)
134. All signs and barricades need to remain in place until the asbestos removal work has been completed. For Class A and Class B asbestos removal work, all signs and barricades need to remain in place until a clearance certificate has been obtained before the asbestos removal area is re-occupied (see 'Clearance to re-occupy an asbestos removal area' on page 102).

## Tools and equipment

135. Tools and equipment include Dust Class H vacuum cleaners, manually operated hand tools (such as chisels and spatulas), power tools (where permitted), and low-pressure spray equipment to suppress airborne dust.

A employer must provide and maintain plant that is, so far as is reasonably practicable, safe and without risks to health. [OHS Act s21\(2\)\(a\)](#)

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 conduct of the undertaking of the self-employed person. [OHS Act s24\(1\)](#) This includes ensuring that plant is safe and without risks to health.

For information about plant go to [worksafe.vic.gov.au](http://worksafe.vic.gov.au).

## Dust Class H vacuum cleaners

136. Vacuum cleaners used to collect asbestos need to be designed and constructed in accordance with the Dust Class H (high hazard) requirements of AS/NZS 60335.2.69 *Household and similar electrical appliances – safety – particular requirements for wet and dry vacuum cleaners, including power brush, for commercial use* or its equivalent.
137. Filters for Dust Class H vacuum cleaners (commonly referred to as Class H filters) need to conform to the requirements of AS 4260 *High efficiency particulate air (HEPA) filters – classification, construction and performance* or its equivalent. Asbestos removal licence holders, employers, and self-employed persons need to ensure Class H filters have a performance of Grade 3 or higher to achieve the efficiency referred to in Annex AA of AS/NZS 60335.2.69 (fibre penetration of less than 0.005%).

# General requirements for all asbestos removal work

Equivalent standards may have other filter classification systems, for example the European Standard EN 1822 *High efficiency particulate air filters* would require the filter to be classed as H14.

138. Employers should request written confirmation from suppliers that Dust Class H vacuum cleaners that are in use, or are intended to be used, conform with the above standards.



Figure 5: A Dust Class H vacuum cleaner.

**Warning:** Domestic vacuum cleaners should never be used as they are not designed and constructed in accordance with the Dust Class H (high hazard) requirements of AS/NZS 60335.2.69 *Household and similar electrical appliances – safety – particular requirements for wet and dry vacuum cleaners, including power brush, for commercial use.*

139. Dust Class H vacuum cleaners should only be used for collecting small pieces of asbestos, dust and debris. Larger pieces should be picked up and placed in a suitable asbestos waste container. Larger pieces of asbestos should never be broken into smaller sizes for vacuuming.
140. Dust Class H vacuum cleaners should not be used for vacuuming wet materials because this can damage the HEPA filter.
141. Ensure the correct attachment to the Dust Class H vacuum cleaner for the type of surface being cleaned is used. Note that brush attachments are difficult to clean properly and therefore are not recommended.
142. In order to provide and maintain a safe working environment, employers need to establish general maintenance procedures in relation to Dust Class H vacuum cleaners (including emptying) that are in accordance with manufacturer instructions to prevent exposure to airborne asbestos fibres. This needs to be done in a controlled environment by a person with the requisite knowledge, skills and experience whilst wearing appropriate PPE. It may be safer to empty the vacuum cleaner in the asbestos removal area to avoid cross contamination.
143. Asbestos removal licence holders, employers, and self-employed persons must ensure that any equipment that is used for asbestos removal work that is likely to be contaminated (for example, a Dust Class H vacuum cleaner and its attachments) is decontaminated or placed in a sealed container, the exterior of which is decontaminated (for example, by wet wiping), before removal from the area where the removal work is performed (see 'Decontaminating equipment' on page 51). OHS Regulations r257, r278(3)

# General requirements for all asbestos removal work

144. The Dust Class H vacuum cleaner case, hose and attachments need to be visually inspected and cleaned with the vacuum cleaner, followed by damp rags (see 'Appendix P – How to use rags to clean asbestos contamination from smooth surfaces and equipment' on page 154). Place a cap over the opening to the vacuum cleaner when the attachments are removed.
145. When required, remove the waste bag and filter in accordance with the manufacturer's instructions and dispose of them as asbestos waste. Wipe the inside and outside of the vacuum cleaner with damp rags (dispose of rags as asbestos waste after use).
146. In between removal jobs, the vacuum cleaner needs to be isolated, stored in a sealed container, and identified as being exposed to asbestos to prevent untrained persons using it for other general purposes.
147. Whenever possible, a Dust Class H vacuum cleaner should not be hired as it can be difficult to fully decontaminate. If hiring is necessary, a Dust Class H vacuum cleaner needs to be:
  - hired from organisations that supply Dust Class H vacuum cleaners specifically for work with asbestos, and
  - transported in a sealed airtight storage container with instructions that it may be removed only when it is inside the asbestos removal area and users are wearing appropriate PPE.
148. Organisations that supply Dust Class H vacuum cleaners need to ensure, so far as is reasonably practicable, that vacuum cleaners, filters and bags are maintained in good working order and continue to meet the relevant standards.
149. Employers and asbestos removal licence holders need to provide appropriate training on the safe use of Dust Class H vacuum cleaners (see 'Information, instruction, training and supervision' on page 32). This includes ensuring any person undertaking the task of emptying Dust Class H asbestos vacuum cleaners has the appropriate level of training and is provided information and instruction on how to safely perform the task.

**Warning:** Unless proper precautions are taken, persons may be exposed to airborne asbestos fibre levels exceeding the asbestos exposure standard.

## Tools and instruments

150. Asbestos removal licence holders, employers, and self-employed persons need to ensure that appropriate tools are selected for asbestos removal work to eliminate or reduce the release of airborne asbestos fibres. Such tools may include scrapers, chisels, bolt-cutters and screwdrivers.
151. A broom, brush, high-pressure water jet, power tool, or other similar tool or instrument must not be used or caused to be used on asbestos unless the use is controlled (see 'Use of certain tools or instruments on asbestos' on page 13). **OHS Regulations r216(1)** This prohibition does not apply if airborne asbestos fibre levels do not exceed of 0.01 f/ml while the tool or instrument is in use. **OHS Regulations r216(2)**

# General requirements for all asbestos removal work

152. The use of the tool or instrument is controlled if, while the tool is in use, the tool or instrument is enclosed, engineering controls are used, or a combination of these methods are used so that a person is not likely to be exposed to more than one half of the asbestos exposure standard. OHS Regulations r216(3) Respiratory protective equipment must not be relied on to ensure that one half the exposure standard is not exceeded. OHS Regulations r216(4) The use of such a tool or instrument may require atmospheric monitoring to demonstrate that exposure is not likely to exceed half the exposure standard.
153. The use of power tools in asbestos removal work should be avoided because of the potential generation of airborne asbestos fibres and the possibility of internal contamination of the tool (which commonly occurs with such devices).
154. Instead, manually operated hand tools are recommended. If they are not adequate, low-speed battery powered tools may be appropriate. Battery-powered tools fitted with a local exhaust ventilation dust control hood are recommended if the use of manually operated hand tools is not appropriate. The requirements for the use of power tools referred to on page 13 also apply to battery powered tools.
155. Asbestos removal licence holders, employers, and self-employed persons must ensure that any equipment that is used for asbestos removal work that is likely to be contaminated (for example, tools and equipment) is decontaminated or placed in a sealed container the exterior of which is decontaminated (for example, by wet wiping) before removal from the area where the removal work is performed (see 'Decontaminating equipment' on page 51). OHS Regulations r257, r278(3)
156. If tools and equipment cannot be decontaminated in the asbestos removal area and are to be re-used at another asbestos removal area, they need to:
- be tagged to indicate asbestos contamination
  - be double bagged in clearly labelled asbestos bags with an appropriate warning statement (the exterior of the sealed container must be decontaminated before being removed from the asbestos removal area)
  - remain sealed until they have been decontaminated or the commencement of the next asbestos removal/maintenance task (where the equipment can be taken into the asbestos removal area and re-used under controlled conditions).

## Spray equipment

157. Asbestos removal licence holders, employers and self-employed persons needs to ensure that a constant low-pressure water supply is used to wet down ACM and related items to control the release of airborne asbestos fibres. This can be achieved with a mains-supplied garden hose fitted with a pistol grip on an appropriate mist setting. If no water supply is readily available, a portable pressurised vessel (such as a pump-up garden sprayer) may be used. For very small areas, a small spray water bottle may be sufficient. In all cases, the use of water needs to be in the form of a mist to minimise the potential to generate airborne dust (see Figure 6).





Figure 6: Spray using a low-pressure sprayer.

**Warning:** High-pressure spray equipment must not be used or caused to be used on asbestos unless the use is controlled. OHS Regulations r216(1) The use of high-pressure spray equipment is not recommended as it is unlikely that exposure to airborne asbestos fibres will be able to be controlled.

## Methods of removing ACM

158. Asbestos removal licence holders, employers and self-employed persons must ensure that the asbestos removal work is performed in a manner that, so far as is reasonably practicable, eliminates the release of airborne asbestos fibres and prevents contamination of areas adjacent to the asbestos removal area. OHS Regulations r258, r274
159. A Class A asbestos removal licence holder must, so far as is reasonably practicable, enclose the area where Class A asbestos removal work is performed so as to prevent the release of airborne asbestos fibres (see 'Additional requirements for Class A asbestos removal work' on page 85). OHS Regulations r286(1)
160. Where Class B asbestos removal work is performed, an asbestos removal licence holder should, so far as is reasonably practicable, enclose the area to prevent the release of airborne asbestos fibres.
161. A Class A asbestos removal licence holder must, so far as is reasonably practicable, use a wet method when performing Class A asbestos removal work. OHS Regulations r286(3)
162. Where limited asbestos removal work or Class B asbestos removal work is performed, an asbestos removal licence holder, employer or self-employed person needs to, so far as is reasonably practicable, use a wet method to prevent the release of airborne asbestos fibres.

A **wet method** means the use of water or another wetting agent to soak or totally saturate the asbestos, or the spraying of water or another wetting agent on the asbestos.

# General requirements for all asbestos removal work

## Wet spray method (preferred)

163. A fine water mist spray needs to be applied to the ACM in a manner that ensures the entire surface of the ACM is saturated but minimises run-off. During asbestos removal work ACM needs to be maintained in a wet condition.
164. In many instances it is helpful if a wetting agent (surfactant), such as detergent, is added to the water as this facilitates more rapid wetting of the ACM.
165. A manually controlled, consistent low-pressure, fine spray (such as from an adjustable pistol-grip garden hose) should be used.
166. The design of the spraying equipment will depend on the availability of a water supply and access to the area to be sprayed.
167. The water spray needs to be copious but not so forceful that the water droplets generate airborne asbestos fibres when they hit the surface of the ACM.
168. Immediately after the ACM is removed from its fixed/installed position, it should also be sprayed on sides previously not exposed.
169. When cutting equipment is being used to remove friable ACM, the water spray needs to be directed at the site of the cut and the wet material should be removed as the cut progresses. The wet ACM should be removed in sections and any small sections that might be dislodged collected for disposal.
170. Asbestos waste must be contained and disposed of as soon as is reasonably possible in an appropriate manner that eliminates the release of airborne asbestos fibres (see 'Asbestos waste containment and disposal' on page 56).
171. The wet spray method may not be not reasonably practicable where:
  - ACM is covered with other materials such as calico or metal cladding which require prior removal – in this case the ACM should be wet as the cover is being removed from each section
  - ACM is coated with paint or mastic
  - rapid temperature drop caused by excessive water will damage heated metal components
  - live electrical conductors are present and damage to electrical equipment can arise from the ingress of water.
172. Although airborne asbestos fibres are significantly suppressed when the wet spray method is used, employers and asbestos removal licence holders must ensure that persons performing asbestos removal work are provided with appropriate RPE that is suitable for the removal work being performed and correctly fitted (see 'Respiratory protective equipment' on page 37).
173. Consideration should be given to applying a polyvinyl acetate (PVA) emulsion as it may be more effective than water (with a wetting agent) in reducing the release of airborne asbestos fibres.
174. Wherever reasonably practicable, a Dust Class H vacuum cleaner needs to be used in conjunction with the wet spray method (for example, prior to spraying ACM with water, dust spread over a large area may be collected using the Dust Class H vacuum cleaner).

# General requirements for all asbestos removal work

## Dry removal method (not preferred)

175. There is a much greater potential for airborne asbestos fibres to be generated with the dry removal method than the wet spray method.
176. Where a wet method is not reasonably practicable (for example, if there are live electrical conductors or if major electrical equipment could be permanently damaged or made dangerous by contact with water), the dry removal method needs to be used.
177. The ACM needs to be removed in small, pre-cut sections with minimal disturbance to reduce the generation of airborne asbestos fibres as much as possible. Non-friable ACM should be removed in whole sections without being cut. Wherever reasonably practicable, a Dust Class H vacuum cleaner needs to be used and asbestos waste needs to be immediately placed in appropriate wet containers.
178. Asbestos waste must be contained and disposed of as soon as is reasonably possible in an appropriate manner that eliminates the release of airborne asbestos fibres (see 'Asbestos waste containment and disposal' on page 56).
179. Where friable ACM is removed, Class A asbestos removal licence holders need to provide persons performing asbestos removal work with full-face positive-pressure supplied air-line respirators (see 'Appendix E – Guide to the selection of respiratory protective equipment' on page 122). Any change to a lower standard of RPE needs to be on the basis of an assessment by a person with the requisite knowledge, skills and experience based on the likely level of a person's exposure while undertaking the asbestos removal work.

## Saturation and wet injection (friable ACM)

180. This method involves injecting water or a water-based solution directly into friable ACM. It is a process that requires specific training in relation to the use of the equipment and the process.
181. The asbestos is soaked by the introduction of water or other wetting agents through an appropriate applicator that consists of an injection head with numerous side holes or outlets through which the water or wetting agents is fed to the asbestos.
182. To facilitate more rapid wetting of the asbestos, holes or cuts should be made in the outer covering to enable the water or wetting agent to be injected in such a manner as to ensure that the asbestos is saturated but not just washed out through a liquid passage. Care should be taken to ensure that the ACM is not soaked so heavily that it becomes difficult to handle resulting in the unnecessary spread of asbestos waste.
183. The soaking should be done before removal. The quantity of water or wetting agent and the time to soak will depend on the thickness of the asbestos, access to the asbestos and location of the holes.
184. The saturated asbestos should then be removed in sections. Asbestos waste must be contained and disposed of as soon as is reasonably possible in an appropriate manner that eliminates the release of airborne asbestos fibres (see 'Asbestos waste containment and disposal' on page 56).

# General requirements for all asbestos removal work

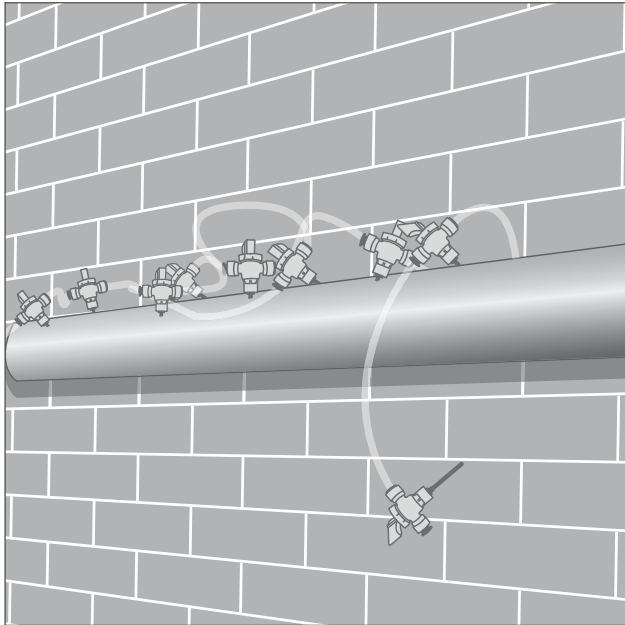


Figure 7: Wet injection method equipment

## Methods of removing ACD

185. The methods outlined in the 'Decontaminating the work area' section may assist in controlling the generation of airborne asbestos fibres when removing ACD. The procedure outlined in Appendix I provides additional guidance on how to remove ACD as part of Class A asbestos removal work (see page 135).

## Decontamination facilities and methods

186. An asbestos removal licence holder, employer or self-employed person performing asbestos removal work must provide facilities for:

- decontamination of the work area
- decontamination of tools and equipment, and
- personal decontamination

for the duration of the asbestos removal work that are suitable for the work being performed.

OHS Regulations r256(1), r278(1)

187. An assessment of the asbestos removal work to be performed needs to be undertaken in each instance to determine a suitable decontamination procedure.

188. Employers and asbestos removal licence holders need to provide appropriate training on decontaminating the work area, equipment and personal decontamination (see 'Information, instruction, training and supervision' on page 32).

## Decontaminating the work area

189. Two types of decontamination method may be used when decontaminating the asbestos removal area – wet and dry decontamination. As part of decontamination, particular attention should be paid to walls, ledges, fittings and furnishings where ACD and debris may accumulate.

# General requirements for all asbestos removal work

190. **Wet decontamination (or wet/damp wiping)** involves the use of damp rags to collect settled ACD (see 'Appendix P – How to use rags to clean asbestos contamination from smooth surfaces and equipment' on page 154). Wherever reasonably practicable, a Dust Class H vacuum cleaner needs to be used in conjunction with the wet decontamination method (for example, prior to using damp rags to collect any residual dust). For very small non-friable asbestos removal work, use of damp rags alone may be adequate.
191. Wet wiping may be used in an area that is isolated where persons are wearing appropriate PPE and bigger pieces of debris have been picked up and placed in asbestos waste containers. Cotton rags that do not leave bits on clean surfaces may be soaked in a bucket of water, folded in half or quarters and wrung out. The rag can then be used to wipe the contaminated surface and may be re-folded so a clean surface of the rag is used (this may be repeated until all clean surfaces of the rag are used). All used rags must be disposed of as asbestos waste (see 'Asbestos waste containment and disposal' on page 56).
192. If work is to be carried out near electrical hazards, risks associated with electrocution and electric shock need to be controlled.
193. **Dry decontamination** should only be used where wet methods are not suitable or pose a risk because of other hazards such as electricity or slipping. Dry decontamination procedures include carefully rolling or folding up plastic sheeting and/or vacuuming the asbestos removal area with a Dust Class H vacuum cleaner.
194. Vacuuming may be used in an area that is isolated and where persons are wearing appropriate PPE. Dust Class H vacuum cleaners should only be used for collecting small pieces of asbestos, dust and debris. Larger pieces should be picked up and placed in a suitable asbestos waste container. Larger pieces of asbestos should never be broken into smaller sizes for vacuuming (see 'Dust Class H vacuum cleaners' on page 43).

## Decontaminating equipment

195. An asbestos removal licence holder, employer, or self-employed person performing asbestos removal work must ensure that equipment (other than PPE) that is used for asbestos removal work, and is likely to be contaminated with asbestos, is decontaminated before being removed from the asbestos removal area or placed in a sealed container. The exterior of the sealed container must be decontaminated before it is removed from the asbestos removal area. [OHS Regulations r257, r278\(3\)](#) The decontamination method used depends on its practicality, the level of contamination and the presence of any electrical hazards.

**Warning:** Never re-soak a rag contaminated with asbestos as this will contaminate the water. If contamination of the bucket of water is avoided, no special precautions are needed for disposal of the water.

# General requirements for all asbestos removal work

196. If tools and equipment cannot be decontaminated in the asbestos removal area and are to be re-used at another asbestos removal area, they need to:
- be tagged to indicate asbestos contamination
  - be double bagged in clearly labelled asbestos bags with an appropriate warning statement (the exterior of the sealed container must be decontaminated before being removed from the asbestos removal area)
  - remain sealed until they have been decontaminated or the commencement of the next asbestos removal/maintenance task (where the equipment can be taken into the asbestos removal area and re-used under controlled conditions).
197. PPE needs to be worn when opening any sealed container containing asbestos contaminated equipment to clean or re-use the equipment or tools and decontamination can only be performed in a controlled environment (see 'Dust Class H vacuum cleaners' on page 43).
198. In some circumstances it may be more practical to dispose of contaminated tools and equipment depending on the level of contamination, difficulty of decontamination, and the ease of replacement.

## Personal decontamination

199. Asbestos removal licence holders, employers, and self-employed persons performing asbestos removal work must provide personal decontamination facilities for the duration of the asbestos removal work that are suitable for the work being performed.

OHS Regulations r256(1), r278(1)

200. The type of personal decontamination facilities that are suitable needs to be determined by a person with the requisite skills, knowledge and experience, and will depend on the:
- quantity, condition (for example, ACM that has sustained damage or deterioration), type of ACM
  - whether friable ACM is present
  - the likelihood of ACD and debris being generated
  - difficulty in performing the removal (for example, asbestos removal work will be performed in areas that are difficult to access)
  - level of airborne asbestos fibres likely to be generated (for example, asbestos can be removed with minimal disturbance)
  - the asbestos removal method used
  - available cleaning/washing facilities at the site (eg running hot/cold water is available in the barricaded area, waste water can be captured/filtered)
  - duration of the task.

**Note:** Where friable asbestos is present or it has been determined that non-friable ACM may become friable as a result of the work processes used, a Class A asbestos removal licence holder must be engaged to perform the asbestos removal work.

201. An asbestos removal licence holder needs to ensure that persons performing asbestos removal work are informed, instructed and trained in the proper use of decontamination facilities (including decontamination units when used) (see 'Information, instruction, training and supervision' on page 32).



# General requirements for all asbestos removal work

For Class A asbestos removal work, decontamination units need to be used (see 'The decontamination unit' on page 75) except where the following asbestos removal methods are used:

- *glove bag* removal (see page 94),
- *wrap and cut* removal (see page 97)
- friable ACM gasket removal (the decontamination procedure outlined in paragraphs 209 to 221 should be followed)
- *mini enclosure* removal (which may require a combination of the personal decontamination procedure outlined in paragraphs 207 to 218 and page 91).

For Class B asbestos removal work, an assessment of the asbestos removal work to be performed needs to be undertaken by a person with the requisite skills, knowledge and experience to determine if a decontamination unit needs to be used to ensure appropriate decontamination (see 'The decontamination unit' on page 75).

For example, an assessment may determine that a decontamination unit is needed to ensure appropriate decontamination for Class B asbestos removal work involving 200 square metres of non-friable ACM and associated ACD at a warehouse where there are no suitable cleaning facilities and the asbestos removal work is likely to generate considerable dust.

For example, an assessment may determine that a decontamination unit is not needed to ensure appropriate decontamination for Class B asbestos removal work involving 50 square metres of ACM at a domestic premises that is in good condition and can be removed with minimal disturbance. However, where ACM has deteriorated, there is a likelihood that the removal method will damage or disturb the ACM, and asbestos removal work is likely to generate considerable dust, a decontamination unit should be considered.

202. Personal decontamination needs to be undertaken each time a person leaves the asbestos removal area. Personal decontamination needs to be performed within the asbestos removal area where re-contamination cannot occur.
203. Personal protective clothing or PPE that is likely to be contaminated with asbestos must not be removed from the asbestos removal area unless it is decontaminated or contained before removal.

OHS Regulations r256(2), r278(2)

# General requirements for all asbestos removal work

204. Before personal protective clothing and footwear worn during asbestos removal work are removed, they need to be decontaminated to the point where the generation of airborne dust from the subsequent handling of the clothing and footwear is minimised. This should be done by vacuuming with a Dust Class H vacuum cleaner to remove any asbestos fibres (see page 43). Alternatively wet wiping with a damp rag or application of a fine water mist spray may be undertaken (see 'Removal of small quantities of non-friable ACM' on page 54). Footwear needs to be wet-wiped.
205. RPE can only be removed after:
- decontaminating personal protective clothing and footwear (as described above)
  - bagging personal protective clothing for disposal (or laundering)
  - completing personal washing.

## Removal of small quantities of non-friable ACM

206. The personal decontamination procedure outlined in this section should be followed where the quantity of non-friable ACM to be removed is:
- permitted as limited asbestos removal work, or
  - Class B asbestos removal work where an assessment by a person with the requisite skills, knowledge and experience has determined that a decontamination unit is not needed to ensure appropriate decontamination.

207. The type of personal decontamination facilities that are suitable needs to be determined by a person with the requisite skills, knowledge and experience, and will depend on the:
- quantity, condition of ACM (for example, ACM that has sustained damage or deteriorated)
  - the likelihood of ACD and debris being generated
  - difficulty in performing the removal (for example, asbestos removal work will be performed in areas that are difficult to access)
  - level of airborne asbestos fibres likely to be generated (for example, asbestos can be removed with minimal disturbance)
  - the asbestos removal method used
  - available cleaning/washing facilities at the site (eg running hot/cold water is available in the barricaded area, waste water can be captured/filtered)
  - duration of the task.
208. Where there is potential for coveralls to become quickly contaminated with ACD, the use of double coveralls needs to be considered to minimise the quantity of ACD that penetrates the coveralls. An isolated changing area should be established where outer coveralls can be removed and disposed of before entering the decontamination area.

# General requirements for all asbestos removal work

209. Establish a decontamination area. This area needs to be selected so that it:
- is isolated from the asbestos removal area
  - includes sufficient space for equipment decontamination
  - has access routes that allow persons to leave the asbestos removal area and not re-enter it after personal decontamination.
210. Personal decontamination needs to be undertaken each time persons leave the asbestos removal area.
211. Personal protective clothing or PPE that is likely to be contaminated with asbestos must not be removed from the asbestos removal area unless it is decontaminated or contained before removal.  
OHS Regulations r256(2), r278(2)
212. Before personal protective clothing and footwear worn during asbestos removal work are removed, they need to be decontaminated to the point where the generation of airborne dust from the subsequent handling of the clothing and footwear is minimised. This should be done using a Dust Class H vacuum cleaner (see page 43) or wet wiping with a damp rag (see 'Appendix P – How to use rags to clean asbestos contamination from smooth surfaces and equipment' on page 154).
213. Damp rags should be used with a gentle patting action (rubbing can disturb fibres) or spray overalls with a fine water mist spray to suppress ACD. Where there are two persons, they can use a 'buddy' cleaning system.



Figure 8: 'Buddy' cleaning – decontaminating colleagues with a Dust Class H vacuum cleaner.

214. Disposable coveralls need to be carefully peeled off (while still wearing the respirator). They need to be peeled off inside out and then placed in an asbestos waste container. Footwear needs to be wet-wiped.
215. Disposable yet durable coveralls are recommended (disposable coveralls that can be easily torn are not suitable and should not be worn) (see 'Coveralls' on page 34). If non-disposable coveralls are used, they need to be removed damp and immediately wet down with a fine water mist, then placed in sealed containers with labels to identify that the container holds asbestos-contaminated clothing before being provided for laundering (see 'Laundering of clothing contaminated with asbestos' on page 83).

# General requirements for all asbestos removal work

216. RPE can only be removed after:
- decontaminating personal protective clothing and footwear (as described above)
  - bagging personal protective clothing for disposal (or laundering).
217. Disposable RPE must be disposed of as asbestos waste (see 'Asbestos waste containment and disposal' on page 56). If non-disposable RPE is used, it needs to be decontaminated while still being worn by gently patting it with a damp rag. Used asbestos-contaminated rags must be disposed of as asbestos waste (see 'Asbestos waste containment and disposal' on page 56).
218. After removing the respirator, persons need to wash their face and hands, paying particular attention to their fingernails.
219. If site washing facilities are used, asbestos removal licence holders, employers, and self-employed persons performing asbestos removal work need to restrict access by other people during asbestos removal work. Site washing facilities need to be cleaned daily and at the end of the job with wet rags. Inspect the facilities once the job is finished to ensure the area is clean.
220. The above method of personal decontamination might be suitable after the removal of the following non-friable ACM:
- an asbestos (Zelemite) electrical switchboard
  - small amounts of AC sheeting
  - small amounts of vinyl floor covering
  - minor amounts of asbestos debris
  - AC conduits and in ground surface pits.

221. However, where these forms of ACM are friable, more extensive decontamination procedures are required (see 'The decontamination unit' on page 75).

**Note:** if vinyl floor covering is identified as having a friable backing the asbestos removal work must be performed by a Class A asbestos removal licence holder and more extensive decontamination procedures are required (see 'The decontamination unit' on page 75).

## Asbestos waste containment and disposal

222. The asbestos removal licence holder, employer or self-employed person performing asbestos removal work need to have a system of work for containing and disposing of the asbestos waste.

**Asbestos waste** means asbestos removed and disposable items used during asbestos removal work including plastic sheeting and disposable personal protective clothing and disposable personal protective equipment including tools. [OHS Regulations r5](#)

# General requirements for all asbestos removal work

## Waste containment and disposal program

223. A waste containment and disposal program needs to take into account the following matters:
- the containment of asbestos waste so as to eliminate the release of airborne asbestos fibres
  - labelling to indicate the presence of the asbestos waste
  - the location and security of asbestos waste stored on site for disposal
  - the transport of asbestos waste within the site and off site
  - the location of a waste disposal site licensed or exempted by the EPA
  - any approvals and site requirements that may apply to the waste disposal site licensed or exempted by the EPA (for example, the amount and dimensions of asbestos waste that can be disposed of).

## General requirements

224. Asbestos waste must be contained so as to eliminate the release of airborne asbestos fibres. [OHS Regulations r259\(a\), r279\(a\)](#) Containment may be achieved by the use of double asbestos waste bags or heavy-duty polythene sheeting (minimum 200 micron thickness), a polythene-lined drum or bin, or a double-lined skip. Loose asbestos waste should not be allowed to accumulate within the asbestos removal area.
225. Unused asbestos waste bags and heavy-duty polythene sheeting (minimum 200 micron thickness) should be used.

**Note:** Asbestos waste bags should not be used for any other purpose. Heavy-duty polythene sheeting used to enclose the asbestos removal area and disposable items used to for the enclosure must be disposed of as asbestos waste (see 'Dismantling an asbestos removal enclosure' on page 90).

226. To reduce the risk of airborne asbestos fibres, controlled wetting of asbestos waste needs to be performed when bagging or sealing waste in heavy-duty polythene sheeting, or when bags or sheeting containing asbestos waste are ruptured and require repackaging.
227. The exterior of the asbestos waste container (for example, asbestos waste bags or wrapped bundles) must be decontaminated before being removed from the asbestos removal area and must indicate the presence of asbestos. [OHS Regulations r259\(b\), r279\(b\)](#)
- Note:** The inner bag or lining of asbestos waste that is double lined or double bagged needs to be sealed independent of the outer bag or lining resulting in a package within a package.
228. The methods used to transport asbestos waste through a workplace need to, so far as is reasonable practicable, eliminate or reduce the exposure of persons at the workplace to airborne asbestos fibres.
229. The routes used for removing asbestos waste from the asbestos removal area need to be designated before asbestos removal work commences, preferably as part of the asbestos control plan (see 'Asbestos control plan' on page 67).
230. The methods used to transport asbestos waste through a building needs to be determined by a person with the requisite knowledge, skills and experience (following discussions with the asbestos removal licence holder, employer or self-employed person performing asbestos removal work).

# General requirements for all asbestos removal work

231. In occupied buildings, the transport of asbestos waste through a building should take place outside of normal working hours.
232. Once removed from the asbestos removal area, asbestos waste must be:
  - disposed of as soon as reasonably possible, or OHS Regulations r260, r280
  - stored for the purpose of disposal (see 'Disposal of asbestos waste' on page 59). OHS Regulations r220(2)(a)
233. Prior to packaging asbestos waste, the waste disposal site licensed or exempted by the EPA to which the asbestos waste is to be taken should be contacted to establish any specific packaging requirements they may have.
234. If anything is to be taken out of the asbestos removal area for re-use, the items need to be inspected by a person with the requisite knowledge, skills and experience to establish there is no residual asbestos on the items. Items may include a structural beam previously covered with sprayed asbestos or light fixtures from an asbestos-contaminated ceiling space.

## Bags for containing asbestos waste

235. Asbestos waste, such as friable ACM and small pieces of non-friable ACM, needs to be contained in asbestos waste bags (minimum 200 micron thickness). To assist in manual handling, asbestos waste bags should not be more than 1200mm long and 900mm wide. The exterior of each asbestos waste container (including asbestos waste bags) must indicate the presence of asbestos, for example by being labelled with an appropriate warning (see Figure 9). OHS Regulations r259(b)(ii), r279(b)(ii)

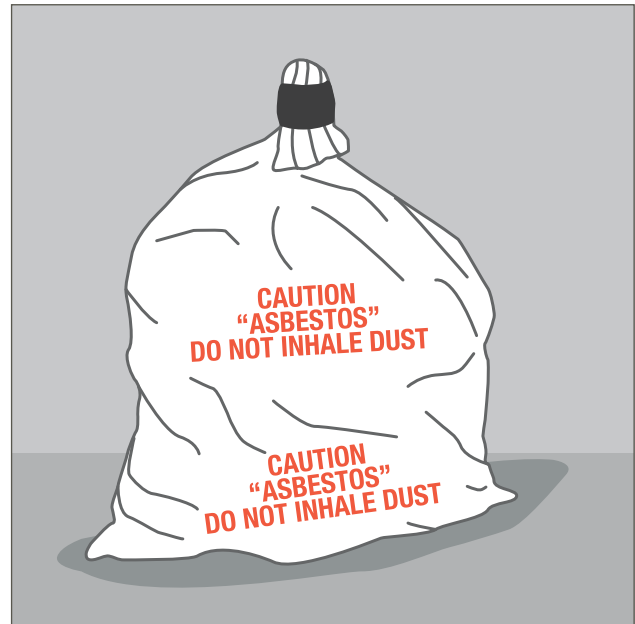


Figure 9: An asbestos waste bag with appropriate warnings.

236. Preliminary sealing or a protective covering should be used for hard and sharp asbestos waste before it is placed in a waste bag to minimise the risk of damage to the bags.
237. To further minimise the risk of a bag tearing or splitting and to assist in manual handling, asbestos waste bags should not be filled more than half full and excess air gently evacuated from the asbestos waste bag in a way that does not cause the release of dust. Depending on the weight of the items placed in the bag, half filling a bag may be excessive.
238. All asbestos waste needs to be double bagged outside the asbestos removal area immediately following the decontamination process. Bags then need to be twisted tightly and have the neck folded over and secured with appropriate adhesive tape (for example, cloth tape with a plastic coating that can be easily decontaminated) (referred to as goose-necking).



# General requirements for all asbestos removal work

239. If a decontamination unit is being used, asbestos waste bags need to be removed from the asbestos removal area using the following 'production line' operation:
- One worker is located in each section of the decontamination unit.
  - Asbestos waste bags are passed from cubicle to cubicle and 'showered out' to remove any asbestos residue.
  - Once they have been removed from the decontamination unit, asbestos waste bags are double bagged prior to disposal.

## Polythene sheeting for containing asbestos waste

240. Asbestos, such as asbestos sheeting and redundant asbestos lagged pipes and equipment, needs to be double wrapped in heavy-duty polythene sheeting (minimum 200 micron thickness).
241. Appropriate adhesive tape (for example, cloth tape with a plastic coating that can be easily decontaminated) needs to be used to ensure that wrapped bundles are sealed by taping entire length of each overlapping sheet. Wrapped bundles need to be of a size that reduce the risk of the polythene sheeting tearing or splitting and/or a manual handling injury occurring.
242. The exterior of each asbestos waste container (including wrapped bundle) must indicate the presence of asbestos, for example by being labelled with an appropriate warning.  
OHS Regulations r259(b)(ii), r279(b)(ii)

## Disposal of asbestos waste

243. An asbestos removal licence holder, employer or self-employed person performing asbestos removal work must ensure that asbestos waste is disposed of as soon as reasonably possible in an appropriate manner that eliminates the release of airborne asbestos fibres at a waste disposal site licensed or exempted by the EPA. OHS Regulations r260, r280 Generally, this means the asbestos waste should be disposed of at the end of each day, when an asbestos waste container is full, or at the end of the asbestos removal job.
244. The transport and disposal of asbestos waste must be undertaken in accordance with the OHS Regulations and EPA requirements. The person engaged to transport asbestos waste for disposal purposes needs to ensure that:
- asbestos waste is contained so as to eliminate the release of airborne asbestos fibres
  - the asbestos waste is transported in an EPA permitted vehicle and using waste transport certificates
  - the vehicle is fit for purpose and meets the requirements outlined in the EPA vehicle guidelines
  - the driver holds a driver training certificate in the handling or transport of asbestos waste
  - asbestos waste containers are secure during transport
  - the method of unloading the asbestos waste is safe.

# General requirements for all asbestos removal work

245. With EPA approval, very small quantities of asbestos waste may be brought back to a central location (for example, main workshop) where the asbestos waste is stored for disposal in a labelled, secure container. This container is then taken to a waste disposal site licensed or exempted by the EPA once it is full. This approach may be appropriate where a company, such as a utilities company, occasionally removes small quantities of ACM (for example, electric meter boards) or an asbestos removal licence holder has removed a very small quantity of ACM (for example, two square metres). EPA Victoria should be contacted to establish whether such storage, until disposal, is acceptable.

For information on licensing of waste transport vehicles and waste disposal sites licensed or exempted by the EPA go to [epa.vic.gov.au](http://epa.vic.gov.au).

246. Asbestos waste stored for the purposes of disposal at the asbestos removal site must be stored securely (for example, in locked areas or containers), identified to indicate the likely or actual presence of asbestos (for example, labelled), and contained so as to eliminate the release of asbestos fibres (for example, in solid containers such as drums, lidded bins, or lidded skips).  
OHS Regulations r220(2)(a)

## Medical examinations

247. The purpose of medical examinations is to monitor the health of persons performing asbestos removal work to identify changes in their health status due to occupational exposure to asbestos.
248. An employer performing limited asbestos removal work must arrange for appropriate medical examinations to be conducted by a registered medical practitioner for each person engaged in **ongoing asbestos removal work** if there is a risk of exposure to airborne asbestos fibres in excess of one half of the exposure standard. OHS Regulations r262(1) RPE must not be taken into account in establishing whether there is a risk of exposure to airborne asbestos fibres in excess of one half of the asbestos exposure standard. OHS Regulations r262(2)

*Ongoing asbestos removal work* is limited asbestos removal work that is not a 'one off' and will continue as part of the employer's regular or routine work.

For example, a company provides plumbing services which occasionally include removing non-friable AC sheeting for the purposes of accessing piping in wall cavities. Although RPE is worn while undertaking this activity, as there is a risk of exposure to airborne asbestos fibres in excess of one half of the exposure standard, this would be considered to be ongoing asbestos-removal work.

# General requirements for all asbestos removal work

249. The employer must ensure that medical examinations are provided:
- before the employee commences limited asbestos removal work for the first time for that employer unless the employee has had an appropriate medical examination within the preceding two years, or [OHS Regulations r262\(3\)\(a\)](#)
  - at intervals of no more than two years, and [OHS Regulations r262\(3\)\(b\)](#)
  - within 30 days after the employee has ceased asbestos removal work unless the employee has had an appropriate medical examination within the preceding year. [OHS Regulations r262\(3\)\(c\)](#)
250. The duties of an employer performing limited asbestos removal work in relation to medical examinations extend to independent contractors. [OHS Regulations r262\(4\)](#)
251. An asbestos removal licence holder must arrange for an appropriate medical examination to be conducted by a registered medical practitioner for each person engaged in asbestos removal work. [OHS Regulations r282\(1\)](#)
252. The asbestos removal licence holder must ensure that medical examinations are provided:
- before the person commences asbestos removal work for the first time for that licence holder unless the person has had an appropriate medical examination within the preceding year, and [OHS Regulations r282\(2\)\(a\)](#)
  - at intervals of no more than two years, and [OHS Regulations r282\(2\)\(b\)](#)
  - within 30 days after the person ceases asbestos removal work unless the person has had an appropriate medical examination within the preceding year. [OHS Regulations r282\(2\)\(c\)](#)
253. The duties of a Class A asbestos removal licence holder who is an employer in relation to medical examinations extend to independent contractors. [OHS Regulations r282\(3\)](#)
- Note:** An independent contractor may only be engaged by a person who holds a Class A asbestos removal licence to perform asbestos removal work involving the operation of an excavator where they are directly supervised at all times during the asbestos removal work (see page 24).
- Medical examinations are typically simple and may include a discussion about whether the person has had a history of exposure to airborne asbestos fibres. A simple lung function test known as spirometry (where the person exhales into a tube) may be conducted to test lung performance. The registered medical practitioner may also recommend an x-ray.
254. The registered medical practitioner needs to be aware of WorkSafe's guidance on health monitoring (go to [worksafe.vic.gov.au](https://www.worksafe.vic.gov.au)).
255. The employer or asbestos removal licence holder arranging the medical examination must:
- pay for any medical examinations required under 'Part 4.4 – Asbestos' of the OHS Regulations [OHS Regulations r19\(3\)](#)
  - obtain a summary of results of a medical examination of a person indicating whether an asbestos-related disease exists and that person's fitness to engage in asbestos removal work [OHS Regulations r263\(1\), r283\(1\)](#)
  - retain a copy of the summary of results for 30 years or a lesser period determined by WorkSafe. [OHS Regulations r263\(2\), r283\(2\)](#)

# General requirements for all asbestos removal work

**Note:** If WorkSafe makes a determination of the minimum record retention period it will publish a notice in the Government Gazette and, as soon as reasonably possible, in a newspaper circulating generally throughout Victoria. For further information go to [worksafe.vic.gov.au](http://worksafe.vic.gov.au).

256. The employer must provide a copy of the results of a medical examination report or summary:
- to the person to whom the report or summary relates as soon as reasonably possible after the employer receives the report or summary
  - if the person to whom the report or summary relates authorises in writing a third party to have access to the report or summary, to that third party, and
  - if WorkSafe requests a copy of the report or summary, or if the employer is otherwise required by the OHS Regulations to give WorkSafe a copy of the report or summary, to WorkSafe. OHS Regulations r20(2)

Section 69 of the OHS Act provides that the HSR of a DWG must be allowed access to information that an employer has relating to the health and safety of the members of the group. This section permits an HSR to have 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.

## Emergency planning

257. Emergency planning needs to be undertaken before asbestos removal work commences. This includes planning for the potential of fire near or within the asbestos removal area that would require evacuation, the need for medical assistance due to an accident or injury (whether work related or not), and any other incident that may require immediate evacuation of the asbestos removal area.
258. An asbestos removal licence holder, employer or self-employed person needs to establish and communicate a site-specific emergency plan to persons who will perform asbestos removal work and other relevant persons (for example, the person who commissioned the asbestos removal work).
259. The emergency plan needs to include:
- provisions for emergency and fire evacuation, including exit arrangements that are adequate for the risks involved
  - emergency communications such as audible alarms (these alarms need to be used for emergencies only), and
  - barriers and signs or other warning devices that can be used to communicate emergency arrangements.
260. Employers and asbestos removal licence holders need to provide appropriate training on emergency procedures (for example, how to respond in different emergency situations taking into account the specific work area and asbestos removal work being undertaken) (see 'Information, instruction, training and supervision' page 32).

# General requirements for all asbestos removal work

261. In the event of an emergency (such as a fire or where a person performing asbestos removal work is seriously injured or sick), appropriate decontamination procedures need to be provided that, so far as is reasonably practicable, control the risk of exposure to airborne asbestos fibres having regard to the circumstances.

## **Example 1: a fire near or within the asbestos removal area**

Where a fire occurs near or within the asbestos removal area, full decontamination procedures may not be reasonably practicable in the circumstances. However, exit and partial decontamination procedures need to be established and communicated to persons who will perform asbestos removal work and other relevant persons before work commences and at the time of an incident.

Such procedures may also include establishing an alternative exit route and method of exiting, undertaking partial decontamination (for example, vacuuming and wetting down), after exiting the asbestos removal area convening at a pre-planned location with equipment/PPE for additional decontamination, ensuring sufficient fire extinguishers and hoses are available at strategic locations and the locations of these are displayed in writing or in a graphic format, establishing emergency contacts and how to contact them.

## **Example 2: a medical emergency in the enclosure**

Where a medical emergency occurs within an enclosure, such as a serious injury or heart attack, full decontamination procedures may not be reasonably practicable in the circumstances. However, exit and partial decontamination procedures need to be established and communicated to persons who will perform asbestos removal work and other relevant persons before work commences and at the time of an incident.

Such procedures may also include establishing an alternative exit route and method of exiting, undertaking partial decontamination (for example, vacuuming and wetting down), after exiting the asbestos removal area convening at a pre-planned location with equipment/PPE for additional decontamination, ensuring that first aid kits and first aid officer are readily accessible, establishing emergency contacts and how to contact them.

## **Summary of duties**

262. Table 3 outlines duties that must be complied with when performing limited asbestos removal work, Class B asbestos removal work, or Class A asbestos removal work. Further guidance for asbestos removal licence holders is provided in 'Additional requirements for asbestos removal licence holders' on page 66.

**Note:** In addition to the duties outlined in Table 3, the preparation of an asbestos control plan may assist in controlling risks associated with limited asbestos removal work (see page 67).

# General requirements for all asbestos removal work

**Table 3: Overview of asbestos removal work requirements**

Duty	Limited asbestos removal work	Class B asbestos removal work	Class A asbestos removal work
Training	✓	✓	✓
Information on asbestos to job applicants	✗ <sup>#</sup>	✓	✓
Inform the person who commissioned the asbestos removal work	✓	✓	✓
People in immediate and adjacent areas informed	✓	✓	✓
Training records on site	✗ <sup>#</sup>	✓	✓
Notification sent to WorkSafe	✗ <sup>#</sup>	✓	✓
Asbestos register obtained	✓	✓	✓
Asbestos removal supervisor on site	An employer's duty to provide supervision under section 21(2)(e) of the OHS Act may apply.	✓ Must be readily accessible (see paragraph 292).	✓ Must be on-site.
Control plan completed and available on site	✗ <sup>#</sup>	✓	✓
Cannot commence until air monitoring has started	✗	✗	✓ In most cases, duty to perform air monitoring is on the person who commissioned the removal work.
Cannot dismantle enclosure until air monitoring at the end of the job is satisfactory	✗	✗	✓ In most cases, duty to perform air monitoring is on the person who commissioned the removal work.
Enclose the asbestos removal area and conduct a smoke test, so far as is reasonably practicable	✗	✗	✓
Provision of protective clothing and equipment	✓	✓	✓
Signs to indicate asbestos removal work	✓	✓	✓



# General requirements for all asbestos removal work

Duty	Limited asbestos removal work	Class B asbestos removal work	Class A asbestos removal work
Barricades to indicate asbestos removal work	✓	✓	✓
Decontamination facilities for the area, tools and persons	✓	✓	✓
Asbestos waste appropriately contained	✓	✓	✓
Asbestos waste appropriately disposed of	✓	✓	✓
Obtain clearance certificates – the duty is on the person who commissioned the removal work*	✗ While no clearance certificate is required, exposure to airborne asbestos fibres must be eliminated as far as is reasonably practicable.	✓ For non-friable ACM greater than 10 square metres.	✓
Laundering requirements for contaminated non-disposable personal protective clothing	✓ Laundering of asbestos-contaminated protective clothing is not recommended due to physical damage/ deterioration as a result of the work performed and cleaning process.	✓ Laundering of asbestos-contaminated protective clothing is not recommended due to physical damage/ deterioration as a result of the work performed and cleaning process.	✓ Laundering of asbestos-contaminated protective clothing is not recommended due to physical damage/ deterioration as a result of the work performed and cleaning process.
Medical examinations	Assessment required, see regulation 262.	✓	✓

\*Where the removal is being performed at a domestic premises and the asbestos removal licence holder has been engaged by the homeowner, the duty to obtain a clearance certificate is placed on the licence holder.

#When performing limited asbestos removal work, asbestos removal licence holders must comply with these duties.

# Additional requirements for asbestos removal licence holders

## Providing information to job applicants and independent contractors

263. An asbestos removal licence holder must provide each applicant who applies for employment with, and each independent contractor who seeks to be engaged by, the licence holder to perform asbestos removal work with information about the health effects and risks associated with exposure to airborne asbestos fibres and the need for, and details of, medical examinations. [OHS Regulations r268](#)

**Note:** An independent contractor may only be engaged by a person who holds a Class A asbestos removal licence to perform asbestos removal work involving the operation of an excavator where they are directly supervised at all times during the asbestos removal work (see page 24).

## Planning

264. In addition to the requirements outlined in 'General requirements for all asbestos removal work' on page 27, an asbestos removal licence holder must:
- notify WorkSafe in writing before asbestos removal work commences (except where an *unexpected situation arises*) (see page 72) [OHS Regulations r298\(1\) and \(2\)](#)
  - before commencing the asbestos removal work, provide a copy of the notification to the person who commissioned the asbestos removal work (see page 72) [OHS Regulations r298\(3\)](#)
  - ensure documentation relating to the asbestos removal work is readily accessible at the removal site, including copies of:
    - training records of all persons performing asbestos removal work (see page 74) [OHS Regulations r270\(2\)\(b\)](#)
    - the asbestos control plan (see page 74) [OHS Regulations r273\(2\)](#)
    - the asbestos removal licence (see page 74) [OHS Regulations r476\(2\)](#)
  - ensure that an asbestos removal supervisor is on site at all times when Class A asbestos removal work is being performed (see page 74) [OHS Regulations r285](#)
  - ensure that an asbestos removal supervisor is readily accessible to persons forming Class B asbestos removal work at all times when that work is being performed (see page 74). [OHS Regulations r267](#)

# Additional requirements for asbestos removal licence holders

**Note:** The asbestos removal supervisor is considered to be readily accessible if they are contactable by phone and able to arrive at the removal site within 20 minutes.

## Asbestos control plan

265. Before commencing asbestos removal work, an asbestos removal licence holder must prepare an asbestos control plan. **OHS Regulations r272(1)** The asbestos control plan identifies the specific risk control measures that an asbestos removal licence holder will use to ensure that persons are not exposed to health and safety risks when asbestos removal work is performed.
266. A site-specific asbestos control plan needs to be prepared before asbestos removal work commences. The asbestos control plan must take into account any asbestos register or employer's asbestos register, and include information on the items listed in Appendix Q (see page 155). **OHS Regulations r272(2)** Where asbestos removal work will be performed at domestic premises, an asbestos register or employer's asbestos register will not be available and do not have to be regarded when preparing an asbestos control plan. **OHS Regulations r272(3)**

267. The asbestos removal licence holder must:

- provide a copy of the asbestos control plan to the person who commissioned the asbestos removal work (this is the person who engaged the removalist to perform the asbestos removal work), and **OHS Regulations r273(1)**
- ensure that a copy of the asbestos control plan is readily accessible for the duration of the asbestos removal work to:
  - to an employer at the workplace
  - to any person engaged to do work at the workplace
  - for inspection under the OHS Act, if required. **OHS Regulations r273(2)(b)(c)(d)**

The asbestos removal licence holder must ensure that a copy of the asbestos control plan is readily accessible for the duration of the asbestos removal work to employees at the workplace, including the HSR of any affected DWG. **OHS Regulations r273(2)(a)**

268. Appendix F (see page 125) provides a pro forma asbestos control plan that may assist an asbestos removal licence holder in meeting their duties under 'Part 4.4 – Asbestos' of the OHS Regulations.
269. The attachment of additional documentation to the asbestos control plan (such as specifications or drawings) relevant to the asbestos removal work may assist the reader's understanding of the control plan.
270. The asbestos control plan should be finalised in consultation with:
- persons who will perform the removal work
  - the person who engaged the removalist, and
  - any other relevant parties such as an occupational hygienist who has knowledge and experience in asbestos removal work.

# Additional requirements for asbestos removal licence holders

271. Table 4 (see page 69) includes the requirements of an asbestos control plan as well as additional items that may assist in preparing for asbestos removal work.

## Asbestos control plans and safe work method statements

272. Where construction work involving asbestos is to be undertaken, the employer performing the work has duties in both 'Part 4.4 – Asbestos' and 'Part 5.1 – Construction' of the OHS Regulations to record how the work will be done safely.
273. High-risk construction work includes construction work involving demolition or the removal or likely disturbance of asbestos. **OHS Regulations r322(c)(d)** An employer or self-employed person must not perform high-risk construction work if there is a risk to the health or safety of any person arising from the work, unless a SWMS is prepared for the work before the work commences and the work is performed in accordance with the statement. **OHS Regulations r327(1)**
274. For high risk construction work involving the removal or likely disturbance of asbestos, if there is a risk to the health or safety of any person arising from the work, preparation of an asbestos control plan in accordance with 'Part 4.4 – Asbestos' of the OHS Regulations it is taken to be equivalent to the preparation of a SWMS. **OHS Regulations r327(3)(a)** Therefore, a SWMS does not need to be prepared where an asbestos control plan is prepared in relation to Class A or Class B asbestos removal work.

275. However, if there is construction work other than demolition or the removal or likely disturbance of asbestos that falls within the meaning of high-risk construction work, a SWMS addressing those other activities must be prepared. A reference to the asbestos control plan should be included in the SWMS.

For example, where an AC roof is to be removed, an asbestos control plan must be completed (in relation to the removal or likely disturbance of asbestos) and a SWMS must be completed in relation to the risk of persons falling more than two metres.

# Additional requirements for asbestos removal licence holders

Table 4: Components of an asbestos removal control plan

Information to be included in the asbestos removal control plan		Buildings and structures		Plant and equipment		ACD
		Friable	Non-friable	Friable	Non-friable	
<b>A</b>	Notification requirements have been met and required documentation will be on site (eg removal licence, control plan, training records)	✓	✓	✓	✓	✓
<b>B</b>	Details of the ACM or ACD to be removed (eg the locations, whether the asbestos is friable or non-friable, its type, condition and the quantity to be removed)	✓	✓	✓	✓	✓
<b>C</b>	Consultation with relevant parties (eg HSRs, employees)	✓	✓	✓	✓	✓
<b>D</b>	Assigned responsibilities for the removal	✓	✓	✓	✓	✓
<b>E</b>	Program of commencement and completion dates	✓	✓	✓	✓	✓
<b>F</b>	Emergency plans	✓	✓	✓	✓	✓
<b>G</b>	Asbestos removal boundaries, including the type and extent of isolation required and the location of any signs and barriers	✓	✓	✓	✓	✓
<b>H</b>	Control of electrical and lighting installations	✓	✓	✓	✓	✓
<b>I</b>	Personal protective equipment (PPE) to be used, including respiratory protective equipment (RPE)	✓	✓	✓	✓	✓
<b>J</b>	Details of air-monitoring program	✓	✗	✓	✗	✓
<b>K</b>	Waste storage and disposal program	✓	✓	✓	✓	✓

# Additional requirements for asbestos removal licence holders

Information to be included in the asbestos removal control plan		Buildings and structures		Plant and equipment		ACD
		Friable	Non-friable	Friable	Non-friable	
<b>L</b>	Methods for removing the ACM or ACD (wet or dry methods)	✓	✓	✓	✓	✓
<b>M</b>	Asbestos removal equipment (eg spray equipment, asbestos vacuum cleaners, cutting tools)	✓	✓	✓	✓	✓
<b>N</b>	Details on required enclosures, including their size, shape, structure, smoke testing enclosures and the location of negative-pressure exhaust units	✓	✗	✓	✗	May be required depending on the job.
<b>O</b>	Details on temporary buildings required by the asbestos removalist (eg decontamination units), including details on water, lighting and power requirements, negative-pressure exhaust units and the locations of decontamination units	✓	May be required depending on the job	✓	May be required depending on the job	May be required depending on the job
<b>P</b>	Other risk control measures to prevent the release of airborne asbestos fibres from the area where the asbestos removal work is being performed	✓	✓	✓	✓	✓
<b>Q</b>	Detailed procedures for workplace decontamination, the decontamination of tools and equipment, personal decontamination and the decontamination of non-disposable PPE and RPE	✓	✓	✓	✓	✓



# Additional requirements for asbestos removal licence holders

Information to be included in the asbestos removal control plan		Buildings and structures		Plant and equipment		ACD
		Friable	Non-friable	Friable	Non-friable	
<b>R</b>	Methods of disposing of asbestos wastes, including details on:					
	<ul style="list-style-type: none"> <li>▪ the disposal of disposable protective clothing and equipment</li> <li>▪ the structures used to enclose the asbestos removal area</li> </ul>	✓	✓	✓	✓	✓
<b>S</b>	Method of cleaning the asbestos removal area following asbestos removal work	✓	✓	✓	✓	✓
<b>T</b>	Name, registered business name, Australian Business Number, licence number and contact details of any person who is performing asbestos removal work, who is not an employee, and who is directly supervised by the asbestos removal licence holder and the asbestos removal supervisor	✓	✓	✓	✓	✓
<b>U</b>	Name of person engaged to conduct asbestos paraoccupational air monitoring (if any)	✓	✓	✓	✓	✓
<b>V</b>	Name of person engaged to conduct clearance inspection	✓	✓	✓	✓	✓

**Note:** it is recommended that the results of atmospheric monitoring, the results of paraoccupational air monitoring (if any), and name of the person engaged to disposal of asbestos waste be attached to the asbestos control plan.

# Additional requirements for asbestos removal licence holders

## Notification of asbestos removal work

276. An asbestos removal licence holder must notify WorkSafe before commencing asbestos removal work. [OHS Regulations r298\(1\)](#)
277. Before commencing the asbestos removal work, the asbestos removal licence holder must give a copy of the notice to the person who commissioned the asbestos removal work. [OHS Regulations r298\(3\)](#)

## When must WorkSafe be notified?

278. For asbestos removal work involving a total area of 10 square metres or less of non-friable ACM that is present in a building, structure, ship or plant, the asbestos removal licence holder must notify WorkSafe at least 24 hours before the proposed work commences. [OHS Regulations r298\(1\)\(a\) and \(2\)](#)
279. For any other asbestos removal work, the asbestos removal licence holder must notify WorkSafe at least five days before the proposed work commences. [OHS Regulations r298\(1\)\(b\) and \(2\)](#)
280. All notifications of asbestos removal work must be in writing and include:
- the name, registered business name, Australian Business Number (ABN), licence number and contact details of the licence holder
  - the name of the asbestos removal supervisor who will oversee the asbestos removal work and the supervisor's contact details
  - the name and contact details of the person who commissioned the asbestos removal work

- the name, including registered business or corporate name, and address of the workplace and the type of workplace where the asbestos removal work will be performed including the specific location if it is a large workplace
  - the date of notification
  - the commencement date and estimated duration of the asbestos removal work
  - whether the asbestos is friable ACM, non-friable ACM, or ACD
  - if the work is Class A asbestos removal work, details of the way that the area where the asbestos removal work is to be performed will be enclosed
  - the type of ACM
  - the estimated quantity of asbestos to be removed
  - the number of persons who will perform the asbestos removal work
  - details of training and experience of those individual persons, if different to the information notified previously
  - if an independent person has determined that airborne asbestos fibre levels are likely to be less than one half of the asbestos exposure standard, the name of that independent person. [OHS Regulations r298\(2\), Schedule 13](#)
281. WorkSafe may vary the notice requirements for an asbestos removal licence holder by including a specific condition in the asbestos removal licence. [OHS Regulations r298\(7\)](#)
- To download a pro forma notification go to [worksafe.vic.gov.au](https://www.worksafe.vic.gov.au).

# Additional requirements for asbestos removal licence holders

## What if a change occurs to information provided in the notification?

282. If any change occurs to any information provided at any time by the asbestos removal licence holder to WorkSafe in relation to the notification of a matter that is ongoing, the asbestos removal licence holder must advise WorkSafe in writing of that change as soon as is reasonably possible after they become aware that the change has occurred. [OHS Regulations r298\(4\)](#) However, this does not apply to a change of an asbestos removal supervisor. [OHS Regulations r298\(5\)](#)
283. An asbestos removal licence holder may proceed with the asbestos removal work despite advising WorkSafe that a change has occurred in relation to the notification of a matter that is ongoing. [OHS Regulations r298\(6\)](#) Thus, an additional 24 hours or five days notification is not required.
284. If the asbestos removal licence holder has changed, the new licence holder needs to provide a new notification to WorkSafe in writing (see paragraphs 278 and 279).

## What happens when an unexpected situation arises?

285. An unexpected situation is:
- a sudden, unexpected event, including work required by non-routine failures of equipment, that may result in a person being exposed to airborne asbestos fibres, or [OHS Regulations r299\(1\)\(a\)](#)  
For example a burst pipe that was lagged with asbestos or a forklift crashing into an AC sheet wall.
  - an unexpected breakdown of an essential service (including gas, water, sewerage, electricity and telecommunications) that requires immediate rectification to enable continuance of that service. [OHS Regulations r299\(1\)\(b\)](#)  
For example a breakdown of hot water system that requires the removal of asbestos-containing insulation or the replacement of burst AC water pipes to enable continuance of the service.
286. In an unexpected situation, the asbestos removal licence holder must, no later than 24 hours after commencing the asbestos removal work, notify WorkSafe of the asbestos removal work. [OHS Regulations r299\(2\)](#) The notification must be in writing and include the information specified in paragraph 280. [OHS Regulations r299\(3\)](#)
287. WorkSafe may vary notification requirements for an asbestos removal licence holder by including a specific condition in the asbestos removal licence. [OHS Regulations r299\(6\)](#)

# Additional requirements for asbestos removal licence holders

288. If any change occurs to any information provided at any time by the asbestos removal licence holder to WorkSafe in relation to the notification of a matter that is ongoing, the asbestos removal licence holder must advise WorkSafe in writing of that change as soon as is reasonably possible after they become aware that the change has occurred. [OHS Regulations r299\(4\)](#) However, this does not apply to a change of an asbestos removal supervisor. [OHS Regulations r299\(5\)](#)

## Documentation to be available on site

289. The asbestos removal licence holder must ensure documentation relating to the asbestos removal work is readily accessible at the removal site, including copies of:
- training records of all persons performing asbestos removal work [OHS Regulations r270\(2\)\(b\)](#)
  - the asbestos control plan [OHS Regulations r273\(2\)](#)
  - the asbestos removal licence. [OHS Regulations r476\(2\)](#)
290. Ensure a copy of the notification form sent to WorkSafe is also available at the removal site as it may be useful in clarifying any issues that may arise.

## Nominated supervisor

291. An asbestos removal licence holder must not appoint a person as an asbestos removal supervisor if WorkSafe has not accepted the nomination of that supervisor under 'Part 6.1 – Licences' of the OHS Regulations. [OHS Regulations r266\(2\)](#)
292. The asbestos removal supervisor must be on site at all times when Class A asbestos removal work is being performed. [OHS Regulations r285](#) For Class B asbestos removal work, the asbestos removal supervisor must be readily accessible to the persons performing the asbestos removal work at all times when that work is being performed. [OHS Regulations r267](#)
- Note:** An asbestos removal supervisor is accessible if they are on site or immediately contactable and able to be on site within 20 minutes.
293. Where an independent contractor is engaged by a person who holds a Class A asbestos removal licence to perform asbestos removal work involving the operation of an excavator, that person must be directly supervised at all times during the asbestos removal work by the person who holds the Class A asbestos removal licence and by the asbestos removal supervisor (for more information on independent contractors see page 24). [OHS Regulations r264\(c\)](#)

# Additional requirements for asbestos removal licence holders

Asbestos removal licence holders need to provide asbestos removal supervisors with training that covers all aspects of the asbestos removal work as well as the administrative requirements such as documentation required to be completed and maintained (eg control plan, training records) and how to ensure employees are undertaking the work required in a safe manner. All training needs to be provided by a person with the requisite knowledge, skills and experience (for example, Certificate IV in training, knowledge in the health hazards associated with asbestos, and practical knowledge of asbestos removal work and controlling airborne asbestos fibres). All training provided needs to include an assessment to ensure that those attending the training have understood the content.

For more information on Registered Training Organisations (RTO) that provide training on supervising asbestos removal go to [training.gov.au](http://training.gov.au) or contact WorkSafe's Advisory Service.

For more information on information, instruction, training and supervision see page 32.

## The decontamination unit

294. An asbestos removal licence holder performing asbestos removal work must provide facilities for personal decontamination for the duration of the asbestos removal work that are suitable for the work being performed. [OHS Regulations r278\(1\)](#)
295. The type of personal decontamination facilities that are suitable need to be determined by a person with the requisite skills, knowledge and experience, and will depend on the:
- quantity, condition (for example, ACM that has sustained damage or deteriorated), type of ACM
  - whether friable ACM is present
  - the likelihood of ACD and debris being generated
  - difficulty in performing the removal (for example, asbestos removal work will be performed in areas that are difficult to access)
  - level of airborne asbestos fibres likely to be generated (eg asbestos can be removed with minimal disturbance)
  - the asbestos removal method used
  - available cleaning/washing facilities at the site (eg running hot/cold water is available in the barricaded area, waste water can be captured/filtered)
  - duration of the task.

**Note:** Where friable asbestos is present or it has been determined that non-friable ACM may become friable as a result of the work processes used, a Class A asbestos removal licence holder must be engaged to perform the asbestos removal work.

# Additional requirements for asbestos removal licence holders

296. An asbestos removal licence holder needs to ensure that persons performing asbestos removal work are informed, instructed and trained in the proper use of decontamination facilities (including decontamination units when used) (see 'Information, instruction, training and supervision' on page 32).

For Class A asbestos removal work, decontamination units need to be used (see 'The decontamination unit' on page 75) except where the following asbestos removal methods are used:

- *glove bag* removal (see page 94)
- *wrap and cut* removal (see page 97)
- friable ACM gasket removal (the decontamination procedure outlined in paragraphs 209 to 221 should be followed)
- *mini enclosure* removal (which may require a combination of the personal decontamination procedure outlined in paragraphs 207 to 218 and page 91).

For Class B asbestos removal work, an assessment of the asbestos removal work to be performed needs to be undertaken by a person with the requisite skills, knowledge and experience to determine if a decontamination unit needs to be used to ensure appropriate decontamination (see 'The decontamination unit' on page 75).

For example, an assessment may determine that a decontamination unit is needed to ensure appropriate decontamination for Class B asbestos removal work involving 200 square metres of non-friable ACM and associated ACD at a warehouse where there are no suitable cleaning facilities and the asbestos removal work is likely to generate considerable dust.

For example, an assessment may determine that a decontamination unit is not needed to ensure appropriate decontamination for Class B asbestos removal work involving 50 square metres of ACM at a domestic premises that is in good condition and can be removed with minimal disturbance. However, where ACM has deteriorated, there is a likelihood that the removal method will damage or disturb the ACM, and asbestos removal work is likely to generate considerable dust, a decontamination unit should be considered.

297. The asbestos removal licence holder needs to assess each removal job to determine the number of decontamination units required. One decontamination unit should be provided for every six persons in the asbestos removal area.
298. Where men and women use the same decontamination unit, a system of work needs to be implemented to enable them to access the unit separately.



# Additional requirements for asbestos removal licence holders

299. The decontamination unit needs to, so far as is reasonably practicable, be located immediately adjacent to and directly connected with the enclosed asbestos removal area. It needs to be located as far away as reasonably practicable from amenities and lunch rooms.
300. The decontamination unit needs to be divided into three distinct areas:
- dirty decontamination area
  - clean decontamination area
  - clean changing area.
301. All of these areas need to be large enough to enable persons to adequately decontaminate themselves.
302. These areas need to be separated by suitable airlocks or buffer zones. Normally these airlocks have spring-loaded doors or two or more overlapping plastic sheets that are positioned to define the boundary between each segment of the decontamination unit while allowing access and airflow towards the asbestos removal area. To ensure there is sufficient airflow through the decontamination unit, doors (if used) need to have large openings with a hinged flap operating as a one-way valve. See Figure 10 on page 78 for a typical layout.
303. All surfaces of the decontamination unit need to be smooth and easy to clean to ensure no asbestos fibres are trapped.
304. The dirty decontamination area needs to include:
- a suitable rack for air-lines to be stored on at the entrance of the area
  - equipment for vacuum cleaning or hosing down (by use of a fine mist) of contaminated clothing and footwear
  - storage for contaminated clothing and footwear
  - labelled asbestos waste bags/bins for disposing of protective clothing
  - shower area with an adequate supply of hot and cold water and toiletries.

# Additional requirements for asbestos removal licence holders

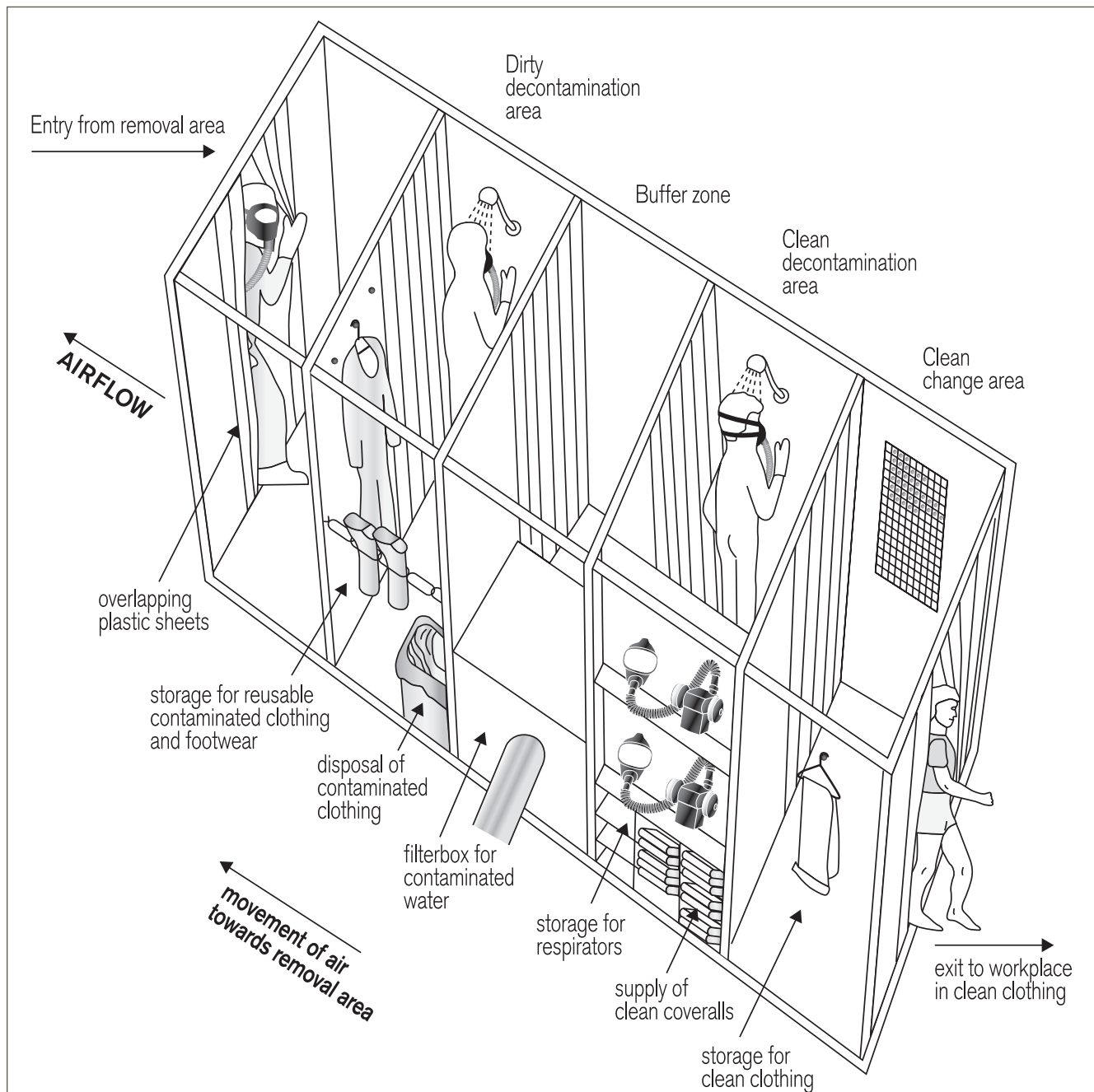


Figure 10: An example of a decontamination unit.

# Additional requirements for asbestos removal licence holders

305. The clean decontamination area needs to include:
- storage for individual RPE in containers or lockers
  - airflow towards the dirty decontamination area
  - shower area with an adequate supply of hot and cold water and toiletries.
306. The clean changing area needs to provide suitable privacy and include:
- storage for clean clothing
  - separate storage for clean and dirty towels
  - airflow towards the clean decontamination area.
307. The duty for asbestos removal licence holders to provide personal decontamination facilities includes providing towels and soap.
308. All water from the decontamination facility needs to pass through a particulate filter or other trap before it passes into sewer mains. The filter or trap needs to be capable of capturing particles down to five micron.
309. Persons should never smoke, eat or drink in any part of the decontamination unit.
- Use of remote decontamination units**
310. Remote decontamination units are decontamination units not located next to the asbestos removal area. Remote decontamination units should only be used if it is not reasonably practicable to locate the decontamination unit immediately adjacent to and directly connected with the enclosed asbestos removal area.
311. When a remote decontamination unit is to be used, the asbestos removal licence holder needs to implement additional procedures to minimise asbestos contamination. This may include wearing double coveralls, partial decontamination at the removal site (see page 51), and methods for the connection and disconnection of air-line respirators.
312. The route of access from the asbestos removal area to the decontamination unit needs to be suitably signposted and barricaded to restrict public access.
313. Where Class A asbestos removal work is undertaken, and paraoccupational air monitoring is required, the person who commissioned the work must arrange for paraoccupational air monitoring to be conducted before the work commences and for the duration of the work (see 'Paraoccupational air monitoring requirements' on page 98). **OHS Regulation r292(1)** This includes conducting paraoccupational air monitoring in the immediate vicinity of the access route from the asbestos removal area to the decontamination unit and at other suitable locations outside the asbestos removal area.
314. An isolated changing area needs to be attached to the asbestos removal area. Before persons enter this changing area, all obvious signs of ACD need to be removed from their protective clothing using a Dust Class H vacuum cleaner. The isolated changing area is then used to remove and dispose of outer garments, including outer coveralls, before persons can put on fresh outer/protective clothing for the journey to the decontamination unit.
315. RPE needs to be worn until the appropriate phase of the decontamination procedure (see 'Leaving the asbestos removal area' on page 80).

# Additional requirements for asbestos removal licence holders

## Entering the asbestos removal area

316. Persons entering the asbestos removal area need to follow the procedure in paragraphs 317 to 319.
317. Clean changing area:
- Change into clean work clothes and put on clean protective clothing.
  - Store any removed clothing in a dust-proof container.
  - Pass through the airlock into the clean decontamination area.
318. Clean decontamination area:
- Put on respirator.
  - Check that it is working properly and there is a good facial seal (ie fit check).
  - Move to the dirty decontamination area.
319. Dirty decontamination area:
- Put on any additional protective equipment that has been stored in the dirty decontamination area such as footwear.
  - Connect to the air supply (if required).
  - Move from the decontamination unit to the asbestos work area.

## Leaving the asbestos removal area

320. Persons leaving the asbestos removal area need to follow the procedure outlined in paragraphs 321 to 324.

321. Asbestos removal area:

- Use a Dust Class H vacuum cleaner to remove any obvious signs of ACD from PPE.
- Remove footwear and leave shoes/boots inside the asbestos removal area next to the decontamination unit (footwear should be stored upside down to minimise further contamination).
- Proceed into the dirty decontamination area.

322. Dirty decontamination area:

- If shoes/boots have not already been removed, remove them and store upside down within the dirty decontamination area.
- Disconnect air-line respirator if being used.
- Shower while wearing protective clothing and respirator.
- Leaving the respirator on, remove personal protective clothing and place in labelled asbestos waste bags.
- Remove wet underclothing, such as t-shirts or shorts, while showering and place in the storage unit provided within the dirty decontamination area for laundering or disposal as asbestos waste.
- Pass through the airlock into the clean decontamination area.

323. Clean decontamination area:

- Shower and remove respirator.
- Thoroughly wash hands, fingernails, face, head and respirator.
- Store RPE in a suitable container within the clean decontamination area.
- Move to the clean changing area.

324. Clean changing area:

- Change into clean clothing.

# Additional requirements for asbestos removal licence holders

## Asbestos waste containment and disposal

325. An asbestos removal licence holder must ensure that asbestos waste is contained so as to eliminate the release of airborne asbestos fibres. The exterior of each asbestos waste container (for example, double bags or wrapped bundles) must be decontaminated before being removed from the asbestos removal area and must indicate the presence of asbestos. [OHS Regulations r279](#)

For more information on asbestos waste containment and disposal see page 56.

## Asbestos waste drums or bins

326. All drums or bins used in relation to the disposal of asbestos waste need to be in good condition with lids and rims in good working order and free of hazardous residue.

327. Drums or bins need to be lined with heavy-duty polythene sheeting (minimum 200 micron thickness). The exterior of each drum or bin needs to indicate the presence of asbestos, for example by placing a label on each container which states: '**Danger: Asbestos. Do not break seal**'.

328. If the drum or bin is to be re-used, asbestos waste must be double-lined with heavy-duty polythene sheeting (minimum 200 micron thickness) or double bagged in an asbestos waste bag to eliminate the release of airborne asbestos fibres when the drum or bin is emptied. The drum or bin needs to be inspected after use to ensure there is no asbestos residue.

329. Where possible, the drums or bins should be placed in the asbestos removal area before asbestos removal work begins. Controlled wetting of the asbestos waste during drum or bin filling needs to be carried out to reduce the release of airborne asbestos fibres.

330. The exterior of each asbestos waste container (for example, drums or bins) must be decontaminated before being removed from the asbestos removal area and must indicate the presence of asbestos. [OHS Regulations r279\(b\)](#)

331. If it is not possible to locate the drums or bins inside the asbestos work area, they need to be located as close to the asbestos removal area as possible. Routes for moving the asbestos waste from the asbestos removal area to the waste drums or bins need to be designated prior to the commencement of each task. A person with the requisite knowledge, skills and experience needs to decide the best means of moving the asbestos waste through the building. In occupied buildings, all movement of asbestos waste bags from the asbestos removal area to the waste drums or bins should be performed outside of normal working hours.

332. Where paraoccupational air monitoring is required it needs to be conducted in the immediate vicinity of routes used for moving asbestos waste during waste transfer times (see 'Paraoccupational air monitoring requirements' on page 98).

333. Once removed from the asbestos removal area, asbestos waste must be:

- disposed of as soon as reasonably possible, or [OHS Regulations r280](#)
- stored for the purpose of disposal (see 'Disposal of asbestos waste' on page 59). [OHS Regulations r220\(2\)\(a\)](#)

# Additional requirements for asbestos removal licence holders

**Note:** Drums and bins should not be moved manually once they have been filled. Trolleys or drum lifters should be used.

## Asbestos waste skips, vehicle trays and similar containers

334. If it is not feasible to use asbestos waste bags, drums or bins because of the volume or size of the asbestos waste, a waste skip, vehicle tray or similar container may be used. All waste skips, vehicle trays or similar containers used in relation to the disposal of asbestos waste need to be in good condition.

335. The asbestos needs to be sealed in double-lined, heavy-duty polythene sheeting or double bagged in two 200 micron-thick asbestos waste bags before it is placed in the skip. However, non-friable asbestos waste may be placed directly into a skip or vehicle tray that has been double-lined with heavy-duty polythene sheeting (minimum 200 micron thickness) provided it is kept damp to minimise the generation of airborne asbestos fibres. Consideration should be given to how the skip will be emptied at the waste disposal site licensed or exempted by the EPA to minimise the risk of the plastic lining the skip tearing. Large skips or trays may need to have smaller parcels of asbestos waste to ensure the plastic does not tear during unloading. In addition, the waste disposal site should be contacted to establish any specific packaging requirements for that site.

336. Once the skip is full, its contents needs to be contained to eliminate the release of airborne asbestos fibres, for example sealed with heavy-duty polythene sheeting (minimum 200 micron thickness). Where smaller parcels are being created each parcel needs to be contained to eliminate the release of airborne asbestos fibres, for example sealed with heavy-duty polythene sheeting (minimum 200 micron thickness) before the next parcel is created.

337. Once removed from the asbestos removal area, asbestos waste must be:

- disposed of as soon as reasonably possible, or [OHS Regulations r280](#)
- stored for the purpose of disposal (see 'Disposal of asbestos waste' on page 59). [OHS Regulations r220\(2\)\(a\)](#)

**Note:** Asbestos waste stored for the purposes of disposal at the asbestos removal site must be stored securely (for example using skips, vehicle trays or other containers with a lockable lid or locating such containers in an area secured with locks/keys), identified to indicate the likely or actual presence of asbestos (for example, labelled), and contained so as to eliminate the release of asbestos fibres. [OHS Regulations r220\(2\)\(a\)](#) Overlaying and taping down plastic is not adequate for the purposes of securing asbestos waste.



# Additional requirements for asbestos removal licence holders

## Laundering of clothing contaminated with asbestos

338. An asbestos removal licence holder, employer or self-employed person performing asbestos removal work must provide for the laundering of personal protective clothing that is likely to be contaminated with asbestos at a laundry equipped to launder clothing contaminated with asbestos if that clothing is not contained and disposed of as asbestos waste (see 'Asbestos waste containment and disposal' on page 56). [OHS Regulations r261\(1\), r281\(1\)](#)

**Note:** Laundering of asbestos-contaminated protective clothing is not recommended due to physical damage/deterioration as a result of the work performed and cleaning process. If personal protective clothing is provided for laundering, the asbestos removal licence holder, employer or self-employed person needs to demonstrate that the laundering process is effective.

339. Visible dust on personal protective clothing is a strong indication of asbestos contamination following asbestos removal work. However, absence of visible dust **does not** mean there is no asbestos contamination.

340. Disposable coveralls are recommended except in some limited circumstance where non-disposable protective clothing is appropriate for asbestos removal work (see 'Personal protective equipment (PPE)' on page 34).

341. If an asbestos removal licence holder, employer or self-employed person arranges for personal protective clothing that is likely to be contaminated with asbestos to be laundered, they must ensure that:

- the clothing is contained so as to eliminate the release of airborne asbestos fibres (for example, double bagged in two 200 micron-thick asbestos waste bags), and
- the exterior of the container is decontaminated before being removed from the area where asbestos removal work is performed and indicates the presence of asbestos before the asbestos contaminated clothing is transferred to the laundry. [OHS Regulations r261\(2\), r281\(2\)](#)

342. Asbestos contaminated clothing needs to be removed damp and immediately wet down with a fine water mist.

343. The asbestos removal licence holder, employer or self-employed person performing asbestos removal work needs to notify the laundry in advance of the presence of asbestos contaminated clothing.

344. The laundering of clothing contaminated with asbestos is an asbestos-related activity and must be performed in accordance with 'Division 8 – Activities involving asbestos' in Part 4.4 of the OHS Regulations. For more information on laundering asbestos contaminated clothing see page 73 of WorkSafe's *Managing asbestos in workplaces compliance code* (2018).

**Note:** Contaminated protective clothing should never be laundered in homes.

# Additional requirements for asbestos removal licence holders

## Planning for removal work from hot surfaces

345. The removal of friable ACM from hot metal presents one of the worst conditions for removal because asbestos fibres are more likely to become airborne. In addition, the use of a fine water mist spray may not be possible as steam may be created that would make the removal task more difficult.
346. The removal of asbestos from hot metal or machinery needs to be scheduled and planned around shutdowns with sufficient time allowed for the metal/machinery to cool. Machinery needs to be cool before removal is attempted.
347. Hot metal removal should only be performed in emergency situations. A person with the requisite knowledge, skills and experience on heat stress issues needs to be consulted when considering undertaking such asbestos removal work in other circumstances.
348. The person who has management and control of the workplace needs to make every attempt to arrange for the removal work to be done during periods when surfaces are not hot.
349. In the limited circumstances where the dry removal of ACM from hot surfaces is the only option (for example, emergency situations), particular care needs to be taken in the selection of dust extraction equipment to cope with the convection currents involved. The selection of suitable PPE also needs to take into account the hot environment.
350. Heat stress needs to be considered when preparing the asbestos removal control plan, particularly in the selection of PPE and the design of the work program (for example, sufficient rest breaks and the provision of cool drinking water).

# Additional requirements for Class A asbestos removal work

## General methods for Class A asbestos removal work

351. An asbestos removal licence holder must ensure that asbestos removal work is performed in a manner that, so far as is reasonably practicable, eliminates the release of airborne asbestos fibres and prevents the contamination of areas adjacent to the asbestos removal area. [OHS Regulations r274](#) The appropriate removal method will depend on the nature, condition, quantity and location of asbestos and any other hazards present.
352. A Class A asbestos removal licence holder must, so far as is reasonably practicable, enclose the area where Class A asbestos removal work is performed to prevent the release of airborne asbestos fibres and use a wet asbestos removal method when performing Class A asbestos removal work (see page 47 for more information on wet removal methods). [OHS Regulations r286\(1\)\(3\)](#)
353. Class A asbestos removal work generally involves establishing an enclosure with a negative pressure exhaust unit and full decontamination unit attached. Small-scale removal work is an exception, for example glove bag removals, mini-enclosure removals, and wrap and cut removals. Each job needs to be assessed to determine if negative air units and decontamination units are required.
354. A person with the requisite knowledge, skills and experience should assist in determining what controls are required for asbestos removal work.
355. Methods for enclosing large and small-scale removal work are described in paragraph 353. In addition:
- all ventilation and air conditioning networks servicing the asbestos removal area need to be closed down for the duration of the asbestos removal work and all vents thoroughly sealed to prevent the entry of airborne asbestos fibres into the duct network
  - on completion and after final cleaning of the asbestos removal area, all mechanical ventilation filters for recirculated air need to be replaced prior to start-up
  - care needs to be taken to ensure that airborne asbestos fibres cannot escape at points where pipes and conduits pass out of the asbestos removal area (greater attention to sealing and testing is required at these points, particularly if service riser shafts pass through the asbestos removal area).
356. The methods and equipment described below are commonly used for the removal of sprayed asbestos thermal and acoustic insulation from buildings and structures and the removal of friable ACM from plant and equipment, including steam pipes, boilers and other industrial plant.

# Additional requirements for Class A asbestos removal work

## Large-scale removal work

### Enclosures

357. A Class A asbestos removal licence holder must, so far as is reasonably practicable, enclose the area where Class A asbestos removal work is performed to prevent the release of airborne asbestos fibres.

OHS Regulations r286(1)

**Note:** the enclosed area is sometimes referred to as the 'bubble'.

358. In most cases of Class A asbestos removal work it will be practicable to enclose the asbestos removal area. In nearly all cases it will be practicable to establish enclosed asbestos removal areas under 'negative pressure' for any large-scale Class A asbestos removal work (see 'Negative pressure exhaust units (negative air units)' on page 88).

359. The design and installation of the enclosure needs to take account of:

- the methods used to contain the asbestos removal area
- the provision and locations of changing and decontamination areas and negative pressure exhaust units
- precautions to prevent the spread of asbestos contamination outside the asbestos removal area
- air quality within the enclosure (for example, there needs to be sufficient oxygen and machinery emitting any fumes or potentially dangerous gases needs to be placed outside the enclosure well away from any air intake for the enclosure)
- the temperature within the enclosure (especially to avoid heat stress)
- any other hazards in the enclosure (these need to be identified and the risks controlled before any asbestos removal work commences).

360. Work methods may also need to be adapted for the work environment within the enclosure. For example, rest breaks need to be based on a risk assessment taking into account factors such as the weather and heating/cooling requirements.

361. Heavy-duty polythene sheeting (minimum 200 micron thickness) needs to be used for the enclosure. Recycled plastic (including re-milled plastic) should not be used.

362. Every location where the asbestos removal area connects either to the outside environment or to the rest of the building (eg windows, ducts, wall cavities, conduits and lift entrances) needs to be enclosed so that an airtight seal is maintained for the duration of the asbestos removal work.

363. The plastic sheeting needs to enclose all the walls, windows and doors. Wooden cleats may be able to be used to anchor the plastic sheeting to walls.

364. Viewing panels should be placed in appropriate locations so that the asbestos removal area can be seen from outside the enclosure.

365. Adequate lighting needs to be provided within the enclosure, either:

- naturally, using clear plastic or perspex panels in the enclosure walls, or
- artificially, preferably from outside the enclosure using clear plastic or perspex panels (lights within an enclosure can increase the temperature within the enclosure).

366. All non-movable items (for example, fixtures and fittings) need to be covered with plastic sheeting and all the joints sealed.

# Additional requirements for Class A asbestos removal work

367. All movable items need to be removed from the asbestos removal area. If this is not possible, they should be moved to a convenient location and need to be covered with two layers of plastic sheeting with a minimum overlap of 300mm between the layers. Both layers need to be double taped.
  368. Airlocks need to be provided at the entry points to the changing area. They need to be constructed using double sets of overlapping plastic, or similar material, with suitable provisions for ensuring a seal.
  369. All floors need to be protected with at least one layer of robust and durable material, such as woven plastic with an appropriate gsm (grams per square metre) to prevent damage for the duration of its use. Recycled plastic (including re-milled plastic) should not be used. This is important to prevent tearing and the penetration of asbestos fibres. The joints need to be lapped 300mm and sealed with double-sided tape and cloth tape.
  370. If the asbestos removal area is next to areas occupied by unprotected persons, priority needs to be given to:
    - performing the removal work during periods when these areas are unoccupied, or
    - greater isolation of the asbestos removal area (preferable).
  371. Consideration needs to be given to the use of hoarding to form a barrier between the asbestos removal area and the adjoining occupied areas. A plastic-lined barrier needs to be erected within this hoarding and an appropriate buffer area needs to be reserved between the hoarding and occupied areas. Paraoccupational air monitoring needs to be conducted in the immediate vicinity of buffer areas during Class A asbestos removal work.
  372. Any platforms and fixed scaffolding required to undertake asbestos removal work safely should be erected during the early stages of the work. Ideally these structures should be erected on the outside of the enclosed area. However, where it is necessary to construct platforms or fixed scaffolding within the enclosed area, decontamination and visual inspection of these structures will be necessary at the end of the removal work.
  373. During the masking up and later removal of the screening, all persons involved need to wear appropriate PPE (including coveralls and RPE). The minimum recommended RPE for this task is a non-disposable half-face respirator with a P1 filter or P2 filter.
  374. All tools and equipment used for removal work, including Dust Class H vacuum cleaners, should remain within the asbestos removal area until the completion of the removal work. When this equipment is removed it must be decontaminated (see 'Decontamination facilities and methods' on page 50).
  375. All the plastic and adhesive tape used for the enclosure needs to be disposed of as asbestos waste. Any temporary structures used within the enclosure must be decontaminated (see 'Decontamination facilities and methods' on page 50) or contained and disposed of as asbestos waste (see 'Asbestos waste containment and disposal' on page 56).
- ## Testing the effectiveness of the enclosure
376. A Class A asbestos removal licence holder must ensure, so far as is reasonably practicable, that the enclosure is smoke tested using a smoke generating device to detect any leaks or other deficiencies in the enclosure before asbestos removal work commences. [OHS Regulations r286\(2\)](#)

# Additional requirements for Class A asbestos removal work

377. A visual inspection and smoke test needs to be carried out by a person with the requisite knowledge, skills and experience. While smoke is generated within the enclosure, the outside of the enclosure needs to be checked for leaks. The person should document the result of the smoke test and provide a copy to the asbestos removal licence holder.
378. Negative pressure exhaust units should not be used while the smoke test is being conducted. Only smoke-generating devices incorporating non-oil-based, non-toxic smoke fluids can be used; flares should not be used. Smoke (fire) detection devices in the immediate vicinity of the asbestos removal area need to be isolated for the duration of the smoke test. Asbestos removal work should not proceed if any leaks or other deficiencies in the enclosure are found during the testing. Leaks or deficiencies need to be rectified (an expandable foam sealant, appropriate adhesive tape or equivalent may be used) and another smoke test performed until no leaks or deficiencies are identified.
379. Enclosures must be properly maintained. **OHS Regulations r18** The effectiveness of enclosures needs to be regularly monitored while asbestos removal work is underway (this includes visual examination, air-monitoring results and negative pressure readings).
380. If visual examinations of the enclosure and surrounding area indicate that ACD might be escaping from the enclosure, asbestos removal work needs to be stopped until any defects have been rectified. See 'Air monitoring action levels' on page 101 for paraoccupational air monitoring levels at which specific action is required to be taken.
381. Before work recommences, it is essential to:
- identify the source of the leaks
  - seal the leaks in the enclosure
  - re-test the enclosure by smoke testing until the enclosure is effective again
  - clean any contaminated areas
  - conduct visual inspections
  - conduct an air monitoring test specific to the incident (air monitoring)
  - notify WorkSafe where fibre levels are in excess of 0.05 fm/l
  - re-assess the boundaries of the asbestos removal work area and site
  - prevent further release of airborne asbestos fibres.
382. A supply of expandable foam sealant, appropriate adhesive tape or equivalent should be kept on site for sealing leaks

## Negative pressure exhaust units (negative air units)

383. To prevent the escape of airborne asbestos fibres from an enclosed asbestos removal area, an exhaust extraction unit with appropriate filters needs to be installed so as to create a 'negative' air pressure of approximately 12 Pa (water gauge) within the enclosed asbestos work area. This may require the use of more than one negative pressure exhaust unit. Devices, such as magnehelic gauges need to be used by persons with the requisite knowledge, skills and experience to establish that the required negative pressure has been achieved and is being maintained, by undertaking regular checks, throughout removal.



# Additional requirements for Class A asbestos removal work

384. Use of these units needs to include regular checks/inspections. It is recommended that a log of these checks/inspections be maintained. The units need to incorporate warning devices for filter integrity/overload and power failure. They need to include a manometer or magnehelic gauge and an audible and visual alarm system.
385. The negative pressure exhaust unit should be positioned opposite the decontamination unit to enable laminar (smooth) air flow. In this arrangement, the air entering the asbestos removal area passes through the decontamination unit or point of entry while the air extracted by this system passes through a HEPA filter to remove any airborne asbestos fibres before it is, where reasonably practicable, discharged to the outside atmosphere. If this is not possible, consideration should be given to how to set up the enclosure, decontamination unit and negative pressure exhaust unit to enable optimum smooth flow of air through the enclosure so as to minimise dead air pockets. Discharge of the air from the enclosure needs to be at a location away from other working areas, air conditioning inlets or breathing air compressors.
386. The units need to be operated continuously (24 hours a day) until all asbestos removal and decontamination tasks within the enclosure have been completed (that is, from when the removal commences to when clearance is given to dismantle the enclosure). If the units stop during removal work, the asbestos removal licence holder needs to immediately cease all removal work until the problem is rectified and the required number of units are in operation. This delay needs to be as small as possible to minimise the risk of airborne asbestos fibres escaping the enclosure. Consideration should be given to backup negative pressure exhaust units and a generator.
387. Filters for negative pressure exhaust units need to conform to the requirements of AS 4260 *High efficiency particulate air (HEPA) filters – classification, construction and performance* or its equivalent. A coarse pre-filter should be installed on the air intake side of the negative air unit to prolong the useful life of the HEPA filter. These pre-filters may need to be changed once per work shift or more frequently depending on dust loads. Used pre-filters must be disposed of as asbestos waste (see 'Asbestos waste containment and disposal' on page 56).
388. Procedures need to be established for changing HEPA filters so that areas outside the enclosure are not contaminated.
389. A satisfactory method for assessing the integrity of the HEPA filter and seal fittings is regular inspection in conjunction with a static pressure alarm to indicate any failure in the system.
390. Maintenance work on these units must only be performed after they have been thoroughly decontaminated, or the work may be carried out under controlled conditions, such as in an asbestos removal enclosure while wearing appropriate PPE.
391. Negative pressure exhaust units need to be maintained in accordance with the manufacturer's recommendations. Maintenance requirements need to include inspection and testing at regular frequencies to ensure the unit is, and continues to, work efficiently. Refer to the unit's manufacturer and AS/NZS 60335.2.69 *Household and similar electrical appliances – safety – particular requirements for wet and dry vacuum cleaners, including power brush, for commercial use*. Note that Annex AA of AS/NZS 60335.2.69 refers to annual technical inspection and testing of these type of machines that includes testing the units filter efficiency.

# Additional requirements for Class A asbestos removal work

An essential filter element test (also known as a dispersed oil particulate (DOP) test) is one method of testing the efficiency of the HEPA filter. The test is performed by introducing an oil mist of a particular concentration and particle size upstream of the HEPA filter and testing it immediately downstream at the exhaust of the negative pressure exhaust unit to ensure that the filter continues to conform to the requirements of AS 4260 *High efficiency particulate air (HEPA) filters – classification, construction and performance* or its equivalent.

## Bulk stripping and cleaning within an enclosure

392. Sprayed asbestos insulations need to be wet thoroughly using a fine water mist spray (see 'Methods of removing ACM' on page 47). Aim to achieve maximum saturation with minimum run-off to minimise any subsequent clean-up and slip hazards.
393. Wetting, scraping and vacuuming methods need to be used wherever reasonably practicable. Where the ACM is covered with cloth, metal cladding or wire reinforcing, it needs to be wet thoroughly during the removal process.
394. Once an inspection by independent person has found that there is no visible asbestos residue remaining as a result of the asbestos removal work, the asbestos removal licence holder needs to, wherever reasonably practicable, spray surfaces within the asbestos removal area with tinted PVA or a similar acrylic emulsion using airless spraying equipment. This includes any layer of plastic forming the inner surface of the enclosure to ensure any loose asbestos fibres on the plastic are firmly adhered to prior to its dismantling.
395. Where paraoccupational air monitoring is required, it needs to take place after the PVA or a similar acrylic emulsion has dried and sufficient time has elapsed for it to dissipate. The plastic enclosure must not be dismantled until a satisfactory visual inspection and monitoring has taken place.

## Dismantling an asbestos removal enclosure

### OHS Regulations r290

396. The Class A asbestos removal licence holder must not dismantle any structure used to enclose an area where Class A asbestos removal work was performed until:
- asbestos removal work has been completed
  - visual inspection by an independent person is satisfactory (see 'Clearance to re-occupy an asbestos removal area' on page 102), and
  - paraoccupational air monitoring, where required, identifies an airborne concentration of asbestos fibres of less than 0.01 f/ml.
397. Heavy-duty polythene sheeting used to enclose the asbestos removal area and disposable items used to form the enclosure must be disposed of as asbestos waste (see 'Asbestos waste containment and disposal' on page 56). In some cases, structures used in building the enclosure (other than the plastic that formed the enclosure) may be wrapped and sealed in plastic and not opened until in a similar controlled environment, such as another asbestos removal enclosure (for example, collapsible rods used to form the enclosure frame).

# Additional requirements for Class A asbestos removal work

398. The area from which the enclosure was dismantled needs to be thoroughly cleaned and inspected. This needs to be followed by further paraoccupational monitoring demonstrating the levels are below 0.01 f/ml.
399. Barricades, warning signs and protective plastic isolating public areas should not be removed until:
- the enclosure has been dismantled and removed as asbestos waste
  - satisfactory paraoccupational air-monitoring results have been achieved, and
  - the asbestos removal area and its surrounds have been visually inspected by an independent person and found to be satisfactory for re-occupation.

## Security and checks when using an enclosure

400. The asbestos removal licence holder needs to ensure a person is stationed outside the asbestos removal area for the duration of the asbestos removal work to:
- liaise with the asbestos removal supervisor
  - check and maintain negative air units, compressor units, decontamination units and hot water service
  - ensure security of the area is maintained
  - communicate with personnel inside the work enclosure
  - instigate emergency or evacuation procedures if necessary.
401. Records of these checks should be made on a daily basis and kept (for a suggested log see 'Appendix G – Example of an asbestos removal log and check sheet' on page 131).

## Small-scale removal work

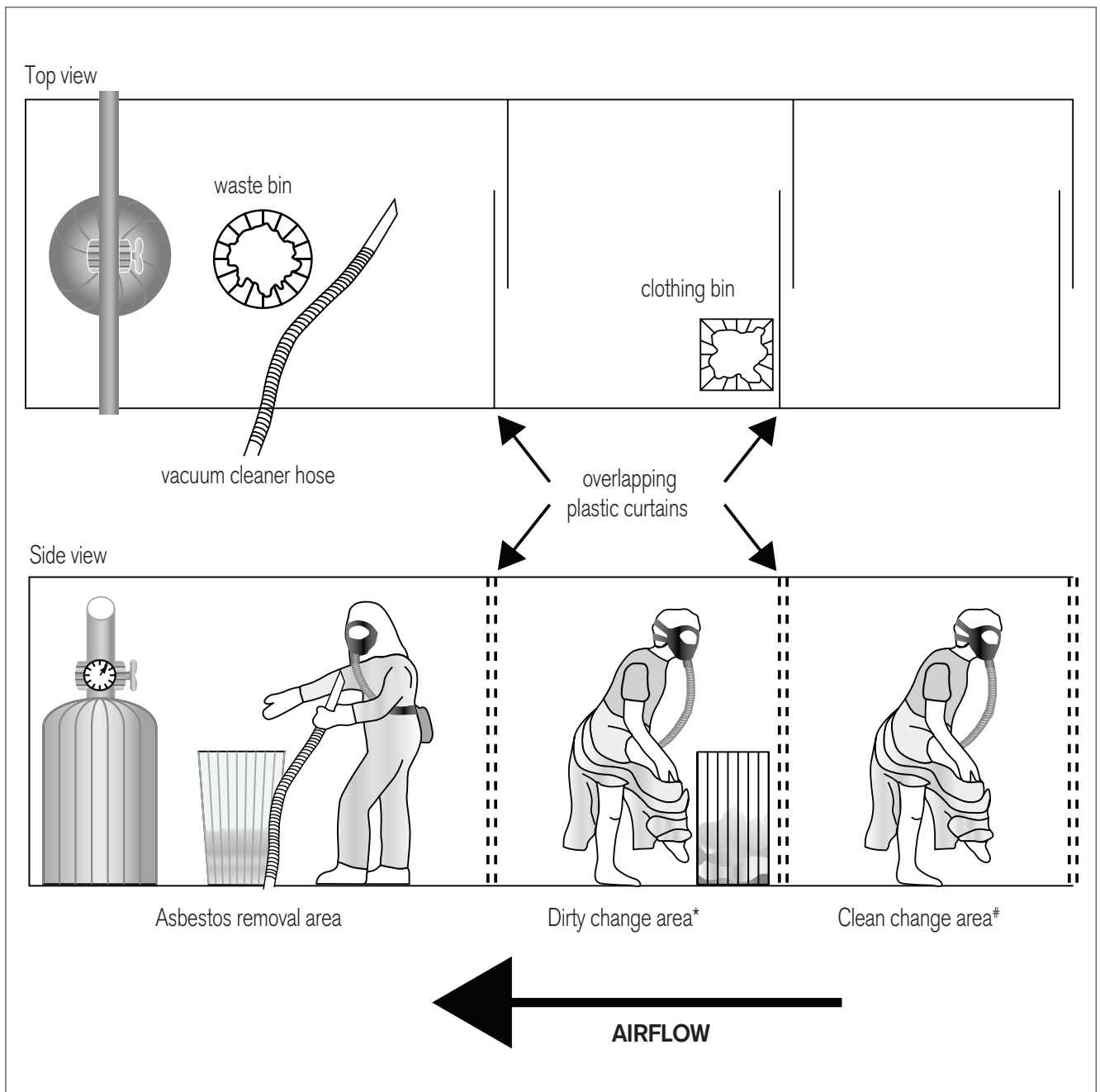
### Mini-enclosures

402. Mini-enclosures are suitable for asbestos removal work in areas with restricted access, such as small areas of ceiling spaces and for emergency asbestos removals.
403. The mini-enclosure has to be large enough to allow movement inside the enclosure and contain all the equipment needed for the asbestos removal work (see Figure 11, on page 93).
404. Machinery that emits exhaust fumes should not be placed in a mini-enclosure.
405. The frame of a mini-enclosure can be made from a variety of materials, but has to be strong enough to support the plastic sheeting that forms the enclosure.
406. Heavy-duty polythene sheeting (minimum 200 micron thickness) needs to be used for making the enclosure. Recycled plastic (including re-milled plastic) should not be used.
407. The adhesive tape used to connect the plastic to the frame needs to be strong enough to securely hold the plastic to the frame.
408. A Class A asbestos removal licence holder must ensure, so far as is reasonably practicable, that the enclosure is smoke tested using a smoke generating device to detect any leaks or other deficiencies in the enclosure before asbestos removal work commences. [OHS Regulations r286\(2\)](#) A smoke tube may be adequate for the purposes of testing a mini-enclosure.

# Additional requirements for Class A asbestos removal work

409. A slit will have to be made in the plastic sheeting to allow entry; this slit can then be taped from inside the enclosure. Where a Dust Class H vacuum cleaner is being used to suppress dust within the enclosure, part of the slit should be left open to enable air flow to the vacuum cleaner. See Figure 11 on page 93 for a typical layout.
410. When using mini-enclosures, the hazards and work procedures considered for large enclosures also need to be taken into account (see 'Large-scale removal work' on page 86).
411. Persons leaving a mini-enclosure need to follow personal decontamination procedures based on a combination of the procedures described in 'Decontamination facilities and methods' on page 50.

# Additional requirements for Class A asbestos removal work



\* remove personal protective clothing and footwear worn during asbestos removal work.

# put on fresh outer/personal protective clothing for the journey to the designated personal decontamination area.

Figure 11: Layout of a mini-enclosure for asbestos removal.

# Additional requirements for Class A asbestos removal work

## Glove bag removal work

412. Glove bags are single-use bags constructed from transparent, heavy-duty polyethylene with built-in arms and access ports. Generally, these glove bags are approximately one metre wide and 1.5 metres deep.
413. Glove bags are designed to isolate small removal jobs from the general working environment. They provide a flexible, easily installed and quickly dismantled temporary enclosure for small asbestos removal jobs.  
**Note:** It is recommended that an enclosure or mini-enclosure be used instead of multiple glove bags in series to reduce the risk of airborne asbestos fibres being released.
414. The glove bag removal method is especially suited to the removal of asbestos lagging from individual valves, joints and piping.
415. A major advantage of glove bags is that they contain all the asbestos waste and contamination within them, eliminating the need for extensive PPE and decontamination.
416. Where glove bags are used for asbestos removal work, smoke testing and paraoccupational air monitoring are not required. [OHS Regulations r289\(1\)](#)
417. The limitation of glove bags is the volume of asbestos waste they are able to contain. Care needs to be exercised to prevent overfilling the bag with water or asbestos waste. In addition, they should not be used on hot pipe work due to difficulties in sealing the glove bag to the pipe or maintaining the seal.

418. Class A asbestos removal licence holders must ensure that persons performing asbestos removal work are provided with personal protective clothing and RPE that it is correctly fitted and suitable for glove bag removal work (see 'Personal protective equipment (PPE)' on page 34). For glove bag removal work, the minimum recommended RPE is a non-disposable half-face respirator with a P1 filter or P2 filter and disposable coveralls need to be provided as a minimum to control the risk of exposure to airborne if the glove bag ruptures or leaks.

## Glove bags need to be used as follows:

419. Cutting and removal tools that will be used in the removal work need to be placed into the glove bag at the start of the job.
420. The glove bag needs to completely cover the pipe or object on which the asbestos removal work is to be performed. The lagging on either side of the bag must be sound enough to support the weight of the bag and its wet contents.
421. Cut the sides of the glove bag to fit the size of the pipe from which asbestos is to be removed. Attach the glove bag to the pipe by folding the open edges together and securely sealing them with appropriate adhesive tape (for example, cloth tape with a plastic coating that can be easily decontaminated). Seal all openings in the glove bag with adhesive tape. The bottom and side seams of the glove bag also need to be sealed with adhesive tape to prevent any leakage if there is a defect in a seam.



# Additional requirements for Class A asbestos removal work

422. Thoroughly saturate the ACM with a wetting agent and then remove it from the pipe, beam or other surface. The wetting agent needs to be applied with an airless sprayer through a pre-cut port, as provided in most glove bags, or through a small hole cut in the bag. ACM that has fallen into the bag needs to be thoroughly saturated. The choice of tool to remove the ACM depends on the nature of the material to be removed. ACM is generally covered with painted canvas and/or wire mesh. Any canvas needs to be cut and peeled away from the ACM underneath. If this ACM is dry, it needs to be re-sprayed with the wetting agent before it is removed.
423. Thoroughly clean the pipe or surface from which the asbestos has been removed with a wire brush or similar tool and wet-wipe it until no traces of the ACM can be seen. Wash down the upper section of the bag to remove any adhering ACM.
424. Seal any edges of ACM that have been exposed by the removal or by any maintenance activity to ensure these edges do not release airborne asbestos fibres after the glove bag is removed.
425. Once the ACM has been removed and sealed, insert a vacuum hose from an asbestos vacuum cleaner into the glove bag through the access port to remove any air in the bag that might contain airborne asbestos fibres. Once air has been evacuated from the bag, squeeze it tightly (as close to the top as possible) and twist and seal it with appropriate adhesive tape (for example, cloth tape with a plastic coating that can be easily decontaminated), keeping the ACM safely in the bottom of the bag.
426. Remove the vacuum line from the bag and then remove the glove bag from the workplace for disposal as asbestos waste.
427. Class A asbestos removal licence holders must, in a proper and safe manner, dismantle and dispose of any glove bag used to enclose the area where asbestos removal work was performed.  
[OHS Regulations r289\(2\)](#)
428. On completion of glove bag removal work, persons need to follow the decontamination procedures outlined on page 50.

# Additional requirements for Class A asbestos removal work

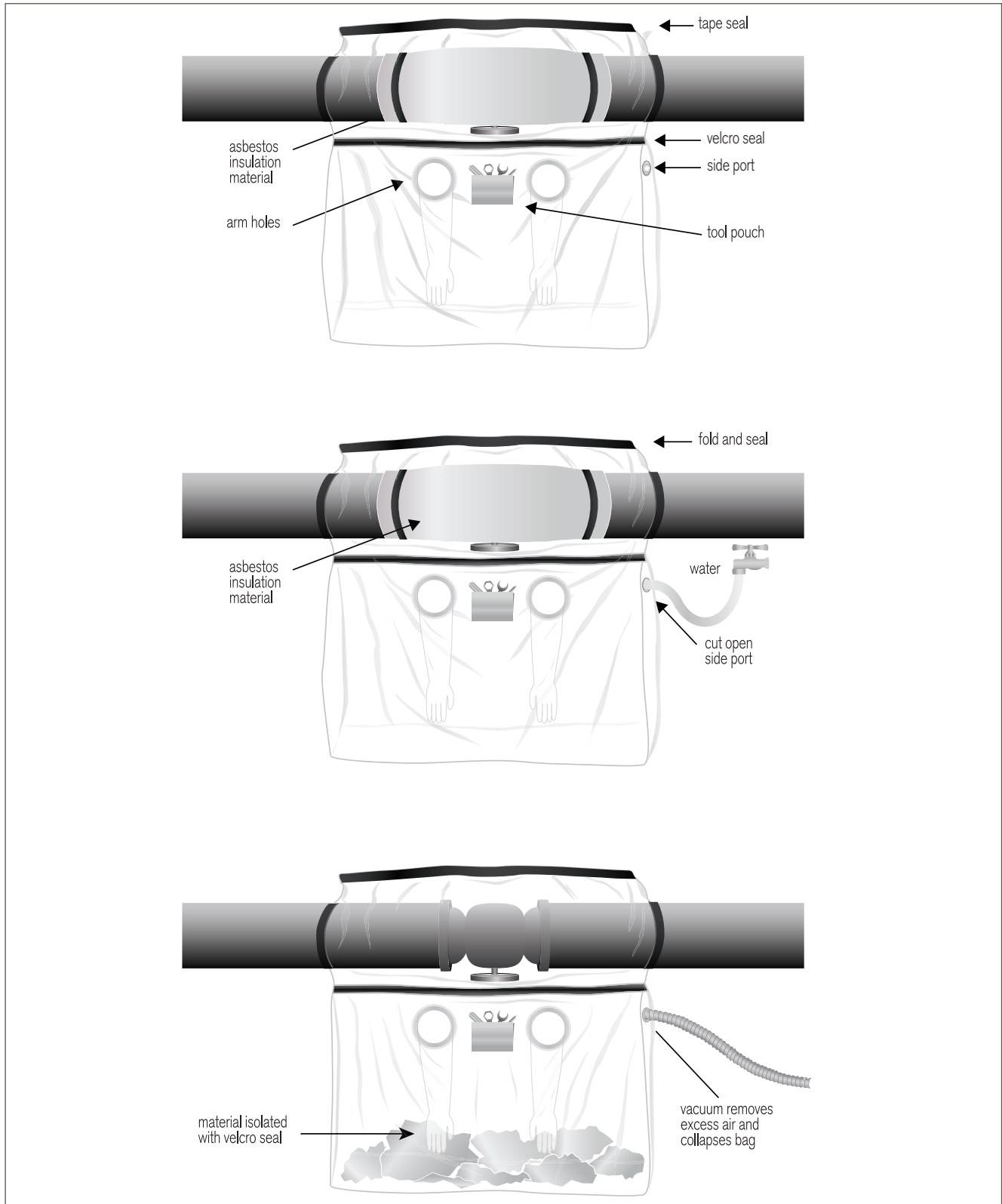


Figure 12: Use of glove bags.

# Additional requirements for Class A asbestos removal work

## Wrap and cut removal work

429. This method of removal is likely to produce the lowest levels of airborne asbestos fibres and is most appropriate for redundant plant and equipment.
430. The plant or equipment to be removed needs to be vacuumed with a Dust Class H vacuum cleaner and/or wiped with damp rags. All used rags must be disposed of as asbestos waste (see 'Asbestos waste containment and disposal' on page 56).
431. The plant or equipment then needs to be double wrapped with heavy-duty polythene sheeting (minimum 200 micron thickness) and taped so that the asbestos is totally sealed within the plastic. The wrapped plant or equipment can then be cut from the rest of the plant and equipment using mechanical shears or oxy-cutting tools. Only exposed metal can be cut and care needs to be taken to ensure the plastic wrapping is not punctured or melted. The cut section can then be removed as asbestos waste.
432. If lagging has to be removed to allow a pipe to be cut, the glove bag removal method may be used to expose the metal at the point to be cut and for a sufficient length on either side (see Figure 12, on page 96). The pipe then needs to be cut at the centre of the exposed section.
433. Class A asbestos removal licence holders must ensure that persons performing asbestos removal work are provided with personal protective clothing and RPE that it is correctly fitted and suitable for wrap and cut removal work (see 'Personal protective equipment (PPE)' on page 34). For wrap and cut removal work, the minimum recommended RPE is a non-disposable half-face respirator with a P1 filter or P2 filter and disposable coveralls need to be provided as a minimum. However, if the lagging is in very poor condition such that significant airborne asbestos fibres may be generated, a higher level of RPE needs to be provided or an alternative removal method needs to be used.
434. Class A asbestos removal licence holders must provide personal decontamination facilities for the duration of the asbestos removal work that are suitable for wrap and cut removal work (see 'Personal decontamination' on page 52).

# ❖ Paraoccupational air monitoring and clearance inspections

## Class A asbestos removal work

### Paraoccupational air monitoring requirements

435. Paraoccupational air monitoring (also known as 'static monitoring' or 'control monitoring') involves taking samples of air from fixed locations, which are usually immediately outside the area where asbestos removal is taking place. This area is usually enclosed by plastic and is sometimes referred to as the 'bubble'.
436. The purpose of this monitoring is to identify whether airborne asbestos fibres are present outside the removal enclosure and to ensure that risk control measures designed to prevent asbestos escaping from the enclosure are working.
437. A person who commissions Class A asbestos removal work must arrange for asbestos paraoccupational air monitoring to be conducted before work commences and for the duration of the work if the asbestos removal work will be performed:
- indoors, or
  - outdoors and will constitute a risk to other persons (for example, employees working nearby who cannot be isolated from the area during the removal).  
[OHS Regulations r292\(1\)](#)
438. Paraoccupational air monitoring is not required when glove bag asbestos removal is undertaken. [OHS Regulations r289\(1\)](#)
439. Where paraoccupational air monitoring is required, the Class A asbestos removal licence holder must not:
- commence asbestos removal work until the asbestos paraoccupational air monitoring has commenced, or
  - if asbestos paraoccupational air monitoring has already commenced, recommence asbestos removal work until the results of the most recent paraoccupational air monitoring have been obtained.  
[OHS Regulations r287](#)
440. Paraoccupational air monitoring needs to be undertaken by a person with the requisite knowledge, skills and experience (for example, an occupational hygienist from a laboratory approved by NATA to perform volume measurement). This includes a person who is:
- experienced and knowledgeable in the asbestos removal industry
  - competent in operating monitoring equipment such as sampling pumps
  - able to implement the most appropriate sampling strategy and place the appropriate number of sampling pumps in the correct locations
  - able to comply with the SWA guidance note *The membrane filter method for estimating airborne asbestos fibres* (go to [safeworkaustralia.gov.au](http://safeworkaustralia.gov.au)), and
  - able to adequately store and transport samples to ensure a proper chain of custody prior to analysis.

# Paraoccupational air monitoring and clearance inspections

441. The person who conducts paraoccupational air monitoring should have a good understanding of the removal work to take place, the asbestos removal area, and its surrounds. This person needs to determine all air monitoring requirements, including:
- the location, rate and frequency of sampling
  - whether it is necessary to monitor air quality in areas next to, above and below the asbestos removal area and in routes used for removing asbestos waste, taking account of the potential exposure of current and future occupants of these areas
  - whether additional routine air sampling is warranted (for example, in nearby high-occupancy areas)
  - paraoccupational air monitoring requirements on completion of asbestos removal work (see page 98).
442. Paraoccupational air monitors generally need to be placed in the middle of the sampling area, away from areas where there may be poor air-mixing (eg close to walls, corners or large objects) or fast air movements (for example, in front of air conditioning inlets or exhausts).
443. If an enclosure is used, paraoccupational air monitoring needs to occur:
- prior to any work (background monitoring)
  - throughout the duration of the removal work (commencing before the asbestos removal work commences and finishing after asbestos removal work finishes for the day or shift)
  - at least at the boundary of the asbestos removal area
  - as part of preliminary clearance monitoring following a satisfactory visual inspection
  - during dismantling of the enclosure
  - as part of the final clearance inspection.
444. If an enclosure and a decontamination unit are used, paraoccupational air monitoring needs to occur at the following locations:
- clean side of the decontamination unit
  - changing area
  - lunch room (where applicable)
  - surroundings of the asbestos removal area, including above and below the asbestos removal area (if applicable) and near the negative air unit (where possible).
445. Air monitoring of the exhaust from the extraction unit is a specialised task. The membrane filter method (MFM) is unsuitable because the results obtained do not always truly reflect actual fibre concentrations in the exhaust air. Air monitoring devices also should not be positioned at the exit point of a negative air unit because this can lead to unwarranted confidence in the filter's integrity. If the exhaust is to be monitored directly, isokinetic sampling techniques need to be used.

# Paraoccupational air monitoring and clearance inspections

446. A person who commissions Class A asbestos removal work must arrange for an asbestos paraoccupational air monitoring sample to be analysed as soon as is reasonably possible after it is taken. **OHS Regulations r292(2)** Only an approved asbestos laboratory can analyse samples to identify asbestos. **OHS Regulations r213(1)** An approved asbestos laboratory means a laboratory approved by NATA to perform asbestos fibre counting or to identify asbestos in samples, or a scheme determined by WorkSafe. **OHS Regulations r5**

**Note:** If WorkSafe makes a determination of a scheme for the approval of laboratories, it will publish a notice in the Government Gazette and, as soon as reasonably possible, in a newspaper circulating generally throughout Victoria. For further information go to **worksafe.vic.gov.au**.

447. The analysis results must be reported in accordance with the requirements of NATA or the scheme under which the laboratory was approved. **OHS Regulations r213(2)** Endorsed reports have the NATA insignia stamped on the report. It is recommended that a copy of the endorsed report always be obtained as evidence of compliance.
448. The NATA website (**nata.com.au**) can be used to confirm if a laboratory is approved to perform asbestos fibre counting.
449. Air monitoring needs to be conducted in accordance with the SWA guidance note *Membrane filter method for estimating airborne asbestos fibres* (go to **safeworkaustralia.gov.au**).

## Air monitoring results

450. The results of paraoccupational air monitoring should not be compared to the asbestos exposure standard specified in the OHS Regulations. The asbestos exposure standard is designed to assist in controlling risk to persons and is measured in the employees' / persons' breathing zone. Paraoccupational air monitoring is conducted at stationary or static positions outside the asbestos removal area to evaluate the effectiveness of controls.
451. A person who commissions Class A asbestos removal work must provide the results of asbestos paraoccupational air monitoring to the asbestos removal licence holder as soon as the results are received **OHS Regulations r293(1)**

A person who commissions Class A asbestos removal work must ensure that a copy of the results of asbestos paraoccupational air monitoring is readily accessible to the HSR of any affected DWG and to any affected employees or independent contractors. **OHS Regulations r293(2)**



# Paraoccupational air monitoring and clearance inspections

## Air monitoring action levels

### OHS Regulations r275

452. Where asbestos removal work is being performed, asbestos paraoccupational air monitoring is being conducted, and airborne asbestos fibre levels exceed 0.01 f/ml, the asbestos removal licence holder must take the following action:

- More than 0.01 f/ml but less than or equal to 0.05 f/ml:
  - investigate the cause
  - implement controls to prevent exposure to any person to airborne asbestos fibres and prevent further release of airborne asbestos fibres.

- More than 0.05 f/ml:
  - stop the asbestos removal work
  - notify WorkSafe

**Note:** this should be done as soon as possible by phone followed by a fax or email of the results accompanying a statement that work has ceased.

- investigate the cause

**Note:** this should include a thorough visual inspection of the enclosure (if used) and associated equipment in consultation with all employees involved with the removal work.

- implement controls to prevent exposure to any person to airborne asbestos fibres and prevent further release of airborne asbestos fibres

**Note:** this should include extending the isolated/barricaded area around the asbestos removal area/enclosure so far as reasonably practicable (until airborne asbestos fibre levels are at or below 0.01 f/ml), wet wiping and vacuuming the surrounding area, sealing any identified leaks (for example, with expandable foam or appropriate adhesive tape) and smoke testing the enclosure until it is satisfactorily sealed.

- ensure the asbestos removal work does not recommence until asbestos paraoccupational air monitoring indicates the level of airborne asbestos fibre levels is at or below 0.01 f/ml.

# Paraoccupational air monitoring and clearance inspections

**Table 5 Summary of air monitoring action levels**

Action level	Action
Less than 0.01 f/ml	No new risk control measures are necessary
More than 0.01 f/ml but less than or equal to 0.05 f/ml	<ol style="list-style-type: none"><li>1. Investigate the cause</li><li>2. Implement controls to prevent exposure to any person to airborne asbestos fibres and prevent further release of airborne asbestos fibres</li></ol>
More than 0.05 f/ml	<ol style="list-style-type: none"><li>1. Stop the asbestos removal work</li><li>2. Notify WorkSafe</li><li>3. Investigate the cause</li><li>4. Implement controls to prevent exposure to any person to airborne asbestos fibres and prevent further release of airborne asbestos fibres</li><li>5. Do not recommence asbestos removal work until the level of airborne asbestos fibres is at or below 0.01 f/ml</li></ol>

453. Asbestos removal licence holders must provide employees performing asbestos removal work with appropriate personal protective clothing and RPE and ensure that it is correctly fitted [OHS Regulations r276](#). This includes ensuring persons entering the asbestos removal area are adequately protected. This is likely to require respiratory protection (the level will depend on the likely level of exposure) and personal protective clothing.

## Class B asbestos removal work

454. The OHS Regulations do not require paraoccupational air monitoring for Class B asbestos removal work. However, the person who commissioned the asbestos removal work should consider providing paraoccupational air monitoring during Class B asbestos removal work that is being done in or next to a public location. The results of this monitoring may assist in addressing any potential concerns raised by persons occupying these areas.

## Clearance to re-occupy an asbestos removal area

### What is a clearance certificate?

455. A clearance certificate is a written statement that a specific area where asbestos removal work has taken place has had specified ACMs removed and has been cleaned of any visible asbestos containing debris associated with that removal.

456. On completion of Class A or Class B asbestos removal work, the person who commissioned the work must arrange for a visual inspection by an independent person to verify that there is no visible asbestos residue remaining as a result of the work in the area where the work was performed or in the area immediately surrounding the area where the work was performed. [OHS Regulations r294\(1\)](#) See page 106 for more information on independent persons.

457. A visual inspection by an independent person is not required if the asbestos removal work consisted only of the removal of non-friable asbestos-containing material not exceeding 10 square metres in total. [OHS Regulations r294\(1\)](#)

# Paraoccupational air monitoring and clearance inspections

458. The person who commissioned the Class A or Class B asbestos removal work must ensure that the results of the inspection are provided to the asbestos removal licence holder. [OHS Regulations r295](#)

## Asbestos paraoccupational air monitoring on completion of asbestos removal work

459. On the completion of Class A asbestos removal work for which asbestos paraoccupational air monitoring was required, the person who commissioned the asbestos removal work must arrange for asbestos paraoccupational air monitoring to be conducted within the enclosed area to verify that the airborne asbestos fibre level is less than 0.01 f/ml. [OHS Regulations r294\(2\)](#)
460. The person who commissioned the Class A asbestos removal work must ensure that the results of asbestos paraoccupational air monitoring are provided to the asbestos removal licence holder. [OHS Regulations r295](#)
461. Paraoccupational air monitoring need to be done on completion of Class A asbestos removal work both prior to and after the enclosure is removed.
462. Where airborne asbestos fibre levels are found to be equal to or greater than 0.01 f/ml, a clearance certificate cannot be issued and further decontamination (such as wet wiping and vacuuming of the area) needs to take place. The area then needs to be re-tested to establish that airborne asbestos fibre levels are less than 0.01 f/ml (see page 98 for more information on paraoccupational air monitoring requirements).

## When must a clearance certificate be obtained?

463. The person who commissioned Class A or Class B asbestos removal work must obtain a clearance certificate from an independent person on completion of the asbestos removal work and before the area where the asbestos removal work was being performed is re-occupied. [OHS Regulations r297\(1\)](#) For example, at a site where demolition work is to be undertaken, ACM was identified and removed. A clearance certificate needs to be obtained before the area can be re-occupied for demolition or other work.
464. A clearance certificate is not required if the asbestos removal work consisted only of the removal of non-friable asbestos-containing material not exceeding 10 square metres in total. [OHS Regulations r297\(3\)](#)
465. At a work site (such as a factory) where asbestos removal work is taking place, persons other than those specified in paragraph 133 must not be allowed access to the asbestos removal area prior to a clearance certificate being obtained.

## Who must obtain a clearance certificate?

466. The person who commissioned Class A or Class B asbestos removal work (not the asbestos removal licence holder) must obtain a clearance certificate. [OHS Regulations r291\(1\)](#) The exception to this is when removal is conducted at domestic premises used solely for domestic purposes (and the person who commissioned the removal is the owner of the premises). In this case, the asbestos removal licence holder must obtain the clearance certificate. [OHS Regulations r291\(2\)](#)

# Paraoccupational air monitoring and clearance inspections

**Note:** The clearance certificate needs to be provided to the asbestos removal supervisor before signs and barricades are removed and the area where asbestos removal work was being performed is re-occupied.

## What must a clearance certificate for asbestos removal work contain?

467. A clearance certificate must state that:

- an inspection by an independent person (see paragraphs 469 and 470) has found there is no visible asbestos residue remaining as a result of the asbestos removal work in the area where the removal work was performed or in the area immediately surrounding the area where the asbestos removal work was performed, and
- if required (see page 98), asbestos paraoccupational air monitoring in the area where the asbestos removal work was performed indicates that the airborne asbestos fibre level is less than 0.01 f/ml. [OHS Regulations r297\(2\)](#)

**Note:** The clearance certificate should also outline the scope of the asbestos removal work performed to avoid confusion with any remaining asbestos that was not part of the asbestos removal work.

468. Where paraoccupational air monitoring is required, the samples collected must be analysed by an approved asbestos laboratory (see paragraph 446). When the person who commissioned the removal work obtains the clearance certificate, they should also ensure that the endorsed report related to the counting of asbestos fibres is included.

469. The visual inspection relates to the removal work that was done and any visible asbestos residue resulting from the removal work in the asbestos removal area and the area surrounding it at the time of the inspection. The visual inspection for a clearance certificate does not require wipe samples (or settled dust sampling). However, settled dust sampling may be performed to provide an indication of cleanliness. The need for any settled dust sampling should be determined and undertaken by a person with the requisite knowledge, skills and experience to determine and undertake such sampling.

470. In some situations, it may be apparent that asbestos contamination of the asbestos removal area could occur after the visual inspection. In these situations, the person performing the visual inspection and issuing the clearance certificate should explain that the visual inspection relates to the removal work that was done and the status of the area at the time of the inspection (photos may assist). In addition to the clearance certificate, a further statement should be provided explaining there is potential for asbestos contamination in the area based on the particular circumstances, which should be described.

# Paraoccupational air monitoring and clearance inspections

A clearance inspection should include:

- understanding what was removed (or was expected to be removed) by the asbestos removal licence holder
- undertaking visual inspection of the asbestos removal area and areas immediately surrounding the asbestos removal area
- contacting the removalist and the person who commissioned the removal work for clarification (if required)
- accessing all parts of the asbestos removal area to inspect for visible asbestos – for example using mobile lifting equipment to access elevated heights (if required)
- if visible asbestos is identified, re-inspecting the asbestos removal area and areas immediately surrounding the asbestos removal area once clean-up has been completed
- issuing a clearance certificate only when satisfied that as a result of a final visual inspection there is no visible asbestos in the asbestos removal area and in areas immediately surrounding the asbestos removal area
- identifying any asbestos related issues that may impact on subsequent users of the area (for example, the presence of asbestos that is not removed as part of the asbestos removal work undertaken)
- signing off attending the site and undertaking the inspection.

# Independent persons

471. For the purpose of 'Part 4.4 – Asbestos' of the OHS Regulations, an **independent person** is a person who, in relation to the carrying out of a relevant function:

- is independent from the following:
  - the employer or self-employed person performing the asbestos removal work
  - the asbestos removal licence holder performing asbestos removal work, and
  - the person who commissioned the asbestos removal work
- does not have a conflict of interest in carrying out the relevant function, and
- has the requisite knowledge, skills and experience to carry out the relevant function. [OHS Regulations r207\(1\)](#)

472. A **relevant function** means:

[OHS Regulations r207\(2\)](#)

- the determination of airborne asbestos fibre levels (see page 18), or [OHS Regulations r250\(1\)\(c\)](#)
- the visual inspection of an area for visible asbestos residue (see page 102), or [OHS Regulations r294\(1\)](#)
- the giving of a clearance certificate (see page 102). [OHS Regulations r297](#)

473. The person who commissioned Class A or Class B asbestos removal work must ensure that the independent person has the requisite knowledge, skills and experience to inspect an area for visible asbestos residue and give a clearance certificate.

[OHS Regulations r296](#)

474. This independent person must not be in a position of conflict with their independence of judgement and integrity in relation to their inspection activity. Anyone who has a conflict of interest or a vested interest in carrying out a relevant function would not be considered independent. An independent person cannot be a director, employee or person with a pecuniary interest.

**Conflict of interest** refers to a secondary interest that is in conflict with the person's role in carrying out a relevant function.

475. In some cases, a consultant may be engaged to manage a project. Where this consultant commissions the asbestos removal licence holder, they cannot take on the role of the independent person to issue the clearance certificate.



## Requisite knowledge, skills and experience

476. An independent person must have the requisite knowledge, skills and experience to carry out the relevant function. **OHS Regulations r207(1)(c)** For the purposes of determining if airborne asbestos fibres are likely to equal or exceed one half the asbestos exposure standard, this should include:

- knowledge of how to conduct airborne asbestos monitoring of asbestos removal work
- the ability to interpret NATA-endorsed asbestos monitoring reports
- knowledge of risks and consequences of exposure to airborne asbestos fibres
- the ability to identify the likelihood of exposure to airborne asbestos fibres in relation to specific work practices
- knowledge of safe asbestos removal methods, the asbestos removal industry, and the Victoria's health and safety legislation.

477. For the purposes of performing a visual inspection of an area to verify that there is no visible asbestos residue or giving a clearance certificate, this should include:

- knowledge of risks and consequences of asbestos exposure
- the ability to identify what is or what may be asbestos
- the ability to thoroughly inspect the area for suspect material
- experience in asbestos removal work, inspection of asbestos removal areas or audits of workplaces for asbestos that is relevant to the visual inspection to be performed (eg friable or non-friable ACM, the type of structure or plant from which ACM was removed)
- the ability to interpret paraoccupational air monitoring reports for friable removal work (where required)
- knowledge of safe asbestos removal methods, the asbestos removal industry, and the Victorian OHS legislation.

478. An example of a person with the requisite knowledge, skills and experience is an occupational hygienist. The Australian Institute of Occupational Hygienists website ([aioh.org.au](http://aioh.org.au)) provides a list of occupational hygienists.

479. The person proposing to engage an independent person should ask for referees and examples of clearance certificates issued for other asbestos removal work undertaken. They should also consider asking the independent person what process they will be undertaking to assist in determining whether the person's knowledge, skills and experience are appropriate.

# Asbestos-contaminated soil

480. ACM may be found buried in soil on any property, including businesses and domestic premises. For example, it may be present because asbestos was not disposed of properly following the demolition of a building or asbestos-contaminated soil was used as a top soil or fill material.
481. Where asbestos-contaminated soil is present at a workplace, duties (such as identifying the presence of asbestos, recording the results of asbestos identification in an asbestos register and implementing risk control measures) apply to the person who manages or controls a workplace and to an employer at a workplace (see page 18 of WorkSafe's *Managing asbestos in workplaces compliance code* (2018) for more information on asbestos in workplaces).
482. The person engaged to or undertaking asbestos identification needs to have the requisite knowledge, skills and experience to identify the presence of asbestos in soil (this includes identifying the quantity and condition of asbestos and determining whether asbestos is friable or non-friable).

An example of a person with the requisite knowledge, skills and experience may be an occupational hygienist with experience in identifying asbestos and assessing its associated risks. A person may also be found at companies approved by the NATA for the identification of asbestos and via the **Australian Institute of Occupational Hygienists (AIOH)**.

This person should not be in a position of conflict with their independence of judgement and integrity. Anyone who has a conflict of interest or a vested interest in identifying asbestos and determining whether asbestos is friable or non-friable would not be considered independent. Such a person should not be a director, employee or person with a pecuniary interest.

**Conflict of interest** refers to a secondary interest that is in conflict with the person's role in identifying asbestos and determining whether asbestos is friable or non-friable.

In some cases, a consultant may be engaged to manage a project. Where this consultant commissions the asbestos removal licence holder, they should not take on the role of the person identifying asbestos and determining whether asbestos is friable or non-friable.

**Note:** An employer must ensure, so far as is reasonably practicable, that persons other than employees of the employer are not exposed to risks to their health or safety arising from the conduct of the undertaking of the employer. **OHS Act s23** 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 conduct of the undertaking of the self-employed person. **OHS Act s24** This includes where the employer or self-employer person is engaged to identify asbestos and determine whether asbestos is friable or non-friable.

# Asbestos-contaminated soil

483. The extent of the inspection required may depend on factors including background knowledge of the soil and site, the likely amount (breadth and depth) of asbestos contamination and the likely source of the contamination.

**Note:** If samples are taken for the purpose of identifying if asbestos is present, it is important that representative samples are taken. Sampling for analysis and identification purposes is not required if asbestos is assumed to be present.

## Asbestos removal work involving asbestos-contaminated soil

484. The supply, storage, transport, sale, use, or re-use of asbestos-contaminated soil is prohibited unless visible ACM has been removed so far as is reasonably practicable by the person proposing to undertake such activities. [OHS Regulations r217\(2\)](#)

485. The removal of visible ACM from asbestos-contaminated soil or the removal of asbestos-contaminated soil must be performed in accordance with 'Division 7 – Removal of asbestos' in 'Part 4.4 – Asbestos' of the OHS Regulations. [OHS Regulations r214](#) Depending on the quantity of asbestos to be removed and whether friable asbestos is present, a Class A or Class B asbestos removal licence may be required (see page 15 for more information on asbestos removal work).

**Friable:** means, when dry –

- (a) may be crumbled, pulverised or reduced to powder by hand pressure; or
- (b) as a result of a work process becomes such that it may be crumbled, pulverised or reduced to powder by hand pressure. [OHS Regulations r5](#)

**Non-friable:** means, when dry may not be crumbled, pulverised or reduced to powder by hand pressure.

**Note:** non-friable ACM may become friable as a result of work processes (for example, the operation of an excavator results in the ACM being crumbled, pulverised or reduced to powder) or due to other factors (for example, damage by fire).

486. Where friable asbestos is present, or a person with the requisite knowledge, skills and experience has determined that non-friable ACM is likely to become friable as a result of the work processes used, a Class A asbestos removal licence holder must be engaged to perform the asbestos removal work. [OHS Regulations r264](#)

487. Only the asbestos removal work specified in an asbestos removal licence can be performed under that licence (see Table 6). [OHS Regulations r461](#)

# Asbestos-contaminated soil

**Table 6: Who can perform asbestos removal work involving asbestos-contaminated soil?**

Soil contaminated with:	Who can perform asbestos removal work:
Friable asbestos	<ul style="list-style-type: none"> <li>▪ A Class A asbestos removal licence holder.</li> <li>▪ An employee of a Class A asbestos removal licence holder.</li> <li>▪ An independent contractor engaged by a Class A asbestos removal licence holder to operate an excavator (see 'Independent contractors' on page 24).<sup>#</sup></li> </ul>
Non-friable asbestos where it has been determined that asbestos is likely to become friable as a result of the work processes used	<ul style="list-style-type: none"> <li>▪ A Class A asbestos removal licence holder.</li> <li>▪ An employee of a Class A asbestos removal licence holder.</li> <li>▪ An independent contractor engaged by a Class A asbestos removal licence holder to operate an excavator (see 'Independent contractors' on page 24).<sup>#</sup></li> </ul>
Non-friable asbestos where it has been determined that asbestos will not become friable as a result of the work processes used	<ul style="list-style-type: none"> <li>▪ A Class A asbestos removal licence holder.</li> <li>▪ An employee of a Class A asbestos removal licence holder.</li> <li>▪ An independent contractor engaged by a Class A asbestos removal licence holder to operate an excavator (see 'Independent contractors' on page 24).<sup>#</sup></li> <li>▪ A Class B asbestos removal licence holder.*</li> <li>▪ An employee of a Class B asbestos removal licence holder.*</li> </ul>

**\*Note:** A Class B asbestos removal licence holder is not permitted to engage an independent contractor to perform asbestos removal work involving the operation of an excavator (see 'Independent contractors' on page 24). [OHS Regulations r265](#)

**#Note:** An independent contractor, in these circumstances, can only be engaged to perform asbestos removal work involving the operation of an excavator (for example, the independent contractor is not permitted to remove ACM using hand held tools).

# Asbestos-contaminated soil

## Use of an excavator by an asbestos removal licence holder

The duties of an asbestos removal licence holder performing Class A or Class B asbestos removal work involving the operation of an excavator as part of the removal of visible ACM from asbestos-contaminated soil or the removal of asbestos-contaminated soil include:

- not permitting a person to perform asbestos removal work unless they are informed, instructed and trained to perform that work in a manner that is safe and without risks to health (see page 32) [OHS Regulations r269](#)

**Note:** this includes training on how to operate the excavator and the aspects of the asbestos removal work proposed to be undertaken by the operator.

- providing appropriate personal protective clothing and RPE and ensuring that it is correctly fitted (see page 34) [OHS Regulations r276](#)

**Note:** the type of excavator to be used (for example, an excavator fitted with an open cabin or a Dust Class H filtered cabin) needs to be considered as part of determining the appropriateness of personal protective clothing and RPE.

- ensuring that any equipment that is used for asbestos removal work and that is likely to be contaminated is decontaminated before removal from the area where asbestos removal work is performed (see page 51) [OHS Regulations r278\(3\)\(a\)](#)

**Note:** the cabin and exterior of the excavator need to be decontaminated.

- ensuring that asbestos waste is disposed of as soon as reasonably possible and in an appropriate manner that eliminates the release of airborne asbestos fibres at a waste disposal site licensed or exempted by the EPA. [OHS Regulations r280](#)

**Note:** asbestos-contaminated mud, soil and water need to be disposed of as asbestos waste.

## Clearance certificates for removal of visible ACM from asbestos-contaminated soil

488. If Class A or Class B asbestos removal work is undertaken, the person who commissioned the asbestos removal work must arrange for a visual inspection by an independent person on completion of the work to verify that there is no visible asbestos residue remaining as a result of the work in the area where the work was performed (the soil from which visible ACM has been removed) or in the area immediately surrounding the area where the work was performed (see page 102). [OHS Regulations r294\(1\)](#)

**Note:** If the removal of visible ACM from asbestos-contaminated soil is permitted as limited asbestos removal work, the person who commissioned the work needs to arrange for a visual inspection by a person with the requisite knowledge skills or experience on completion of the work.

# Asbestos-contaminated soil

489. The person who commissioned the Class A or Class B asbestos removal work must obtain a clearance certificate from an independent person on completion of asbestos removal work and before the area where the asbestos removal work was performed is re-occupied (see page 102). OHS Regulations r297(1) A clearance certificate is not required if the asbestos removal work consisted only of the removal of non-friable ACM not exceeding 10 square metres in total. OHS Regulations r297(3)

**Note:** It is recommended that the clearance certificate for the soil be provided to the person receiving that soil.

## Clearance certificates for removal of asbestos-contaminated soil

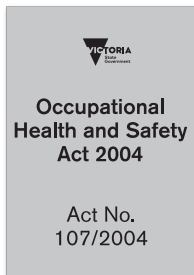
490. If Class A or Class B asbestos removal work is undertaken, the person who commissioned the asbestos removal work must arrange for a visual inspection by an independent person on completion of the work to verify that there is no visible asbestos residue remaining as a result of the work in the area where the work was performed (the area from which asbestos-contaminated soil has been removed) or in the area immediately surrounding the area where the work was performed (see page 102). OHS Regulations r294(1)

491. The person who commissioned the Class A or Class B asbestos removal work must obtain a clearance certificate from an independent person on completion of asbestos removal work and before the area where the asbestos removal work was performed is re-occupied (see page 102). OHS Regulations r297(1) A clearance certificate is not required if the asbestos removal work consisted only of the removal of non-friable ACM not exceeding 10 square metres in total. OHS Regulations r297(3)

For further guidance on removal and disposal of asbestos-contaminated soil go to [epa.vic.gov.au](http://epa.vic.gov.au).



# Appendix A – The compliance framework



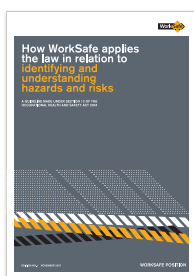
**The Occupational Health and Safety Act 2004 (OHS Act)** sets out the key principles, duties and rights in relation to occupational health and safety.



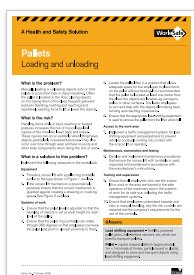
**The Occupational Health and Safety Regulations 2017 (OHS Regulations)** specify the way in which a duty imposed by the OHS Act must be performed, or prescribe procedural or administrative matters to support the OHS Act (eg requiring licences for specific activities, the keeping of records or giving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

(OHS Regulations r5)

## Administrative control

A system of work or a work procedure that is designed to eliminate or reduce a risk, but does not include:

- (a) a physical control, or
- (b) the use of personal protective equipment.

## Air-supplied respiratory protective equipment

A device that supplies air to the wearer from a source other than the ambient atmosphere.

## Approved asbestos laboratory

A laboratory approved:

- (a) by NATA to perform asbestos fibre counting or to identify asbestos in samples, or
- (b) by a scheme determined by WorkSafe under regulation 6 of the OHS Regulations.

**Note:** If WorkSafe makes a determination of a scheme for the approval of laboratories it will publish a notice in the Government Gazette and, as soon as reasonably possible, in a newspaper circulating generally throughout Victoria. For further information go to [worksafe.vic.gov.au](http://worksafe.vic.gov.au).

## Asbestos

- (a) the asbestiform varieties of mineral silicates belonging to the serpentine or amphibole groups of rock-forming minerals, including –
  - (i) actinolite asbestos
  - (ii) anthophyllite asbestos
  - (iii) chrysotile (white asbestos)
  - (iv) crocidolite (blue asbestos)
  - (v) grunerite asbestos (or amosite) (brown asbestos)
  - (vi) tremolite asbestos, or
- (b) any material or object, whether natural or manufactured, that contains one or more of the mineral silicates referred to in paragraph (a).

## Asbestos-containing material (ACM)

Any manufactured material or object that, as part of its design, contains one or more of the mineral silicates referred to in paragraph (a) of the definition of **asbestos** (other than plant in which asbestos is fixed or installed).

## Asbestos contaminated dust (ACD)

Dust that is, or is assumed under 'Part 4.4 – Asbestos' of the OHS Regulations to be, contaminated with asbestos.

# Appendix B – Definitions

(OHS Regulations r5)

## Asbestos exposure standard

0.1 f/ml of air measured in a person's breathing zone and expressed as a time weighted average fibre concentration of asbestos calculated over an eight-hour working day and measured over a minimum period of four hours in accordance with:

- (a) the Membrane Filter Method, or
- (b) a method determined by WorkSafe under regulation 6 of the OHS Regulations.

**Note:** If WorkSafe makes a determination of an exposure measurement method it will publish a notice in the Government Gazette and, as soon as reasonably possible, in a newspaper circulating generally throughout Victoria. For further information go to [worksafe.vic.gov.au](http://worksafe.vic.gov.au).

## Asbestos paraoccupational air monitoring

A procedure by which air is sampled to estimate the airborne asbestos fibre concentration in the occupational environment, taken at fixed locations, usually between one and two metres above floor level, in accordance with:

- (a) the Membrane Filter Method, or
- (b) a method determined by WorkSafe under regulation 6 of the OHS Regulations.

**Note:** If WorkSafe makes a determination of an exposure measurement method it will publish a notice in the Government Gazette and, as soon as reasonably possible, in a newspaper circulating generally throughout Victoria. For further information go to [worksafe.vic.gov.au](http://worksafe.vic.gov.au).

## Asbestos register

The asbestos register kept under regulation 227 as revised in accordance with 'Part 4.4 – Asbestos' of the OHS Regulations.

## Asbestos removal licence

- (a) a Class A asbestos removal licence, or
- (b) a Class B asbestos removal licence.

## Asbestos removal licence holder

An employer or self-employed person who is the holder of an asbestos removal licence issued under 'Part 6.1 – Licences' of the OHS Regulations.

## Asbestos removal supervisor

A person who is appointed by an asbestos removal licence holder to oversee asbestos removal work in accordance with regulation 266 of the OHS Regulations.

## Asbestos removal work

The removal of asbestos that is present in a workplace, building, structure, ship or plant so that the asbestos is no longer present in that workplace, building, structure, ship or plant, up to the point of containment.

## Asbestos waste

Asbestos removed and disposable items used during asbestos removal work or asbestos-related activities, including plastic sheeting and disposable personal protective clothing and disposable protective equipment including tools.

## Atmospheric monitoring

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.

# Appendix B – Definitions

(OHS Regulations r5)

## Breathing zone

A hemisphere of 300 millimetres radius extending in front of a person's face measured from the mid-point of an imaginary straight line joining the ears.

## Class A asbestos removal licence

A licence granted under Part 6.1 – Licences of the OHS Regulations that permits the holder to perform asbestos removal work in accordance with regulations 264 and 265.

## Class A asbestos removal work

Asbestos removal work (other than limited asbestos removal work) involving the removal of –

- (a) friable asbestos, or
- (b) asbestos contaminated dust (other than asbestos contaminated dust associated with or derived from the removal of non-friable asbestos).

## Class B asbestos removal licence

A licence granted under 'Part 6.1 – Licences' of the OHS Regulations that permits the holder to perform asbestos removal work in accordance with regulation 265.

## Class B asbestos removal work

Asbestos removal work (other than limited asbestos removal work) involving the removal of –

- (a) non-friable asbestos, or
- (b) asbestos contaminated dust associated with or derived from the removal of non-friable asbestos.

## Domestic premises

Domestic premises used solely for domestic purposes.

## Employer's asbestos register

The employer's asbestos register kept under regulation 235 as revised in accordance with 'Part 4.4 – Asbestos' of the OHS Regulations.

## Engineering control

A physical control of any kind that is designed to eliminate or reduce a risk, but does not include:

- (a) a system of work or procedure, or
- (b) the use of personal protective equipment.

## Environment Protection Authority

Has the same meaning as Authority has in the *Environment Protection Act 1970*.

## Evidence of licence document

In relation to a licence, the document given to the licence holder by WorkSafe under regulation 456, and includes any replacement document issued under 'Part 6.1 – Licences' of the OHS Regulations.

## Exposure standard

An exposure standard set out in the *Workplace Exposure Standards for Airborne Contaminants*, published by Safe Work Australia on its Internet site.

## F/ml

Fibres per millilitre.

## Friable

When dry:

- (a) may be crumbled, pulverised or reduced to powder by hand pressure, or
- (b) as a result of a work process becomes such that it may be crumbled, pulverised or reduced to powder by hand pressure.

## Glove bag

A single-use bag constructed from transparent, heavy-duty polyethylene with built-in arms and access ports.

# Appendix B – Definitions

(OHS Regulations r5)

## HEPA filter

A high-efficiency particulate air filter that is a disposable, extended media, dry type filter, in a rigid frame, with a minimum filtration efficiency of 99.97% filtration for nominal 0.3 micrometres ( $\mu\text{m}$ ) diameter thermally generated dioctylphthalata particles or an equivalent efficiency for a specified alternative aerosol and with an initial maximum resistance to airflow of 250 pascals when tested at its rated airflow capacity.

## Independent person

In 'Part 4.4 – Asbestos' of the OHS Regulations, has the meaning given by regulation 207.

## Limited asbestos removal work

Asbestos removal work which is permitted under regulation 250 of the OHS Regulations.

## Membrane Filter Method

The method for estimating airborne asbestos fibres in accordance with the *Guidance note on the membrane filter method* for estimating airborne asbestos fibres prepared by the National Health and Safety Commission and published in 2005.

## NATA

The National Association of Testing Authorities (Australia).

## Person who commissioned the asbestos removal work

The person managing or controlling a workplace or the employer who arranged for asbestos removal work to be performed.

## Personal protective equipment

Includes respiratory protective equipment and personal protective clothing.

## Safe Work Australia (SWA)

Safe Work Australia established by section 5 of the *Safe Work Australia Act 2008* (Commonwealth).

## Safe work method statement (SWMS)

Has the meaning given by regulation 324 of the OHS Regulations.

## Structure

In 'Part 4.4 – Asbestos' of the OHS Regulations, any construction, including a bridge, tunnel, shaft, dam, pipe or access pit, or any part of a construction, but does not include a building, ship or plant.

## Type of asbestos-containing material

A description of asbestos-containing material.

Example: Asbestos-containing cement sheeting, cement pipes, vinyl tiles, sprayed insulation, telecommunications pits and pipes, pipe lagging, millboard and gaskets.

# Appendix C – Examples of asbestos-containing materials

## **A**

Air conditioning ducts – exterior or interior acoustic and thermal insulation

Arc shields in lift motor rooms or large electrical cabinets

Asbestos-based plastics products – as electrical insulates and acid-resistant compositions or aircraft seats

Autoclave/steriliser insulation

## **B**

Bitumen-based water proofing such as malthoid (typically on roofs and floors but also in brickwork)

Bituminous adhesives and sealants

Boiler gaskets

Boiler insulation, slabs and wet mix

Brake disc pads

Brake linings

## **C**

Cable penetration insulation bags

Calorifier insulation

Car body filters (not common)

Caulking compounds, sealant and adhesives

Ceiling tiles

Cement conduits

Cement electrical fuse boards

Cement external roofs and walls

Cement in the use of form work when pouring concrete

Cement internal flues and downpipes

Cement moulded products, such as gutters, ridge cappings, gas meter covers, cable troughs and covers

Cement pieces for packing spaces between floor joists and piers

Cement underground pits, as used for traffic control wiring and telecommunications cabling

Cement render, plaster, mortar and coursework

Cement roof tiles

Cement sheet

Cement sheet behind ceramic tiles

Cement sheet internal over exhaust canopies, such as ovens and fume cupboards

Cement sheet internal walls and ceilings

Cement sheet underlays for vinyl

Cement storm drain pipes

Cement water pipes (usually underground)

Chrysotile wicks in kerosene heaters

Clutch faces

Compressed AC panels for flooring, verandas, bathrooms and steps for demountable buildings

Compressed asbestos fibres (CAF) used in brakes and gaskets for plant and vehicles

## **D**

Door seals on ovens

## **E**

Electric heat banks – block insulation

Electric hot water services (normally not asbestos but some millboard could be present)

Electric light fittings, high wattage, insulation around fitting (and bituminised)



# Appendix C – Examples of asbestos-containing materials

Electrical switchboards (see pitch-based)

Exhausts on vehicles

## F

Felts

Filler in acetylene gas cylinders

Filters – beverage, wine filtration

Fire blankets

Fire curtains

Fire door insulation

Fire-rated wall rendering containing asbestos with mortar

Fire-resistant plaster board, typically on ships

Fire-retardant material on steel work supporting reactors on columns in refineries in the chemical industry

Flexible hoses

Floor vinyl sheets

Floor vinyl tiles

Fuse blankets and ceramic fuses in switchboards

## G

Galbestos™ roofing materials (decorative coating on metal roofs for sound proofing)

Gaskets – chemicals, refineries

Gaskets – general

Gauze mats in laboratories/chemical refineries

Gloves – for insulation against heat

## H

Hairdryers – insulation around heating elements

Header (manifold) insulation

## I

Insulation blocks

Insulation in electric reheat units for air conditioner systems

## L

Laboratory bench tops

Laboratory fume cupboard panels

Laboratory ovens – wall insulation

Lagged exhaust pipes on emergency power generators

Lagging in penetrations in fireproof walls

Laminates (for example, Formica) used where heat resistance is required (for example, ships)

Lift shafts – AC panels lining the shaft at the opening of each floor and asbestos packing around penetrations

Limpet asbestos spray insulation

Locomotives (steam) lagging on boilers, steam lines, steam dome and gaskets

## M

Marine board (for example, marinate)

Mattresses used for covering hot equipment in power stations

Mastics

Millboard between heating units and walls

Millboard lining of switchboxes

Mortar

## P

Packing materials for gauges, valves etc – can be square packing, rope or loose fibre

Packing material on window anchorage points in high-rise buildings

Paint (typically industrial epoxy paints)

Paper used variously for insulation, filtering and production of fire resistant laminates

Pegboard

Penetrations through concrete slabs in high-rise buildings

Pipe insulation including moulded sections, water-

# Appendix C – Examples of asbestos-containing materials

mix type, rope braid and sheet

Pitch-based (eg Zelemite, Ausbestos, Lebah)  
electrical switchboards

Plaster and plaster cornice adhesives

Pump insulation

## R

Refractory linings

Refractory tiles

Rubber articles (extent of usage unknown)

## S

Sealant between floor slab and wall, usually in  
boiler rooms, risers or lift shafts

Sealant or mastic on windows

Sealants and mastics in air conditioning ducting  
joints

Spackle or plasterboard wall-jointing compounds

Sprayed insulation – acoustic wall and ceiling

Sprayed insulation – beams and ceiling slabs

Sprayed insulation – fire retardant sprayed on nut  
internally, for bolts holding external building wall  
panels

Stoves – old domestic type, wall insulation

## T

Tape and rope – lagging and jointing

Tapered ends of pipe lagging (where lagging is  
not necessarily asbestos)

Textiles

Textile gussets in air conditioning ducting systems

Tilux sheeting in place of ceramic tiles in  
bathrooms

Trailing cable under lift cabins

Trains, guards vans, millboard between heater and  
wall

Trains – Harris cars (sprayed asbestos between

steel shell and laminex)

## V

Valve insulation

## W

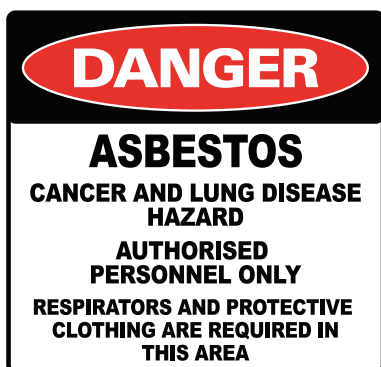
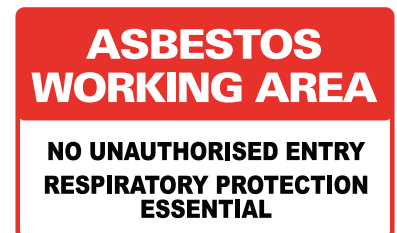
Welding rods

Woven asbestos cable sheath

## Y

Yarn

# Appendix D – Examples of asbestos warning signs



# Appendix E – Guide to the selection of respiratory protective equipment

There is a wide range of RPE available to control exposure to airborne asbestos fibres.

The selection of suitable RPE depends on the nature of the asbestos work, the probable maximum concentrations of airborne asbestos fibres likely to be encountered and any personal characteristics of the wearer (including medical conditions that may preclude the use of certain types of RPE). If there is uncertainty as to the suitability of a person to wear certain types of RPE (for example, negative pressure respiratory equipment), the asbestos removal licence holder or employer needs to seek an assessment by a registered medical practitioner.

The diagrams on page 123 provide, in approximate order of increasing efficiency, an overview of some of the respirators which can be used for protection against airborne asbestos fibres. The protection afforded by each device depends not only on the design and fit of the respirator but also upon the efficiency of the filters (ie P1, P2 or P3 – where P stands for particulate or dust).

AS/NZS 1715 *Selection, use and maintenance of respiratory protective equipment* and AS/NZS 1716 *Respiratory protective devices* provide detailed guidance on the selection, use and maintenance of RPE and need to be consulted for more detailed advice.

The table 'Selection of appropriate respiratory equipment' (see page 124) provides guidance for the selection of suitable respiratory protection for different tasks, assuming the correct work procedures are being followed.

This guide does not take account of personal features, such as facial hair or the need to wear glasses (full protection will not be achieved if either of these factors interferes with the face seal). It also does not take any account of potential misuse of the protective equipment.

A person with the requisite knowledge, skills and experience needs to determine the most appropriate respirator for asbestos removal work following a risk assessment. This person needs to have knowledge of the risks to health from exposure to airborne asbestos fibres, the nature of the asbestos removal 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.

The respirators and filters in the table 'Selection of appropriate respiratory equipment' (see page 124) are the minimum recommended for the corresponding task. The most efficient respirator and filter needs to be used.

It is recommended that non-disposable RPE be used where a half-face respirator has been determined as providing the required level of respiratory protection, as it is easier to establish if non-disposable RPE correctly fits a person's face.

## Types of respiratory protective equipment

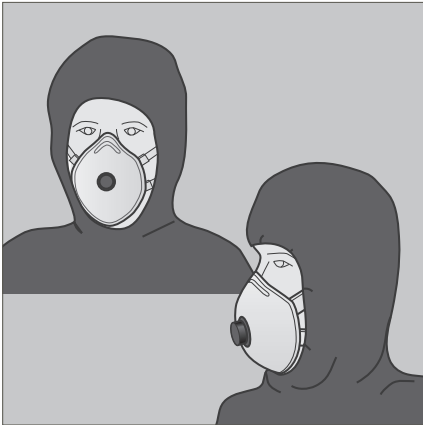
(see diagrams on page 123):

- disposable, half face particulate respirator (A)
- half-face, particulate filter (cartridge) respirator (B)
- powered, air-purifying, ventilated helmet respirator (C)
- full-face, particulate, filter (cartridge) respirator (D)
- full-face, powered air-purifying particulate respirator (E)
- full-face, positive pressure demand air-line respirator (F).

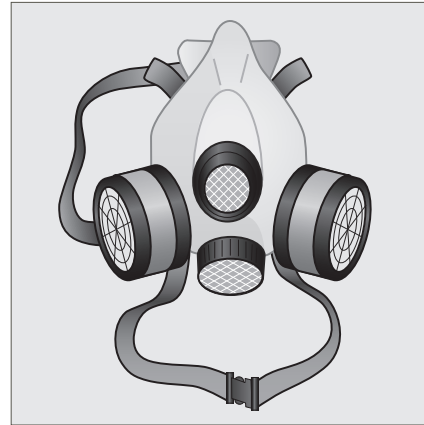
Where a disposable mask has been selected for asbestos removal work, it needs to be Australian Standard-compliant and marked with the standard reference number as well as having two straps (not one).

# Appendix E – Guide to the selection of respiratory protective equipment

RPE must be suitable for the asbestos removal work being performed and correctly fitted. Coverall hoods need to be worn over the respirator straps. These diagrams are indicative only. In order to show the correct respirator fit, the following diagrams do not show the use of coverall hoods.



(A) Disposable,\* half-face particulate respirator.



(B) Half-face, particulate filter (cartridge) respirator.



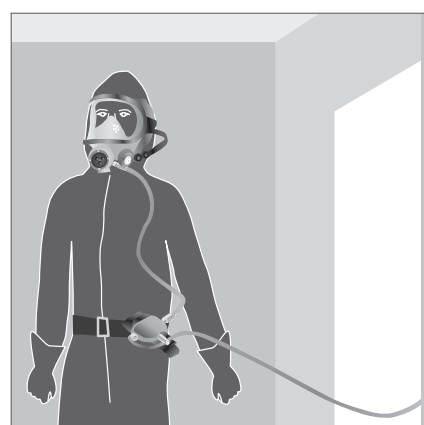
(C) Powered, air-purifying, ventilated helmet respirator.



(D) Full-face, particulate filter (cartridge) respirator.



(E) Full-face, powered air-purifying particulate respirator.



(F) Full-face, positive pressure demand air-line respirator.

\* Disposable half-face respirators are not recommended for ongoing asbestos removal work.

# Appendix E – Guide to the selection of respiratory protective equipment

## Selection of appropriate respiratory equipment

Asbestos removal work	Recommended respirator (minimum)	Filter type (where applicable)
Simple enclosure of undamaged ACM – no direct handling but possible disturbance of asbestos	Disposable,* half-face particulate respirators or Half-face, particulate filter (cartridge) respirator	P1 or P2
Removal of non-friable asbestos (eg AC sheets, ceiling tiles and vinyl tiles)	Disposable,* half-face particulate respirators or Half-face, particulate filter (cartridge) respirator	P1 or P2
Maintenance work involving the removal of small quantities of friable asbestos (for example, replacement of friable asbestos gaskets and insulation)	Full-face, particulate, filter (cartridge) respirator	P3
Certain forms of wet stripping in which wetting is prolonged and effective, and certain small-scale dry stripping operations.	Full-face, powered air-purifying particulate respirator or Full-face, positive pressure demand air-line respirator	P3
Certain forms of dry stripping and ineffective wet stripping (light wetting, no time given to saturate)	Full-face, powered air-purifying particulate respirator or Full-face, positive pressure demand air-line respirator No lesser respirator will suffice	P3
Dry stripping in confined areas	Full suit or hood, positive pressure demand continuous flow air-line respirator No lesser respirator will suffice	P3 only as a backup

\* Disposable half-face respirators are not recommended for ongoing asbestos removal work.



# Appendix F – Pro forma control plans

## CONTROL PLAN FOR ASBESTOS REMOVAL (Class A)

DATE: \_\_\_\_\_

Name of asbestos removal licence holder (as shown in licence):

Name/address of removal site

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Domestic  Industrial  School  Public venue

### GENERAL/PRELIMINARY

- Notified WorkSafe
- Employers and other persons (if relevant) occupying premises in immediate and adjacent areas notified by person who commissioned work or asbestos removal licence holder (domestic premises)
- Asbestos removal supervisor assigned for job
- Person who commissioned work has notified people (other employees) in immediate and adjacent areas
- Copies of training record available on site
- Copy of asbestos removalist licence available on site
- Copy of asbestos control plan available on site
- Copy of the asbestos register obtained from person who commissioned the work
- Paraoccupational air monitoring arranged by person who commissioned asbestos removal work [for removal of friable asbestos 1) indoors or 2) outdoors that may present a risk to others]
- Equipment [Dust Class H vacuum cleaner/negative-air unit/decontamination unit (filters etc)/respirators] maintained/checked and records/logs kept

### 1. Asbestos-containing material (ACM) to be removed

Type of ACM	Location	Friable (F) Non-friable (NF)	Condition (Good/Fair/Poor)	Quantity (m <sup>2</sup> /m <sup>3</sup> )
<input type="checkbox"/> AC roof				
<input type="checkbox"/> AC pipe				
<input type="checkbox"/> AC sheet				
<input type="checkbox"/> Vinyl tiles				
<input type="checkbox"/> Zelemite board				
<input type="checkbox"/> Pipe lagging				
<input type="checkbox"/> Sprayed				
<input type="checkbox"/> Other (specify)				

# Appendix F – Pro forma control plans

## 2. Personal protective clothing and equipment

<input type="checkbox"/>	Disposable coveralls	<input type="checkbox"/>	Full-face respirators (air-line)
<input type="checkbox"/>	Non-disposable coveralls	<input type="checkbox"/>	Employees clean shaven
<input type="checkbox"/>	Half-face respirators (P1/P2/disposable/cartridge)	<input type="checkbox"/>	Fit checks conducted
<input type="checkbox"/>	Full-face respirators (P3)	<input type="checkbox"/>	Other (specify):
<input type="checkbox"/>	Full-face powered air-purifying respirators		

## 3. Administrative controls (including securing area)

<input type="checkbox"/>	Asbestos warning signs	<input type="checkbox"/>	Personnel to prevent authorised access
<input type="checkbox"/>	Barricades/safety tape	<input type="checkbox"/>	Other (specify):
<input type="checkbox"/>	Security fencing to prevent unauthorised access to removal area		

## 4. Controls/work practices to control airborne asbestos fibres

<input type="checkbox"/>	No power tools (hammer/pinch bar/scrapper/knife/other)	<input type="checkbox"/>	Full enclosure
<input type="checkbox"/>	Seal air vents/windows/entrances/openings	<input type="checkbox"/>	Negative air unit, decontamination unit
<input type="checkbox"/>	Wet methods (water/PVA spray)	<input type="checkbox"/>	Glove bag
<input type="checkbox"/>	No unnecessary breakage	<input type="checkbox"/>	Clean up debris throughout removal
<input type="checkbox"/>	<input type="checkbox"/> Sheets removed in whole (if practical)	<input type="checkbox"/>	<input type="checkbox"/> Dust Class H vacuum cleaner
<input type="checkbox"/>	<input type="checkbox"/> Scaffolding	<input type="checkbox"/>	<input type="checkbox"/> Wet-wipe
<input type="checkbox"/>	<input type="checkbox"/> Scissor lift/elevated mobile platform	<input type="checkbox"/>	Other (specify):

## 5. Enclosed removal area (friable)

<input type="checkbox"/>	Smoke test to be conducted (by whom):
<input type="checkbox"/>	Negative air units (number: _____ )
<input type="checkbox"/>	Decontamination unit in place

## 6. Decontamination procedures

### Personal decontamination

<input type="checkbox"/>	Full decontamination unit (for Class A asbestos removal work and in certain circumstances for Class B asbestos removal work)
<input type="checkbox"/>	Dust Class H vacuum cleaner
<input type="checkbox"/>	Water spray (using only water spray is usually appropriate for minor non-friable removal jobs)

# Appendix F – Pro forma control plans

Tools and equipment		Non-disposable clothing	
<input type="checkbox"/>	Dust Class H vacuum cleaner	<input type="checkbox"/>	Spray with water
<input type="checkbox"/>	Wet-wipe	<input type="checkbox"/>	Dust Class H vacuum cleaner
<input type="checkbox"/>	Wash	<input type="checkbox"/>	Dispose of as asbestos waste
<input type="checkbox"/>	Dispose of as asbestos waste	<input type="checkbox"/>	Laundry at laundry equipped to launder clothing contaminated with asbestos (name: _____)
		<input type="checkbox"/>	Other (specify):

## 7. Methods of disposal

Asbestos waste and protective clothing/equipment		Structure used to enclose removal area (friable)	
<input type="checkbox"/>	Double bagged/twisted/taped	<input type="checkbox"/>	Waste disposal site licensed or exempted by the EPA (specify: _____)
<input type="checkbox"/>	Labelled	<input type="checkbox"/>	PVA spray then dispose as asbestos waste
<input type="checkbox"/>	Double lined waste skips	<input type="checkbox"/>	Other (specify):
<input type="checkbox"/>	Other (specify):		

## 8. Method of clean-up following removal

<input type="checkbox"/>	Remove all visible debris	<input type="checkbox"/>	Spray PVA solution onto substance/structure
<input type="checkbox"/>	Dust Class H vacuum cleaner	<input type="checkbox"/>	Visual inspection
<input type="checkbox"/>	Wet-wipe	<input type="checkbox"/>	Other (specify):
<input type="checkbox"/>	Clearance certificate (required for all Class A and Class B asbestos removal work) To be obtained from independent person by person who commissioned work (or by the asbestos removal licence holder in the case of domestic premises used solely for domestic purposes).		

## 9. Other details

Person conducting paraoccupational air monitoring (name: \_\_\_\_\_)

Independent person conducting clearance inspection (name: \_\_\_\_\_)

Independent contractor performing asbestos removal work (name: \_\_\_\_\_)

Person engaged to dispose of asbestos waste (name: \_\_\_\_\_)

## 10. Other information

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Asbestos removal supervisor \_\_\_\_\_ Date: \_\_\_\_\_

**Note:** it is recommended that the results of atmospheric monitoring and the results of paraoccupational air monitoring (if any) be attached to the asbestos control plan.

# Appendix F – Pro forma control plans

## CONTROL PLAN FOR ASBESTOS REMOVAL (Class B)

DATE: \_\_\_\_\_

Name of asbestos removal licence holder  
(as shown in licence):

Name/address of removal site

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Domestic  Industrial  School  Public venue

### GENERAL/PRELIMINARY

- Notified WorkSafe
- Employers and other persons (if relevant) occupying premises in immediate and adjacent areas notified by person who commissioned work or asbestos removal licence holder (domestic premises)
- Asbestos removal supervisor assigned for job
- Person who commissioned work has notified people (other employees) in immediate and adjacent areas
- Copies of training record available on site
- Copy of asbestos removalist licence available on site
- Copy of asbestos control plan available on site
- Copy of the asbestos register obtained from person who commissioned the work
- Equipment (Dust Class H vacuum cleaner/respirators) maintained/checked and records/logs kept

### 1. Non-friable asbestos-containing material (ACM) to be removed

Type of ACM	Location	Condition (Good/Fair/Poor)	Quantity (m <sup>2</sup> /m <sup>3</sup> )
<input type="checkbox"/> AC roof			
<input type="checkbox"/> AC pipe			
<input type="checkbox"/> AC sheet			
<input type="checkbox"/> Vinyl tiles			
<input type="checkbox"/> Zelemite board			
<input type="checkbox"/> Other (specify)			

### 2. Personal protective clothing and equipment

<input type="checkbox"/> Disposable coveralls	<input type="checkbox"/> Full-face powered air-purifying respirators
<input type="checkbox"/> Non-disposable coveralls	<input type="checkbox"/> Employees clean shaven
<input type="checkbox"/> Half-face respirators (P1/P2/disposable/cartridge)	<input type="checkbox"/> Fit checks conducted
<input type="checkbox"/> Full-face respirators (P3)	<input type="checkbox"/> Other (specify):

# Appendix F – Pro forma control plans

3. Administrative controls (including securing area)	
<input type="checkbox"/> Asbestos warning signs	<input type="checkbox"/> Personnel to prevent authorised access
<input type="checkbox"/> Barricades/safety tape	<input type="checkbox"/> Other (specify):
<input type="checkbox"/> Security fencing to prevent unauthorised access to removal area	

4. Controls/work practices to control airborne asbestos fibres	
<input type="checkbox"/> No power tools (hammer/pinch bar/scrapper/knife/other)	<input type="checkbox"/> Seal air vents/windows/entrances/openings
<input type="checkbox"/> No unnecessary breakage	<input type="checkbox"/> Clean up debris throughout removal
<input type="checkbox"/> Sheets removed in whole (if practical)	<input type="checkbox"/> Dust Class H vacuum cleaner
<input type="checkbox"/> Scaffolding	<input type="checkbox"/> Wet-wipe
<input type="checkbox"/> Scissor lift/elevated mobile platform	<input type="checkbox"/> Other (specify):
<input type="checkbox"/> Wet methods (water/PVA spray)	

5. Decontamination procedures	
<b>Personal decontamination</b>	
<input type="checkbox"/> Decontamination unit (in certain circumstances for Class B asbestos removal work)	
<input type="checkbox"/> Dust Class H vacuum cleaner	
<input type="checkbox"/> Water spray (using only water spray is usually appropriate for minor non-friable removal jobs)	
<b>Tools and equipment</b>	<b>Non-disposable clothing</b>
<input type="checkbox"/> Dust Class H vacuum cleaner	<input type="checkbox"/> Spray with water
<input type="checkbox"/> Wet-wipe	<input type="checkbox"/> Dust Class H vacuum cleaner
<input type="checkbox"/> Wash	<input type="checkbox"/> Dispose of as asbestos waste
<input type="checkbox"/> Dispose of as asbestos waste	<input type="checkbox"/> Launder at laundry equipped to launder clothing contaminated with asbestos (name: _____)
	<input type="checkbox"/> Other (specify):

6. Methods of disposal	
<b>Asbestos waste and protective clothing / equipment and any enclosures used</b>	
<input type="checkbox"/> Double bagged/twisted/taped	<input type="checkbox"/> PVA spray then dispose as asbestos waste
<input type="checkbox"/> Labelled	<input type="checkbox"/> Waste disposal site licensed or exempted by the EPA (specify: _____)
<input type="checkbox"/> Double lined waste skips	<input type="checkbox"/> Other (specify):

# Appendix F – Pro forma control plans

## 7. Clean-up following removal

<input type="checkbox"/>	Remove all visible debris	<input type="checkbox"/>	Spray PVA solution onto substance/structure
<input type="checkbox"/>	Dust Class H vacuum cleaner	<input type="checkbox"/>	Visual inspection
<input type="checkbox"/>	Wet-wipe	<input type="checkbox"/>	Other (specify):
<input type="checkbox"/>	Clearance certificate (required for all Class A and Class B asbestos removal work) To be obtained from independent person by person who commissioned work (or by asbestos removal licence holder in the case of domestic premises used solely for domestic purposes).		

## 8. Other details

Independent person conducting clearance inspection (name: \_\_\_\_\_)

Person engaged to dispose of asbestos waste (name: \_\_\_\_\_)

## 9. Other information

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Asbestos removal supervisor \_\_\_\_\_ Date: \_\_\_\_\_

**Note:** it is recommended that the results of atmospheric monitoring and the results of paraoccupational air monitoring (if any) be attached to the asbestos control plan.



# Appendix G – Example of an asbestos removal log and check sheet

Asbestos removal log							
Site:			Address:		Specific location:		
Negative air units	Pressure	Pre-filter (condition/last changed)	HEPA filter (condition/last changed)	Pressure differential	Magnohelic	Warning devices (check)	Certification documents available on site (Y/N)
No.1							
No. 2							
No. 3							
Compressor	Last date of air test		Last date of filter change		Any odour?	Performance	
No.1							
No. 2							
No. 3							
Dust Class H vacuum cleaners	Condition		Last date of filter change			Certification documents available on site (Y/N)	
No.1							
No. 2							
No. 3							
Decontamination unit (condition/operation – eg hot/cold water):							
Pump box filter (condition/date last changed):							
Hot water unit availability and performance:							
Fire extinguishers available:							
First aid box available (check contents):							
Notes:							
Print name:				Sign name:		Date:	

# Appendix H – Exposure standard and atmospheric monitoring

## How is an employee's exposure to airborne asbestos fibres determined?

An employee's exposure to airborne asbestos fibres can be determined through atmospheric monitoring (also known as 'personal air monitoring' or 'exposure monitoring') and comparing the results with the asbestos exposure standard to determine if an employee's exposure to asbestos is excessive.

## What is atmospheric monitoring?

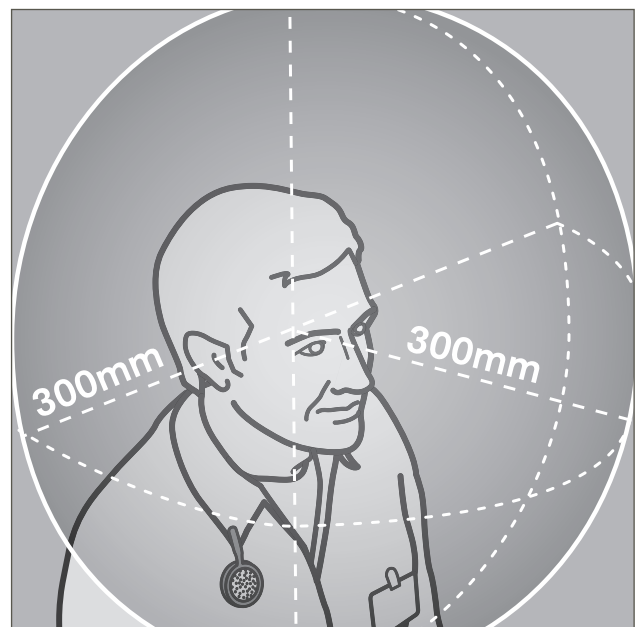
Atmospheric monitoring involves the use of sampling and analytical techniques to obtain an estimate of the level of a person's (for example, employee) exposure to airborne asbestos fibres of contaminants.

## What is the asbestos exposure standard?

The asbestos exposure standard for all forms of asbestos is 0.1 fibres per millilitre (0.1 f/ml) of air measured in a person's breathing zone and expressed as a time-weighted average fibre concentration of asbestos calculated over an eight hour working day and measured over a minimum of 4 hours in accordance with the membrane filter method or a method determined by WorkSafe under regulation 6 of the OHS Regulations. For more information see the SWA guidance note on the *Membrane filter method for estimating airborne asbestos fibres* 2nd Edition [NOHSC: 3003 (2005)].

**Note:** RPE should not be considered when establishing whether there is a risk of exposure to airborne asbestos fibres.

The exposure standard represents an airborne concentration of a particular substance (for example, asbestos) in a person's breathing zone.



*The breathing zone.*

The breathing zone is defined as a hemisphere with a radius of 300mm extending in front of a person's face measured from the mid-point of an imaginary straight line joining the ears.

The asbestos exposure standard does not represent a 'risk free' level at which every employee can be guaranteed absolute protection from any asbestos related illness. Nor does the asbestos exposure standard constitute a 'fine line' between satisfactory and unsatisfactory working conditions.

# Appendix H – Exposure standard and atmospheric monitoring

Results of atmospheric monitoring can only be directly compared to the exposure standard if monitoring was performed in the breathing zone of the employee over a continuous period of not less than four hours and the sample is considered representative of exposure.

The results of static or fixed position monitoring should not be used as an indicator of actual exposure to airborne asbestos fibres. However, in certain circumstances, static or fixed position monitoring can help in determining the design of risk controls or the effectiveness of existing risk controls.

## When is atmospheric monitoring required?

An employer must ensure that a determination of an employee's exposure to airborne asbestos fibres in the workplace is carried out if there is uncertainty (based on reasonable grounds) as to whether the exposure standard has been exceeded. [OHS Regulations r211](#)

In other words, atmospheric monitoring is required if risk to health cannot be determined with confidence by simply reviewing the information about asbestos and examining the nature of the work.

The following are examples of situations where atmospheric monitoring may be needed to determine an employee's exposure to airborne asbestos fibres in the workplaces due to uncertainty about whether there is a risk or the level of exposure:

- it is not clear whether new or existing risk controls are effective
- the risk to health is largely controlled through the use of RPE but there are concerns that RPE has not been correctly selected, used, fitted, maintained or stored, and employees have not been adequately trained in its use
- the risk to health is largely managed through administrative controls (ie safe work practices or systems of work) and employees do not always follow these practices – perhaps due to lack of training or supervision
- there is evidence (such as dust deposits in the work area) that the risk controls (such as engineering controls) have deteriorated as a result of poor maintenance, or
- process modifications or changes in work practices have occurred that may adversely affect employee exposure.

# Appendix H – Exposure standard and atmospheric monitoring

If it is obvious that there is potential for exposure to airborne asbestos fibres, priority needs to be given to controlling the risk rather than carrying out atmospheric monitoring just to confirm that the potential for exposure exists. However, once controls have been put in place, their effectiveness can be determined by performing atmospheric monitoring.

For further information about atmospheric monitoring, refer to relevant documented standards, technical journals or publications issued by WorkSafe and SWA. Further information and advice can be obtained from professionals such as occupational hygienists.

## Who can conduct the atmospheric monitoring?

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

The Australian Institute of Occupational Hygienists (**AIOH**) is an incorporated institute that represents the occupational hygiene field both nationally and internationally. A list of service providers who may be able to conduct atmospheric monitoring can be found at [aioh.org.au](http://aioh.org.au).

## Who can analyse the atmospheric monitoring samples?

The analysis of an asbestos sample (including an atmospheric monitoring sample involving asbestos) must be undertaken by an approved asbestos laboratory (for example, a laboratory approved by NATA) [OHS Regulations r213\(1\)](#).

The NATA website ([nata.com.au](http://nata.com.au)) can be used to confirm whether a laboratory is approved by NATA.

## What actions are required after atmospheric monitoring?

If atmospheric monitoring results indicate that risk control measures have deteriorated or are not effective, prompt action needs to be taken to reduce exposure to airborne asbestos fibres. Risk control measures need to be restored or improved as soon as possible. This may involve ceasing work while normal risk control measures are restored to the required level of effectiveness, providing portable or temporary ventilation, adopting modified work practices or providing PPE.

## Results of atmospheric monitoring to be available

An employer must ensure that copies of the results of atmospheric monitoring for airborne asbestos fibres at the workplace are readily accessible to the HSR of any affected DWG and to the affected employees. [OHS Regulations r212](#) It is important that all atmospheric monitoring results are communicated to the employees involved, regardless of whether the results indicate excessive, minimal or no exposure to airborne asbestos fibres.

# Appendix I – Class A asbestos removal work involving the removal of asbestos-contaminated dust

*The following is an example of how to perform specific asbestos removal work. It does not address other hazards (such as fall from heights or electrical hazards). The procedure used needs to be appropriate to the specific circumstances at the workplace.*

1. Obtain and review the asbestos register (including any other relevant documentation relating to the presence of asbestos-contaminated dust (ACD)) from the person who commissioned the removal work.
2. A Class A asbestos removal licence holder must perform the asbestos removal work (see 'Class A or Class B asbestos removal work' on page 20) and an asbestos control plan must be prepared (see 'Asbestos control plan' on page 67).
3. A person must not perform Class A asbestos removal work unless they are informed, instructed and trained to perform the work in a manner that is safe and without risks to health (see 'Information, instruction, training and supervision' on page 32).
4. Identify where the asbestos removal area will be and move all unnecessary items out of the area or cover them with heavy-duty polythene sheeting (minimum 200 micron thickness) if they could be contaminated with asbestos during the asbestos removal work.
5. The person who commissioned the Class A asbestos removal work must arrange for asbestos paraoccupational air monitoring to be conducted before work commences and for the duration of the work (see 'Paraoccupational air monitoring requirements' on page 98).
6. Ensure an asbestos removal supervisor is on site at all times when Class A asbestos removal work is being performed.
7. Isolate the asbestos removal area with appropriately placed durable signs and barricades using methods which may include temporary fencing, bollards, tape, rope or plastic sheeting. Ensure signs and barricades remain in place until a clearance certificate has been obtained.
8. Put on PPE, including disposable coveralls with a hood, and appropriate boots and RPE. Preference should be given to boots without laces as laced boots can be difficult to decontaminate.
9. The minimum recommended RPE for this task is a non-disposable half-face respirator with a P1 filter or P2 filter. If there is any uncertainty regarding respiratory protection, advice from a person with the requisite knowledge, skills and experience (such as an occupational hygienist) needs to be obtained.
10. Use damp cloths and/or a Dust Class H vacuum cleaner to collect and clean any asbestos-contaminated dust.
11. Place the asbestos waste into a 200 micron-thick asbestos waste bag or suitable alternate waste container dedicated for asbestos waste that is clearly labelled with an appropriate warning sign indicating asbestos waste.

# Appendix I – Class A asbestos removal work involving the removal of asbestos-contaminated dust

12. Once all ACD (including used rags and other asbestos contaminated waste) has been contained in an asbestos waste bag or suitable waste container so as to eliminate the release of airborne asbestos fibres and all tools have been decontaminated and cleaned, begin the personal decontamination process.
13. Carry out personal decontamination in a designated area away from the main removal area and near the boundary of the barricaded area. The method of personal decontamination may vary. The following is one method:
  - Clean disposable coveralls and RPE while still wearing them. Coveralls can be cleaned using a Dust Class H vacuum cleaner, damp rags or fine water mist spray and RPE can be cleaned with a damp rag or cloth.
  - While still wearing RPE, remove coveralls by carefully turning them inside-out to entrap any remaining contamination and then ensure they are contained in an asbestos waste bag for disposal as asbestos waste.
  - Remove RPE. If a non-disposable respirator was used, inspect it to ensure it is free from contamination, clean it with a damp rag if necessary, then store in a container. Disposable respirators do not require cleaning and must be contained for disposal as asbestos waste (see 'Asbestos waste containment and disposal' on page 56).
14. Ensure all used rags are placed into asbestos waste bags.
15. Ensure all asbestos waste bags are goose-necked, the exterior cleaned then double bagged and ensure all asbestos waste containers are sealed.
16. Place all asbestos waste bags and containers in a secure storage facility or transport vehicle for disposal.
17. On completion of the asbestos removal work, the person who commissioned the work must arrange for a visual inspection by an independent person to verify that there is no visible asbestos residue remaining in the removal area and immediately surrounding the area (see 'Clearance to re-occupy an asbestos removal area' on page 102). A clearance certificate must be obtained from the independent person before the removal area can be re-occupied (see 'When must a clearance certificate be obtained?' on page 103).
18. Transport the asbestos waste in accordance with EPA Victoria requirements.
19. Dispose of the asbestos waste bags/containers at a waste disposal site licensed or exempted by the EPA to accept asbestos waste.



# Appendix J – Removal of non-friable asbestos cement products

*The following is an example of how to perform specific asbestos removal work. It does not address other hazards (such as fall from heights or electrical hazards). The procedure used needs to be appropriate to the specific circumstances at the workplace.*

1. Obtain and review the asbestos register (from the person who commissioned the asbestos removal work). This is not relevant if the asbestos removal work will be undertaken at a domestic premises used solely for domestic purposes. If this is the case, ensure all ACM in the area to be removed is identified prior to any refurbishment or removal work.
2. If the amount of non-friable AC to be removed is greater than 10 square metres or the employer or self-employed person will perform more than one hour of asbestos removal work in total during a seven day period, an asbestos removal licence holder must perform the asbestos removal work (see 'Class A or Class B asbestos removal work' on page 20) and an asbestos control plan must be prepared (see 'Asbestos control plan' on page 67).
3. A person must not perform asbestos removal work unless they are informed, instructed and trained to perform the work in a manner that is safe and without risks to health (see 'Information, instruction, training and supervision' on page 32).
4. Ensure an asbestos removal supervisor is accessible at all times when Class B asbestos removal work is being performed.
5. Identify where the removal area will be and move all unnecessary items out of the area or cover them with heavy-duty polythene sheeting (minimum 200 micron thickness) if they could be contaminated with asbestos during the asbestos removal work.
6. Isolate the asbestos removal area with appropriately placed durable signs and barricades using methods which may include temporary fencing, bollards, tape, rope or plastic sheeting. Ensure signs and barricades remain in place until the removal work is completed or, in the case of removal greater than 10 square metres, a clearance certificate has been obtained.
7. Put on PPE, including disposable coveralls with a hood, and appropriate boots and respirator. Preference should be given to boots without laces as laced boots can be difficult to decontaminate.
8. The minimum recommended RPE for this task is a non-disposable half-face respirator with a P1 filter or P2 filter.
9. Clean the removal area of any debris prior to removing fixed or installed AC products and place drop sheets in areas where debris and dust is likely to fall. This will assist in cleaning the removal area.
10. Ensure the minimum numbers of people are present.
11. If possible, remove the AC products whole. If some sections have been damaged prior to removal, these may be strengthened by applying appropriate adhesive tape.

## Appendix J – Removal of non-friable asbestos cement products

12. Identify the method in which the AC product is held in place, then use a method that would minimise airborne dust generation in removing the product. Examples include:
  - Fasteners: dampen then carefully remove using a chisel.
  - Bolts: dampen then use bolt cutters (or an oxy torch) – do not use an angle grinder.
  - Screws: dampen then carefully unscrew with a screwdriver.
  - Nails: dampen then carefully lever the panel or punch through if absolutely necessary.
13. Avoid breaking the AC products. If breakage is absolutely necessary to remove/dislodge the product, dampen the material and minimise breakage.
14. Remove the AC product wet/damp by applying a fine water mist spray unless this creates an electrical risk. Once removed from its fixed/installed position, spray the back of the product with a fine water mist spray. Frequent application of a fine water mist spray may be required depending on the circumstances (for example, a very hot day) but be careful not to create a slip hazard.
15. If asbestos-contaminated nails are to be re-used, they must be decontaminated (see 'Decontaminating equipment' on page 51). This may be done by carefully wiping them with a damp rag. Nails that cannot be decontaminated or will not be re-used must be disposed of as asbestos waste (see 'Asbestos waste containment and disposal' on page 56).
16. If the system of removal involves walking on the roof to remove roof sheeting (this should be the last option when choosing a method to remove roof sheeting), spray the AC roof sheeting with a PVA solution prior to removal. Ensure the PVA is dry before removing it so as to avoid a slip hazard. Once removed, spray the back (underside) of the AC with either a fine water mist spray or the PVA solution.
17. Where the AC product requires lowering to the ground, ensure this is done in a manner that will minimise the generation of airborne dust – do not use chutes, ramps or similar gravity dependent devices. Examples of appropriate lowering methods include:
  - by hand – over short distances
  - using scissor lifts or similar devices
  - using scaffolds.
18. Check for debris in fasteners, bolts, etc and remove with either a Dust Class H vacuum cleaner or damp rags.
19. Clean the removal area with either a Dust Class H vacuum cleaner or damp rags. If the timber is to be re-used and cannot be effectively wet-wiped or vacuumed, it needs to be sealed with a PVA low pressure spray. A pigmented spray would assist in identifying which areas had been sprayed.
20. Clean the equipment used for removing the AC products with either a Dust Class H vacuum cleaner or damp rags.
21. Dispose of all damp rags, plastic sheeting (used to cover items in the removal area) and drop sheets as asbestos waste.

# Appendix J – Removal of non-friable asbestos cement products

22. Ensure all waste is double bagged/wrapped in heavy-duty polythene sheeting (minimum 200 micron thickness). The following methods would be appropriate depending on the type of asbestos waste being packaged:
  - Plastic waste bags (half-filled) – see item 24 below.
  - Plastic sheeting wrapped and taped around an individual or a manageable (small) number of AC products – ensure the exterior of the plastic is cleaned.
  - Double lining a waste bin/skip with plastic sheeting.
23. Ensure waste containers are clearly labelled with an appropriate warning sign indicating asbestos waste.
24. Once all removed AC products (including associated debris, used rags and other asbestos waste) has been contained in an asbestos waste bag or suitable waste container so as to eliminate the release of airborne asbestos fibres and all tools have been decontaminated and cleaned, begin the personal decontamination process.
25. Carry out personal decontamination in a designated area away from the main removal area and near the boundary of the barricaded area. The method of personal decontamination may vary.
  - a. For Class B asbestos removal work, an assessment of the asbestos removal work to be performed needs to be undertaken by a person with the requisite skills, knowledge and experience to determine if a decontamination unit needs to be used to ensure appropriate decontamination (see 'The decontamination unit' on page 75).
  - b. Where the quantity of non-friable ACM to be removed is permitted as limited asbestos removal work or is Class B asbestos removal work where an assessment by a person with the requisite skills, knowledge and experience has determined that a decontamination unit is not needed to ensure appropriate decontamination, the following method of personal decontamination is appropriate:
    - Clean disposable coveralls and RPE while still wearing them. Coveralls can be cleaned using a Dust Class H vacuum cleaner, damp rags or fine water mist spray and RPE can be cleaned with a damp rag or cloth.
    - While still wearing RPE, remove coveralls by carefully turning them inside-out to entrap any remaining contamination and then ensure they are contained in an asbestos waste bag for disposal as asbestos waste.
    - Remove RPE. If a non-disposable respirator was used, inspect it to ensure it is free from contamination, clean it with a damp rag if necessary, then store in a container. Disposable respirators do not require cleaning and must be contained for disposal as asbestos waste (see 'Asbestos waste containment and disposal' on page 56).
26. Ensure all used rags are placed into asbestos waste bags.
27. Ensure all asbestos waste bags are goose-necked, the exterior cleaned then double bagged and ensure all asbestos waste containers are sealed.
28. Place all asbestos waste bags and containers in a secure storage facility or transport vehicle for disposal.

## Appendix J – Removal of non-friable asbestos cement products

29. Perform a visual clearance to ensure that there is no visible asbestos residue. For Class A and Class B asbestos removal work, the person who commissioned the asbestos removal work must arrange for a visual inspection by an independent person (see 'Clearance to re-occupy an asbestos removal area' on page 102) and a clearance certificate obtained before the removal area is re-occupied (see 'When must a clearance certificate be obtained?' on page 103). A clearance certificate is not required if the asbestos removal work consisted only of the removal of non-friable ACM not exceeding 10 square metres in total.
30. Transport the asbestos waste in accordance with EPA Victoria requirements.
31. Dispose of the asbestos waste bags/containers at a waste disposal site licensed or exempted by the EPA to accept asbestos waste.

# Appendix K – Removal of non-friable asbestos-containing floor tiles

*The following is an example of how to perform specific asbestos removal work. It does not address other hazards (such as fall from heights or electrical hazards). The procedure used needs to be appropriate to the specific circumstances at the workplace.*

If vinyl floor covering is identified as having a friable backing the asbestos removal work must be performed by a Class A asbestos removal licence holder (see 'Class A or Class B asbestos removal work' on page 20).

1. Obtain and review the asbestos register (from the person who commissioned the asbestos removal work). This is not relevant if the asbestos removal work will be undertaken at a domestic premises used solely for domestic purposes. If this is the case, ensure all ACM in the area to be removed is identified prior to any refurbishment or removal work.
2. If the amount of non-friable floor tiles to be removed is greater than 10 square metres or the employer or self-employed person will perform more than one hour of asbestos removal work in total during a seven day period, an asbestos removal licence holder must perform the asbestos removal work (see 'Class A or Class B asbestos removal work' on page 20) and an asbestos control plan must be prepared (see 'Asbestos control plan' on page 67).
3. A person must not perform asbestos removal work unless they are informed, instructed and trained to perform the work in a manner that is safe and without risks to health (see 'Information, instruction, training and supervision' on page 32).
4. Ensure an asbestos removal supervisor is accessible at all times when Class B asbestos removal work is being performed.
5. Identify where the asbestos removal area will be and move all unnecessary items and furniture out of the area or cover them with heavy-duty polythene sheeting (minimum 200 micron thickness) if they could be contaminated with asbestos during the asbestos removal work.
6. Isolate the asbestos removal area with appropriately placed durable signs and barricades using methods which may include temporary fencing, bollards, tape, rope or plastic sheeting. Ensure signs and barricades remain in place until removal work is completed or, in the case of removal greater than 10 square metres, a clearance certificate has been obtained.
7. Put on PPE, including disposable coveralls with a hood, and appropriate boots and respirator. Preference should be given to boots without laces as laced boots can be difficult to decontaminate.
8. The minimum recommended RPE for this task is a non-disposable half-face respirator with a P1 filter or P2 filter.
9. Place a tool (such as a scraper or wide blade) between the tiles and lift the tile away from the floor being careful to minimise breakage. A hammer or mallet can be used to tap the tool under firmly adhered tiles to assist separating the tiles from the floor.
10. Minimise dust by spraying fine water mist under tiles as they are lifted.
11. Place the tiles into a 200 micron-thick asbestos waste bag or suitable alternate waste container dedicated for asbestos waste that is clearly labelled with an appropriate warning sign indicating asbestos waste.

# Appendix K – Removal of non-friable asbestos-containing floor tiles

12. Use the scraper to remove any adhesive that is left adhered to the floor after each tile has been removed and place this waste into the asbestos waste bag or suitable waste container.
13. Ensure waste bags are not filled more than half full to assist with sealing and to avoid bag tears.
14. After all tiles, adhesive and any debris has been removed, clean the entire area using a Dust Class H vacuum cleaner. Alternatively the area can be cleaned by wet wiping with damp rags.
15. Use damp rags to clean the equipment that was used for removing the tiles and any adhesive.
16. Place used rags into an asbestos waste bag or waste container (as outlined in item 11).
17. Once all tiles (including adhesive and other asbestos waste) have been contained in an asbestos waste bag or suitable waste container so as to eliminate the release of airborne asbestos fibres and all tools have been decontaminated and cleaned, begin the personal decontamination process.
18. Carry out personal decontamination in a designated area. The method of personal decontamination may vary. The following is one method:
  - Clean the disposable coveralls and RPE while still wearing them. Coveralls can be cleaned using a Dust Class H vacuum cleaner, damp rags, or fine water mist spray and RPE can be cleaned with a damp rag or cloth.
  - Whilst still wearing RPE, remove coveralls by carefully turning them inside-out to entrap any remaining contamination and then ensure they are contained in an asbestos waste bag for disposal as asbestos waste.
  - Remove RPE. If a non-disposable respirator was used, inspect it to ensure it is free from contamination, clean it with a damp rag if necessary, then store in a container. Disposable respirators do not require cleaning and must be contained for disposal as asbestos waste (see 'Asbestos waste containment and disposal' on page 56).
19. Ensure all used rags are placed into asbestos waste bags.
20. Ensure all asbestos waste bags are goose-necked, the exterior cleaned then double bagged and ensure all asbestos waste containers are sealed.
21. Place all asbestos waste bags and containers in a secure storage facility or transport vehicle for disposal.
22. Perform a visual clearance to ensure that there is no visible asbestos residue. For Class A or Class B asbestos removal work, the person who commissioned the asbestos removal work must arrange for a visual inspection by an independent person (see 'Clearance to re-occupy an asbestos removal area' on page 102) and a clearance certificate obtained before the removal area is re-occupied (see 'When must a clearance certificate be obtained?' on page 103). A clearance certificate is not required if the asbestos removal work consisted only of the removal of non-friable ACM not exceeding 10 square metres in total.
23. Transport the asbestos waste in accordance with EPA Victoria requirements.
24. Dispose of the asbestos waste bags/containers at a waste disposal site licensed or exempted by the EPA to accept asbestos waste.



# Appendix L – Removal of asbestos-containing gaskets and rope seals

*The following is an example of how to perform specific asbestos removal work. It does not address other hazards (such as fall from heights or electrical hazards). The procedure used needs to be appropriate to the specific circumstances at the workplace.*

This material is generally regarded as non-friable. However this material can deteriorate with time as such if there is any doubt, advice needs to be sought from a person with the requisite knowledge, skills and experience in dealing with ACMs. Members of the Australian Institute of Occupational Hygienists (AIOH) would be able to assist in providing this advice.

1. Obtain and review the asbestos register (from the person who commissioned the asbestos removal work). This is not relevant if the asbestos removal work will be undertaken at a domestic premises used solely for domestic purposes. If this is the case, ensure all ACM in the area to be removed is identified prior to any removal work.
2. If the employer or self-employed person will perform more than one hour of non-friable ACM asbestos removal work in total during a seven day period, an asbestos removal licence holder must perform the work (see 'Class A or Class B asbestos removal work' on page 20) and an asbestos control plan must be prepared (see 'Asbestos control plan' on page 67). If the ACM to be removed is friable, a Class A asbestos removal licence holder must perform the asbestos removal work.
3. A person must not perform asbestos removal work unless they are informed, instructed and trained to perform the work in a manner that is safe and without risks to health (see 'Information, instruction, training and supervision' on page 32).
4. Ensure an asbestos removal supervisor is accessible at all times when Class B asbestos removal work is being performed. If the ACM is friable, ensure an asbestos removal supervisor is on site at all times when Class A asbestos removal work is being performed.
5. Identify where the removal area will be and move all unnecessary items out of the area or cover them with heavy-duty polythene sheeting (minimum 200 micron thickness) if they could be contaminated with asbestos during the asbestos removal work.
6. Isolate the asbestos removal area with appropriately placed durable signs and barricades using methods which may include temporary fencing, bollards, tape, rope or plastic sheeting. Ensure signs and barricades remain in place until the removal work is completed or, in the case of friable ACM, a clearance certificate has been obtained.
7. Put on PPE, including disposable coveralls with a hood, and appropriate boots and respirator. Preference should be given to boots without laces as laced boots can be difficult to decontaminate.

# Appendix L – Removal of asbestos-containing gaskets and rope seals

8. The minimum recommended RPE for this task is a non-disposable half-face respirator with a P1 filter or P2 filter. A higher level of respiratory protection may be required depending on the level of airborne asbestos fibres likely to be generated during the asbestos removal work.
9. Ensure the plant and equipment has been made safe (eg pipework emptied, electrical supply isolated, equipment shutdown).
10. Unbolt or unscrew the flange or dismantle the equipment.
11. Once accessible, dampen the ACM with a fine water mist spray or similar. Continue dampening the ACM as more of it is exposed/accessible.
12. Ease the gasket or rope seal away with the scraper and place into the waste container positioned directly beside/beneath it.
13. Keep the area damp and scrape away any residue. Consider using a Dust Class H vacuum cleaner while scraping.
14. Place the asbestos waste into a 200 micron-thick asbestos waste bag or suitable alternate waste container dedicated for asbestos waste that is clearly labelled with an appropriate warning sign indicating asbestos waste.
15. Ensure asbestos waste bags are not filled more than half full to assist with sealing and to avoid bag tears.
16. Clean the asbestos removal area using a Dust Class H vacuum cleaner or damp rags.
17. Use damp rags to clean the equipment that was used for removing the ACM.
18. Dispose of all damp rags as asbestos waste (as outlined in item 14).
19. Once all ACM and waste has been contained in an asbestos waste bag or suitable waste container so as to eliminate the release of airborne asbestos fibres and all tools have been decontaminated and cleaned, begin the personal decontamination process.
20. Carry out personal decontamination in a designated area. The method of personal decontamination may vary. The following is one method:
  - Clean disposable coveralls and RPE while still wearing them. Coveralls can be cleaned using a Dust Class H vacuum cleaner, damp rags, or fine water mist spray and RPE can be cleaned with a damp rag or cloth.
  - While still wearing RPE, remove coveralls by carefully turning them inside-out to entrap any remaining contamination and then ensure they are contained in an asbestos waste bag for disposal as asbestos waste.
  - Remove RPE. If a non-disposable respirator was used, inspect it to ensure it is free from contamination, clean it with a damp rag if necessary, then store in a container. Disposable respirators do not require cleaning and must be contained for disposal as asbestos waste (see 'Waste containment and disposal program' on page 56).
21. Ensure all used rags are placed into asbestos waste bags.
22. Ensure all asbestos waste bags are goose-necked, the exterior cleaned then double bagged and ensure all asbestos waste containers are sealed.
23. Place all asbestos waste bags and containers in a secure storage facility or transport vehicle for disposal.

# Appendix L – Removal of asbestos-containing gaskets and rope seals

24. Perform a visual clearance to ensure that there is no visible asbestos residue. For Class A and Class B asbestos removal work, the person who commissioned the asbestos removal work must arrange for a visual inspection by an independent person (see 'Clearance to re-occupy an asbestos removal area' on page 102) and a clearance certificate obtained before the removal area is re-occupied (see 'When must a clearance certificate be obtained?' on page 103). A clearance certificate is not required if the asbestos removal work consisted only of the removal of non-friable ACM not exceeding 10 square metres in total.
25. Transport the asbestos waste in accordance with EPA Victoria requirements.
26. Dispose of the asbestos waste bags/containers at a waste disposal site licensed or exempted by the EPA to accept asbestos waste.

# Appendix M – Removal of bituminous (malthoid) asbestos-containing material

*The following is an example of how to perform specific asbestos removal work. It does not address other hazards (such as fall from heights or electrical hazards). The procedure used needs to be appropriate to the specific circumstances at the workplace.*

This material is generally regarded as non-friable. If there is any doubt, advice needs to be sought from a person with knowledge and experience in dealing with ACM. Members of the Australian Institute of Occupational Hygienists (AIOH) would be able to assist in providing this advice.

1. Obtain and review the asbestos register (from the person who commissioned the removal work). This is not relevant if the asbestos removal work will be undertaken at domestic premises used solely for domestic purposes. If this is the case, ensure all ACM in the area to be removed is identified prior to any removal work.
2. If the employer or self-employed person will perform more than one hour of non-friable ACM asbestos removal work in total during a seven day period, an asbestos removal licence holder must perform the work (see 'Class A or Class B asbestos removal work' on page 20) and an asbestos control plan must be prepared (see 'Asbestos control plan' on page 67). In the unusual circumstance that the ACM to be removed is friable, a Class A asbestos removal licence holder must perform the asbestos removal work.
3. A person must not perform asbestos removal work unless they are informed, instructed and trained to perform the work in a manner that is safe and without risks to health (see 'Information, instruction, training and supervision' on page 32).
4. Ensure an asbestos removal supervisor is accessible at all times where Class B asbestos removal work is being performed. If the ACM is friable, ensure an asbestos removal supervisor is on site at all times when Class A asbestos removal work is being performed.
5. Isolate the asbestos removal area with appropriately placed durable signs and barricades using methods which may include temporary fencing, bollards, tape, rope or plastic sheeting. Ensure signs and barricades remain in place until removal work is completed or, in the case of Class A and Class B asbestos removal work, a clearance certificate has been obtained.
6. Put on PPE, including disposable coveralls with a hood, and appropriate boots and respirator. Preference should be given to boots without laces as laced boots can be difficult to decontaminate.
7. The minimum recommended RPE for this task is a non-disposable half-face respirator with a P1 filter or P2 filter. A higher level of respiratory protection may be required depending on the level of airborne asbestos fibres likely to be generated during the removal.
8. Seal access points (for example, skylights) with material such as heavy-duty polythene sheeting (minimum 200 micron thickness) and appropriate adhesive tape.  
**WARNING:** Where there are exhaust vents from gas fired equipment in the area it is dangerous to seal over them. Turn the gas off if possible.
9. Cut and remove manageable sections.

# Appendix M – Removal of bituminous (malthoid) asbestos-containing material

10. Place cut pieces in a lined skip or wrap in plastic sheeting.
11. Remove adhering material by dampening and gently scraping. Consider using a Dust Class H vacuum cleaner while scraping.
12. Collect all debris.
13. Residual material that is too difficult to remove by scraping may require the use of a power tool such as a grinder. The use of any power tool on asbestos containing materials must be in accordance with regulation 216 of the OHS Regulations. This means the removal area must either be enclosed, an engineering control used around it, or both (see 'Use of certain tools or instruments on asbestos' on page 13).
14. Place small pieces of waste into a 200 micron-thick asbestos waste bag or suitable alternate waste container dedicated for asbestos waste that is clearly labelled with an appropriate warning sign indicating asbestos waste.
15. Ensure asbestos waste bags are not filled more than half full to assist with sealing and to avoid bag tears.
16. Clean the entire area using damp rags and/ or a Dust Class H vacuum cleaner.
17. Use damp rags to clean the equipment that was used for removing the ACM.
18. Place used rags into an asbestos waste bag or waste container (as outlined in item 14).
19. Once all ACM and asbestos waste has been contained in asbestos waste bags or a lined skip so as to eliminate the release of airborne asbestos fibres and all tools have been decontaminated and cleaned, begin the personal decontamination process.
20. Carry out personal decontamination in a designated area. The method of personal decontamination may vary. The following is one method:
  - Clean disposable coveralls and RPE while still wearing them. Coveralls can be cleaned using a Dust Class H vacuum cleaner, damp rags, or fine water mist spray and RPE can be cleaned with a damp rag or cloth.
  - While still wearing the respirator, remove coveralls by carefully turning them inside-out to entrap any remaining contamination and then ensure they are contained in an asbestos waste bag for disposal as asbestos waste.
  - Remove the respirator. If a non-disposable respirator was used, inspect it to ensure it is free from contamination, clean it with a wet rag if necessary, then store in a container. Disposable respirators do not require cleaning and must be contained for disposal as asbestos waste (see 'Waste containment and disposal program' on page 56).
21. Ensure all used rags are placed into asbestos waste bags.
22. Ensure all asbestos waste bags are goose-necked, the exterior cleaned then double bagged and ensure all asbestos waste containers are sealed.
23. Place all asbestos waste bag and containers in a secure storage facility or transport vehicle for disposal.

# Appendix M – Removal of bituminous (malthoid) asbestos-containing material

24. Perform a visual clearance to ensure that there is no visible asbestos residue. For Class A or Class B asbestos removal work, the person who commissioned the asbestos removal work must arrange for a visual inspection by an independent person (see 'Clearance to re-occupy an asbestos removal area' on page 102) and a clearance certificate obtained before the removal area is re-occupied (see 'When must a clearance certificate be obtained?' on page 103). A clearance certificate is not required if the asbestos removal work consisted only of the removal of non-friable ACM not exceeding 10 square metres in total.
25. Transport the asbestos waste in accordance with EPA Victoria requirements.
26. Dispose of the asbestos waste bags/containers at a waste disposal site licensed or exempted by the EPA to accept asbestos waste.



# Appendix N – Removal of a small section of pipe lagging using a glove bag

*The following is an example of how to perform specific asbestos removal work. It does not address other hazards (such as fall from heights or electrical hazards). The procedure used needs to be appropriate to the specific circumstances at the workplace.*

**Note:** Glove bag removal work does not require paraoccupational air-monitoring.

1. Obtain and review the asbestos register (from the person who commissioned the removal work).
2. A Class A asbestos removal licence holder must perform the asbestos removal work (see 'Class A or Class B asbestos removal work' on page 20) and an asbestos control plan must be prepared (see 'Asbestos control plan' on page 67).
3. A person must not perform Class A asbestos removal work unless they are informed, instructed and trained to perform the work in a manner that is safe and without risks to health (see 'Information, instruction, training and supervision' on page 32).
4. Ensure an asbestos removal supervisor is on site at all times when Class A asbestos removal work is being performed.
5. Identify where the asbestos removal area will be and move all unnecessary items out of the area or cover them with heavy-duty polythene sheeting (minimum 200 micron thickness) if they could be contaminated with asbestos during the asbestos removal work.
6. Isolate the asbestos removal area with appropriately placed durable signs and barricades using methods which may include temporary fencing, bollards, tape, rope or plastic sheeting. Ensure signs and barricades remain in place until a clearance certificate has been obtained.
7. Put on PPE, including disposable coveralls with a hood, and appropriate boots and respirator. Preference should be given to boots without laces as laced boots can be difficult to decontaminate.
8. The minimum recommended RPE for this task is a non-disposable half-face respirator with a P1 filter or P2 filter.
9. Ensure the plant and equipment has been made safe (eg pipework emptied, electrical supply isolated, equipment shut down).
10. Set-up/attach glove bag and perform removal work as described in 'Glove bag removal work' on page 94.
11. Begin the personal decontamination process.

# Appendix N – Removal of a small section of pipe lagging using a glove bag

12. Carry out personal decontamination in a designated area. The method of personal decontamination may vary. The following is one method:
  - Clean disposable coveralls and RPE while still wearing them. Coveralls can be cleaned using a Dust Class H vacuum cleaner, damp rags, or fine water mist spray and RPE can be cleaned with a damp rag or cloth.
  - While still wearing RPE, remove coveralls by carefully turning them inside-out to entrap any remaining contamination and then ensure they are contained in an asbestos waste bag for disposal as asbestos waste.
  - Remove RPE. If a non-disposable respirator was used, inspect it to ensure it is free from contamination, clean it with a damp rag if necessary, then store in a container. Disposable respirators do not require cleaning and must be contained for disposal as asbestos waste (see 'Waste containment and disposal program' on page 56).
13. Ensure all used rags are placed into asbestos waste bags.
14. Ensure all asbestos waste bags are goose-necked, the exterior cleaned then double bagged and ensure all asbestos waste containers are sealed.
15. Place all asbestos waste bags and containers in a secure storage facility or transport vehicle for disposal.
16. On completion of the asbestos removal work, the person who commissioned the work must arrange for a visual inspection by an independent person to verify that there is no visible asbestos residue remaining in the removal area and immediately surrounding the area (see 'Clearance to re-occupy an asbestos removal area' on page 102). A clearance certificate must be obtained from the independent person before the removal area can be re-occupied (see 'When must a clearance certificate be obtained?' on page 103). The clearance certificate for glove bag removals does not require air monitoring.
17. Transport the asbestos waste in accordance with EPA Victoria requirements.
18. Dispose of the asbestos waste bags and containers at a waste disposal site licensed or exempted by the EPA to accept asbestos waste.

# Appendix O – Removal of friable asbestos-containing fire retardant material from a large ceiling space

*The following is an example of how to perform specific asbestos removal work. It does not address other hazards (such as fall from heights or electrical hazards). The procedure used needs to be appropriate to the specific circumstances at the workplace.*

1. Obtain and review the asbestos register (from the person who commissioned the removal work).
2. A Class A asbestos removal licence holder must perform the asbestos removal work (see 'Class A or Class B asbestos removal work' on page 20) and an asbestos control plan must be prepared (see 'Asbestos control plan' on page 67).
3. A person must not perform Class A asbestos removal work unless they are informed, instructed and trained to perform the work in a manner that is safe and without risks to health (see 'Information, instruction, training and supervision' on page 32).
4. Obtain as much information about the location and condition of the ACM as possible. Review building plans, thoroughly inspect the area (with appropriate PPE), discuss the removal with a person with the requisite knowledge, skills and experience, such as an occupational hygienist, and the person who has management or control of the workplace to establish any facts that are not directly apparent.
5. Develop the asbestos control plan in consultation with employees and a person with the requisite knowledge, skills and experience, such as an occupational hygienist, and the person who has management or control of the workplace.
6. Identify where the asbestos removal area will be and move all unnecessary items out of the area or cover them with heavy-duty polythene sheeting (minimum 200 micron thickness) if they could be contaminated with asbestos during the asbestos removal work. If work on items, such as ceiling tiles, will result in disturbing asbestos, this should not take place until after the enclosure is established.
7. In consultation with employees and a person with the requisite knowledge, skills and experience, develop an enclosure that allows smooth flow of air from the decontamination unit to the negative air units. In constructing the enclosure, pay particular attention to penetrations through the floor, walls and ceiling/roof.
8. Ensure the enclosure is satisfactorily smoke tested.
9. The person who commissioned the Class A asbestos removal work must arrange for asbestos paraoccupational air monitoring to be conducted before work commences and for the duration of the work (see 'Paraoccupational air monitoring requirements' on page 98).
10. Ensure an asbestos removal supervisor is on site at all times when Class A asbestos removal work is being performed.

## Appendix O – Removal of friable asbestos-containing fire retardant material from a large ceiling space

11. Isolate the asbestos removal area with appropriately placed durable signs and barricades using methods which may include temporary fencing, bollards, tape, rope or plastic sheeting. The floor above and below will require isolation if there is a risk of asbestos fibres reaching these areas. Ensure signs and barricades remain in place until a clearance certificate has been obtained.
12. Put on PPE, including disposable coveralls with a hood, and appropriate boots and respirator. Preference should be given to boots without laces as laced boots can be difficult to decontaminate.
13. The minimum recommended RPE for this task is a full-face mask with a P3 particulate cartridge if the removal can be performed wet. For further guidance on selecting suitable RPE see 'Appendix E – Guide to the selection of respiratory protective equipment' on page 122.
14. Ensure all air conditioning equipment has been shut and isolated/blanked from this area.
15. Enter the enclosure with appropriate equipment to access the asbestos, keep it damp/wet (using fine water mist spray equipment) and bag it as asbestos waste.
16. Place asbestos waste into a 200 micron-thick asbestos waste bag or suitable alternate waste container dedicated for asbestos waste that is clearly labelled with an appropriate warning sign indicating asbestos waste.
17. Maintain regular checks on the negative air unit, decontamination unit (and hot water service), compressor (if used), enclosure (including the pressure differential), signs and barricades, and supplies of PPE throughout the removal (see the example asbestos removal log in Appendix G).
18. Ensure persons decontaminate at every break, using the decontamination unit, when exiting the enclosure.
19. Ensure monitoring results are obtained and conveyed to all persons.
20. Ensure bagged asbestos waste is secure on site and disposed of as soon as is reasonably practicable.
21. Ensure all asbestos waste bags are goose-necked, the exterior cleaned then double bagged and all waste containers are sealed.
22. Place all asbestos waste bags and containers in a secure storage facility or transport vehicle for disposal.
23. Thoroughly wet-wipe and/or vacuum the area until the removal is regarded as completed (by the Class A asbestos removal licence holder). Visually inspect the area to ensure it is satisfactorily clean.
24. If the visual inspection is satisfactory, the area needs to be sprayed with PVA (including the interior of the plastic).
25. Decontaminate or dispose of all tools and equipment used as asbestos waste. Otherwise, used tools and equipment may be bagged prior to removal from the enclosure – only to be opened in another enclosure, removal area or similarly controlled environment.
26. After the PVA has dried, the person who commissioned the work must arrange for asbestos paraoccupational air monitoring to be conducted within the enclosed area (see 'Asbestos paraoccupational air monitoring on completion of asbestos removal work' on page 103).
27. If airborne asbestos fibre levels do not exceed 0.01 f/ml, the enclosure may be dismantled and disposed of as asbestos waste.

## Appendix O – Removal of friable asbestos-containing fire retardant material from a large ceiling space

28. On completion of the asbestos removal work, the person who commissioned the work must arrange for a visual inspection by an independent person to verify that there is no visible asbestos residue remaining in the removal area and immediately surrounding the area (see 'Clearance to re-occupy an asbestos removal area' on page 102). A clearance certificate must be obtained from the independent person before the removal area can be re-occupied (see 'When must a clearance certificate be obtained?' on page 103).
29. Once a clearance certificate has been obtained, signs and barricades (such as hoarding) can be removed.
30. Transport the asbestos waste in accordance with EPA Victoria requirements.
31. Dispose of the asbestos waste bags and containers at a waste disposal site licensed or exempted by the EPA to accept asbestos waste.

# Appendix P – How to use rags to clean asbestos contamination from smooth surfaces and equipment

*This procedure is specific to the use of rags. It does not address other removal/clean-up requirements (eg isolation of the area, personal protective equipment and personal decontamination). The procedure used needs to be appropriate to the specific circumstances at the workplace.*

Avoid any potential electrical hazards when using this procedure.

1. Pick up bigger pieces of debris and put them in a 200 micron-thick asbestos waste bag or suitable alternate waste container that is clearly labelled with an appropriate warning sign indicating asbestos waste.
2. Soak the rag in a bucket of water. Fold in half or quarters and then wring it out.
3. Wipe the contaminated surface.
4. Re-fold the rag to give a clean surface.
5. Repeat until all the clean surfaces of the rag have been used.
6. Put the used rag in the plastic waste bag. Take a clean rag, and continue until all surfaces are clean.
7. Adhesive tape is useful only for removing small dust deposits. Surfaces may need repeated tape applications.
  - Place a strip of tape over the contaminated surface. Peel it off slowly.
  - Put the used tape in the plastic waste bag. Repeat with a fresh piece.
8. Put sealed bags of used rags and tape in a second asbestos waste container and seal.
9. Dispose of the asbestos waste bags and containers at a waste disposal site licensed or exempted by the EPA to accept asbestos waste.

**Warning:** Use each wet rag surface only once. Never re-soak a contaminated rag. This will contaminate the water. If contamination of the bucket of water is avoided, no special precautions are needed for disposing of the water.



# Appendix Q – Information required to be included in an asbestos control plan

(OHS Regulations schedule 12)

*The following information is must be included in an asbestos control plan:*

1. A record to indicate that the notification requirements have been met and that required documentation is kept at the workplace where the asbestos removal work is performed.
2. In relation to asbestos:
  - its location
  - the quantity of asbestos proposed to be removed
  - in relation to ACM:
    - whether the ACM is friable or non-friable
    - the type of ACM
    - the condition of the ACM.
3. The type of personal protective clothing and PPE to be used, including RPE.
4. Proposed risk control measures to be used to prevent release of airborne asbestos fibres from the area where the asbestos removal work is being performed.
5. If the area where the asbestos removal work is being performed is in a negative air enclosure, details regarding:
  - smoke testing
  - negative air units.
6. Details of decontamination procedures for:
  - persons performing the asbestos removal work
  - tools and equipment used for the asbestos removal work
  - non-disposable personal protective clothing and PPE.
7. Method of disposal of:
  - asbestos waste
  - disposable personal protective clothing and PPE
  - the structure used to enclose the areas where the asbestos removal work is being performed.
8. Administrative controls to be implemented, including:
  - security
  - work practices.
9. Methods of cleaning following asbestos removal work.
10. Names of persons engaged by the licence holder or person who commissioned the asbestos removal work (as applicable) to conduct asbestos paraoccupational air monitoring (if any) and to conduct the clearance inspection.
11. Names of any independent contractors engaged by the asbestos removal licence holder to perform asbestos removal work.

# Appendix R – Documents associated with this compliance code

The references listed are not incorporated into this Code; they are included to provide an indication of sources of additional information. This means the references do not form part of this Code. Note that some references may have legal status in their own right.

Safe Work Australia Code of Practice, 2016, *How to safely remove asbestos*

Safe Work Australia Code of Practice, 2016, *How to manage and control of asbestos in the workplace*

Safe Work Australia, 2013, *Health monitoring for exposure to hazardous chemicals (asbestos part)*





### **WorkSafe Agents**

Agent contact details are all available at  
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