

Technical solution sheet 7

Working near asbestos-containing material



What is asbestos-containing material?

Asbestos-containing material (ACM) is any material or object that contains one or more of the mineral silicates, chrysotile (often called white asbestos), crocidolite (often called blue asbestos) or amosite (often called brown asbestos).

Asbestos was commonly used in building and construction in Australia between the 1940s and late 1980s because of its low cost, durability, fire resistance, and excellent insulating properties.

Asbestos in homes, businesses and industrial environments is found with two physical characteristics:

- » Friable asbestos – can be easily crumbled, pulverised or reduced to a powder by hand pressure. Includes asbestos-contaminated dust or debris (ACD).
- » Non-friable asbestos – ACM that cannot be reduced to powder form without mechanical intervention.

Friable asbestos is an immediate risk to health and must be removed by a Class A licensed asbestos removalist. Non-friable asbestos that is in good condition and is unlikely to be disturbed does not pose an immediate risk to health.

Airborne fibres, however, can easily be generated via construction activity, for example by drilling, grinding, scoring or cutting. If a property you are engaged to work at was built or renovated prior to 1990 it is likely to contain some asbestos building materials, whether easily accessible or not.

This is part of a series developed with WorkSafe to help installers in our programs work safely in the solar industry.

Use this sheet and others in this series to plan safe systems of work while installing photovoltaic systems.

In series 1:

- 1.1 Working safely at height during solar installations
- 1.2 Edge protection – Working at height
- 1.3 Manual handling of solar panels, heavy and bulky items
- 1.4 Working safely with ladders
- 1.5 Safe work practices using elevating work platforms
- 1.6 Falls through skylights, fragile roofs, voids and penetrations
- 1.7 Working near asbestos-containing material (this sheet)**

See:
solar.vic.gov.au/safety-and-quality



How can asbestos affect you?

Generally, the presence of asbestos does not pose health risks unless it is broken, in poor or deteriorated condition, or disturbed during asbestos-related activities that produce dust containing asbestos fibres. Inhalation of any type of asbestos fibre is a serious health risk and can lead to diseases such as:

- » Mesothelioma – a type of cancer in which malignant cells are found in the lining of the chest or abdomen.
- » Lung cancer – forming in tissues of the lung, usually in the cells lining air passages.
- » Asbestosis – directly caused by breathing in asbestos fibres, leading to scarring and permanent damage to lung tissue. Asbestosis increases the risk of lung cancer and malignant mesothelioma.

Asbestos-related diseases have a devastating health effect and are often fatal as treatments are largely ineffective and there can be a delay of many years between first exposure to asbestos fibres and any symptoms of these diseases.

Due in part to Australia’s long history of asbestos use, the boom in renovations and widescale adoption of retrofitted photovoltaic systems, electricians as a trade, are amongst the fastest growing occupational categories with increasing cases of asbestos-related disease in Australia.

Understand your obligations and who has duties under the Occupational Health and Safety Regulations 2017 (OHS Regulations) to keep employees and consumers safe.

Who has duties?

A person with management or control of a workplace, or an employer at a workplace, have a duty to identify and control risks associated with asbestos. These duties extend to, so far as is reasonably practicable, eliminating the exposure of persons at a workplace to airborne asbestos fibres.

A person with management or control of a workplace (not domestic premises) where asbestos is present is required to maintain an asbestos register under regulation 227 of the OHS Regulations. A person with management or control is required to make the asbestos register accessible to any person engaged to conduct work at the workplace that involves exposure to asbestos fibres.

Additionally, the asbestos register must be made available to any person engaged to conduct work at the workplace if they request it.

Undertaking refurbishment work at domestic premises makes it a workplace. The homeowner is not obliged to keep an asbestos register but you have a duty to identify any asbestos under your management or control that is likely to be disturbed by the work.

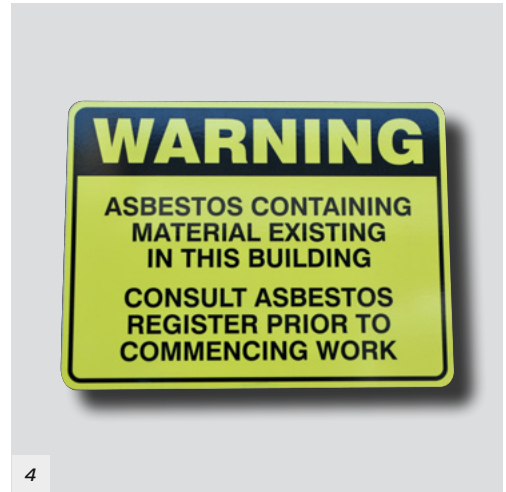
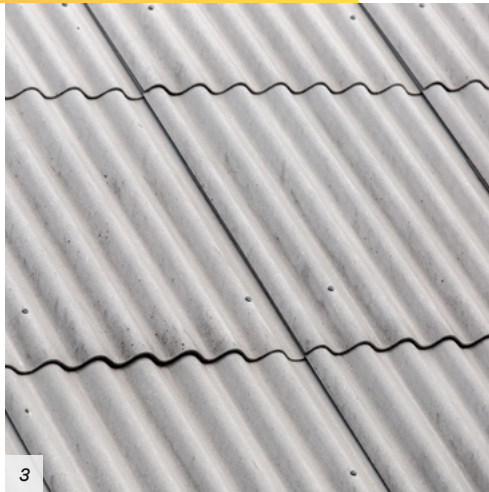
Where an asbestos-related activity is undertaken at domestic premises, such as cutting or drilling ACM, the relevant duties under ‘Division 8 – Activities involving asbestos’ in ‘Part 4.4 – Asbestos’ of the OHS Regulations apply for the duration of the work.

For more information on working in domestic and commercial properties see the Asbestos in Victoria website: asbestos.vic.gov.au/builders-and-trades/find-identify-remove-dispose

Follow this four-step risk management process to ensure hazards are identified, risks are assessed and controlled, and that employers fulfil their duty to monitor, review and revise controls when required:

Figure 1: The four-step risk management process.





Step 1: Identify hazards – identify asbestos under your control

A person with management or control of a workplace, or an employer at a workplace must, so far as is reasonably practicable, identify all asbestos present that is under their management or control.

An asbestos register is a critical tool in the risk assessment process and should be used in conjunction with inspection to identify asbestos hazards existing at a workplace.

In cases where an asbestos register is not available (for example, a domestic dwelling), a visual inspection by a competent person (such as an occupational hygienist with the requisite skills and knowledge) to determine the location of asbestos, and an understanding of the activities carried out at the workplace can assist in determining the risk of exposure to airborne asbestos fibres.

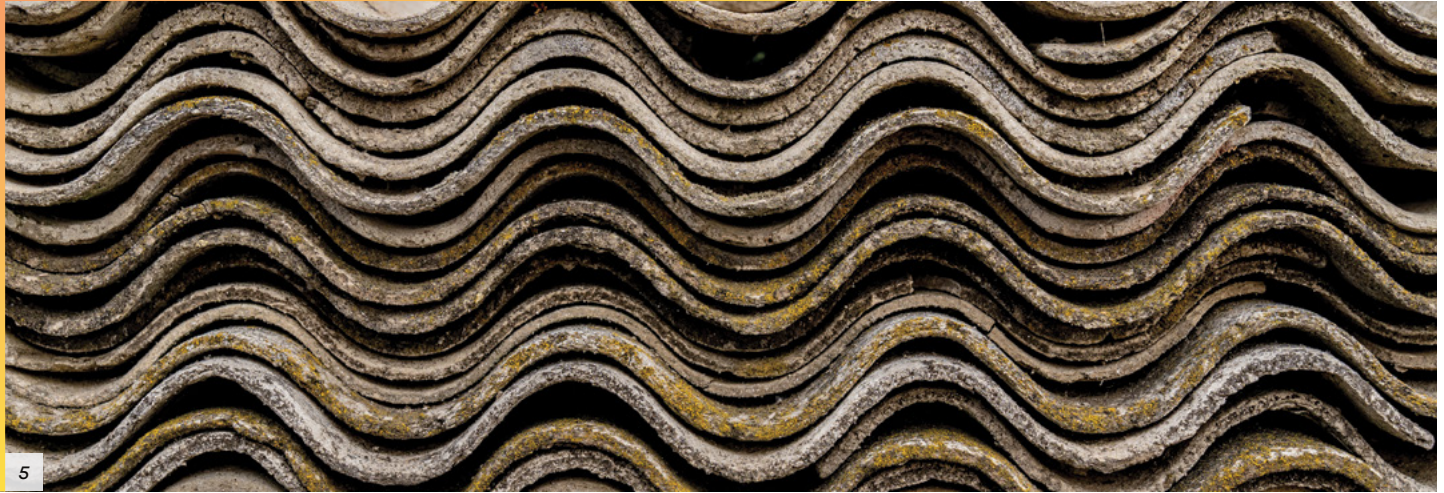
If any uncertainty arises regarding the presence of ACM, or if there are inaccessible areas likely to contain ACM then it must either be assumed that ACM is present, or a sample must be analysed by a National Association of Testing Authorities (NATA) accredited testing facility.

Whilst not exhaustive, the following is a list of locations where ACM can be found in a dwelling or commercial property:

- » switchboard backing and insulation
- » fuse holder flash arrestor
- » woven cable sheath
- » ceiling access covers
- » sprayed insulation
- » roofing, gutters, ridge caps, flashing
- » bituminous roofing membranes
- » eaves and soffits
- » flue pipes
- » walls, ceiling, mouldings
- » hot water systems
- » putties, sealants and adhesives
- » flooring, such as vinyl sheet backing and vinyl tiles
- » dust and debris within a ceiling space from a current or previous asbestos cement roof or eaves.

Image captions:

- 1. Sprayed asbestos insulation.*
- 2. Asbestos based resin mounting boards used across Australia.*
- 3. Asbestos cement sheet roofing.*
- 4. Asbestos warning signage in a commercial setting.*



5

Step 2: Assess risks – determine the risk of exposure to asbestos fibres

If ACM is in good condition and left undisturbed, the risk of asbestos fibres becoming airborne is low, this is also influenced by the type of bonding material used to bind the asbestos. If ACM has suffered degradation, been disturbed or if any ACD is present the risk increases accordingly.

The risk of exposure to asbestos fibres can be assessed by determining:

- » the location of the asbestos
- » the type of ACM
- » the nature of the ACM (friable or non-friable)
- » the condition of the ACM
- » any work activities that may affect or cause damage or deterioration to the ACM.

Common ACM that may be encountered during photovoltaic installations can include:

Friable	Non-friable
Sprayed loose-fill insulation	Asbestos cement roof/wall sheet
Sprayed coatings	Asbestos cement soffit sheet
Asbestos Contaminated Dust or Debris	Super Six roof sheet
Asbestos rope	Asbestos cement moulded products
Textile wire sheathing	Asbestos cement flue
Textile flash arrestor	Electrical mounting boards

As an installer, you will need a safe work method statement (SWMS) prior to undertaking high-risk construction work. A SWMS is a safety planning tool that identifies the hazards and risks and documents the control measures necessary to manage those risks. The SWMS should describe to employees in clear terms how risks from the work will be effectively controlled to enable the work to be undertaken safely.

See the WorkSafe website for more information on when and how to complete a SWMS for construction activities: [worksafe.vic.gov.au/resources/safe-work-method-statements-swms](https://www.worksafe.vic.gov.au/resources/safe-work-method-statements-swms)

Image captions 5-6:
Corrugated asbestos sheets



Step 3: Control risks – how to avoid the risk of exposure

With the ultimate aim of elimination of all asbestos in homes and workplaces, careful planning, design, and implementation of risk control measures is critical. Within the hierarchy of control, so far as is reasonably practicable, elimination of any risk associated with the presence of damaged or deteriorating asbestos that is under an employer's control must be achieved by removal.

Removal of ACM must be conducted by a licenced asbestos removalist, exemptions apply for employers or self-employed persons conducting a limited amount of asbestos removal.

Further guidance can be found at the Asbestos in Victoria website: asbestos.vic.gov.au/builders-and-trades/asbestos-removalists/unlicensed-asbestos-removal

If any assistance is required in the planning of risk control measures, consideration should be made to engaging an occupational hygienist with the requisite skills and experience.

The hierarchy for controlling risk associated with asbestos in commercial and residential sites is:

- » Eliminate the hazard and its associated risk by removal of the ACM, so far as is reasonably practicable.
- » Reduce the risk by enclosing the ACM, so far as is reasonably practicable.
- » Reduce the risk by sealing the ACM, so far as is reasonably practicable
- » Ensure that any risk control measure implemented, other than removal, is properly installed, used and maintained
- » Ensure all employees have received asbestos awareness training as a minimum
- » Ensure appropriate personal protective equipment (PPE), such as P2 and P3 respirators and disposable coveralls, is worn during any asbestos-related activity

'Part 4.4 – Asbestos' in the OHS Regulations outlines the duties employers have in relation to asbestos-related activities (other than asbestos removal work) undertaken in their workplace. Included is the requirement to consult with employees (including Health and Safety Representatives, if any) when proposing control measures or changes to control measure that could affect health and safety within the workplace.

Step 4: Review and revise controls – keep workers safe around ACM

An employer, or person with management and control of a workplace, has a duty to ensure that measures implemented to control risks associated with asbestos are reviewed, and if necessary, revised:

- » before any change is made to a system of work that is likely to damage or disturb any asbestos
- » after any notifiable incident occurs that involves the presence of asbestos
- » if, for any other reason, the risk control measures do not adequately control the risk.

Employers must also review, and if necessary, revise control measures after receiving a request from a Health and Safety Representative (HSR).

Your actions shouldn't stop at Step 4. You should repeat this process often to make sure your management of risk is working.

As a solar installer your potential exposure to ACM will likely be of a regular and ongoing nature.

Asbestos awareness training should be considered as a minimum for all employees engaged in PV system installation work and should include topics such as identification of ACM, legislative requirements, exposure risks and safe management of ACM.

Important resources

See the WorkSafe website for:

- » Compliance code: Managing asbestos in workplaces: worksafe.vic.gov.au/resources/compliance-code-managing-asbestos-workplaces
- » Identification and control of asbestos in workplaces: worksafe.vic.gov.au/resources/identification-and-control-asbestos-workplaces

Also see:

- » Asbestos in Victoria: asbestos.vic.gov.au
- » Asbestos Safety and Eradication Agency Awareness for Electricians: asbestossafety.gov.au/find-out-about-asbestos/asbestos-safety-information/brochures/asbestos-awareness-information-electricians
- » Occupational Health and Safety Regulations 2017 (OHS Regulations): legislation.vic.gov.au/in-force/statutory-rules/occupational-health-and-safety-regulations-2017

Any questions?

Call WorkSafe on 1800 136 089 or email info@worksafe.vic.gov.au

worksafe.vic.gov.au

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