Australian Government

Asbestos and Silica Safety and Eradication Agency

Draft

National Guide for Asbestos Surveys

Practical guidance on how to identify and assess asbestos containing materials in buildings and structures

September 2024

Contents

1. What is this guide about?

This guide has been developed by the Asbestos and Silica Safety and Eradication Agency (ASSEA) in consultation with asbestos professionals, industry associations, regulatory authorities and worker representatives to provide a nationally recommended, robust and standardised process for conducting asbestos surveys so that effective actions can be taken to prevent exposure to airborne asbestos fibres.

This guide describes the steps that asbestos surveyors should follow in identifying the presence and location of asbestos or asbestos containing materials (ACMs) in both workplaces and non-workplaces and assessing the risk that the asbestos or ACM presents.

It also provides guidance for those who commission asbestos surveys on how to prepare for a survey and how to use the information from this process to manage asbestos exposure risks.

This guide should be used in conjunction with:

- Work Health and Safety/Occupational Health and Safety legislation
- Codes of Practice on how to manage and control asbestos in the workplace
- ASSEA's Asbestos Product Guide at: https://www.products.asbestossafety.gov.au/

This guide does not cover:

- airborne sampling and clearance inspections required for asbestos removal work
- survey or testing of contaminated soil and naturally occurring asbestos.

These are specialised processes outside the scope of this guide.

For the purposes of this guide, all references to ACMs also include asbestos. Definitions of key terms are provided in **Appendix A**.

2. Who this guide is for?

This guide is designed to be used mainly by persons who carry out asbestos surveys and persons who have responsibilities for managing ACMs under Work Health and Safety (WHS) laws, as well as those who commission asbestos surveys in non-workplaces i.e., residential homes.

If you are a:	You should read this guide for information on:
Person who conducts asbestos inspections or surveys, e.g. (referred to as an asbestos *surveyor*)	• how to plan for and carry out asbestos surveys in order to identify ACMs, including how to sample suspect material • how to assess the risks of ACMs • how to report and present survey results • how to ensure the survey meets legal requirements and the client's needs.
Person who commissions asbestos surveys, e.g. property owners or managers (referred to as the *client*)	• how to select a competent surveyor and what to expect • how to decide what type of survey is appropriate • what information the surveyor needs to conduct an effective and efficient survey • how to ensure survey reports are comprehensive, reliable and meet your needs • how to use the information in the survey report to manage asbestos exposure risks.
Person who has duties under WHS laws, e.g. persons with management or control of a workplace (referred to as the *duty holder*, who may also be the *client* commissioning a survey)	• understanding the asbestos survey process and how this relates to legal requirements for the management of asbestos at the workplace.
Building professional, e.g. architects, designers, building surveyors, demolition and asbestos removal contractors	• the various types of surveys and the regulatory requirements for carrying out asbestos surveys before demolition and refurbishment • what survey reports contain and how this information should be used so that demolition and refurbishment can be planned and carried out safely.
Worker (and their representative) who carry out work in or on buildings that may contain ACMs, e.g. tradespersons, contractors, employees	• being consulted about the survey process • what information workers may be able to provide to support the survey • how surveys should be used for preparing and reviewing asbestos registers and asbestos management plans
Person who designs software for asbestos registers	• the recommended terminology and risk assessment model to apply in your software. This can support the implementation of a standardised system for identifying and managing ACMs across Australia.

Important

Conducting an asbestos survey is a specialised task that requires training and experience. This guide should not be used by any persons in lieu of engaging a competent person to undertake this work, including surveys for residential premises.

It should also **not** be used in lieu of consulting WHS Regulations and Codes of Practice and the use of the information should supplement relevant experience, training and knowledge.

3. Asbestos surveys

The presence of asbestos in millions of buildings and structures across Australia means that there is an ongoing risk of exposure to asbestos fibres.

Asbestos products were imported for sale and use in Australia from the late 1800s, with Australian manufacturing of ACMs commencing in the early 1900s. Products included asbestos cement (AC) sheeting (fibro) and thermal insulation, as well as gaskets and brake pads for vehicles and machinery.

The use of asbestos in building and construction materials was phased out in the 1980s. The use of asbestos in making friction products (such as brake pads and linings) and gaskets continued until asbestos was completely banned in Australia from 31 December 2003.

Refer to the *Asbestos Product Guide* for more information on various asbestos products and where they can be found.

3.1. The purpose of an asbestos survey

The purpose of an asbestos survey is to:

- provide accurate information on the location, type and condition of ACMs
- assess the risk of ACMs releasing asbestos fibres and whether remedial action is required
- meet legal requirements including the need for asbestos registers and asbestos management plans, and
- identify all ACMs that must be removed before demolition or refurbishment work.

3.2. Legal requirements

Management of asbestos in workplaces

WHS laws have specific requirements to prevent asbestos exposure in all workplaces, being places where work is carried out for a business or undertaking. This includes residential premises that become a 'workplace' when a contractor is working there.

Relevant duties under WHS laws include:

- A person conducting a business or undertaking must ensure that exposure of people at the workplace to airborne asbestos is eliminated or, if elimination is not reasonably practicable, exposure is minimised so far as is reasonably practicable, and that the exposure standard for asbestos is not exceeded at the workplace.
- A person with management or control of a workplace must ensure:
    - so far as is reasonably practicable, that all asbestos or ACM at the workplace is identified or assumed by a competent person.[1]
    - an asbestos register is prepared and kept at the workplace
    - an asbestos management plan is prepared where asbestos is identified or likely to be present from time to time (excluding in Victoria)
    - before demolition or refurbishment is carried out at the workplace
        - review the asbestos register
        - determine the presence of asbestos or ACM

[1] In the ACT all asbestos or ACM must be identified by a licensed asbestos assessor.

- ensure that asbestos or ACM that is likely to be disturbed is identified and, so far as is reasonably practicable, removed.

As there may be more than one person responsible for these duties (e.g. because it is a shared workplace), it is necessary that all duty holders consult, cooperate and coordinate with each other as well as consulting with workers and health and safety representatives.

Asbestos surveying and sampling are considered 'asbestos-related work' under the WHS regulations and therefore requirements in those regulations must be followed, including health monitoring and training in asbestos identification, safe handling and control measures. A risk assessment should be carried out before starting work to not only deal with asbestos exposure risks but other risks (see Step 4 in section 4.2 of this guide).

Management of asbestos in residential premises

Across Australia, it is estimated that asbestos is in 1 in 3 homes. If a home was built before 1990 and has not had a major renovation it is likely to contain asbestos.

When a tradesperson or contractor performs work at domestic premises, WHS laws will apply to the work being carried out. The legal duties are placed on the contractor not the home occupier to ensure, so far as is reasonably practicable, that all asbestos or ACM is identified or assumed by a competent person. In addition, WHS laws require the identification and removal of asbestos that is likely to be disturbed before demolition and refurbishment of domestic premises. The requirements to prepare and keep an asbestos register and asbestos management plan do not apply to any part of domestic premises used only for residential purposes.

Even where WHS laws do not apply, there are benefits in homeowners engaging a competent person to conduct an asbestos survey so that they know where ACMs are located, in order to:

- avoid disturbing ACMs during home improvements, maintenance or repair
- alert tradespersons working at the home about the presence and location of asbestos to help the tradesperson comply with WHS laws
- ensure that home insurance policies are sufficient to cover asbestos-related liabilities
- disclose the presence of asbestos at point of sale or lease
- remove ACMs before they create a risk of exposure, e.g., if damaged or deteriorating.

3.3. Who can conduct an asbestos survey?

Asbestos surveys must be carried out by persons who are competent to carry out the work required. The WHS Regulations define a 'competent person' to be someone who has the knowledge and skills to carry out the task acquired through training, a qualification or experience.

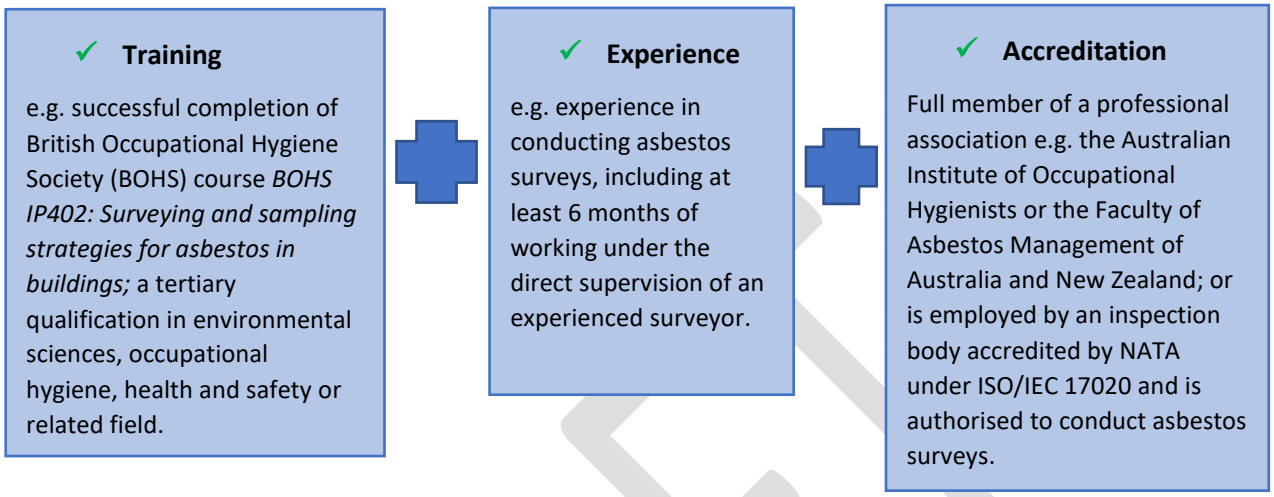
For example, the person:

- knows how asbestos was used in the past in order to identify where it is likely to be found, in what form and what it will look like in situ
- is able to determine that material may be friable or non-friable asbestos and evaluate its condition, and
- is trained to handle and take asbestos samples safely.

How can competency be demonstrated?

A person can demonstrate that they are technically competent to undertake a survey through a combination of qualifications and practical experience. Industry accreditation can also provide additional confirmation of competency.

These three elements of competency are outlined below:



Persons who may have the competency to conduct asbestos surveys include some occupational hygienists, asbestos assessors and hazardous materials consultants.

In the Australian Capital Territory (ACT), a person must be licensed as an 'asbestos assessor' to carry out an asbestos survey for both residential and non-residential premises.

When engaging an asbestos surveyor, obtain information on:

- their training, qualifications and experience
- references, reviews or evidence of recent similar work, and
- insurance (professional indemnity and public liability cover for asbestos work).

3.4. Types of asbestos surveys

Asbestos surveys are categorised into the following:

Management survey – conducted mainly to inform asbestos registers and management plans and consists of either:

Identification survey – carried out to identify and assess ACMs for the first time or when there is insufficient information available on the presence or absence of ACMs. This type of survey can also be undertaken to inform pre-purchase decisions of residential properties.

Review survey – carried out at regular intervals to monitor the condition of previously identified or assumed ACMs.

Demolition or refurbishment survey (an *intrusive* survey) – required when the premises, structure or plant (or part of it) is to be upgraded, refurbished or demolished.

The type of survey that is commissioned will depend on its purpose. All of the above surveys will be needed during the lifespan of a premises. It is important that the client and the surveyor know exactly what type of survey is to be carried out and where, and what the specification will be.

Management surveys

Management surveys often involve only minor intrusive work or disturbance with the use of simple non-powered tools such as chisels. The extent of intrusion will vary between premises and depend on:

- the risks involved and what is reasonably practicable
- the type of building and the nature of construction
- who is present and how the area is used
- if it will be necessary for foreseeable maintenance and related activities including installation of cabling, etc.

Identification survey

This type of survey is used to identify, so far as reasonably practicable, all known or potential ACMs. An identification survey should include:

- sampling and analysis to confirm the presence or absence of ACMs (see section 5.3), and
- an assessment to determine the level of risk posed by various ACMs due to their potential to release airborne asbestos fibres (see section 6) – consisting of a 'material assessment' (ACM condition and friability) and a 'situational assessment' (disturbance potential and building use). The ACM risk assessment will help inform ACM management and removal prioritisation.

An identification survey may also involve assuming the presence or absence of asbestos, or it can be completed using a combination of sampling and assuming ACMs. Any materials assumed to contain asbestos must also be risk assessed. Any areas not accessed and assumed to contain asbestos must be clearly stated in the survey report and will need to be managed on this basis. See section 5.4 for further information on assuming the presence of asbestos.

Review survey

This type of survey is used to monitor the condition of previously identified or assumed ACMs. The frequency of a review survey will depend on:

- meeting the requirement to review and revise the asbestos register under WHS regulations
- the type of premises and its use (e.g. hospitals and schools may require more frequent surveys)
- the results and recommendations of previous surveys, and
- anything that may have potentially damaged or disturbed ACMs (e.g. maintenance work or adverse weather events).

The survey will mainly involve:

- reviewing the ACM risk factors to determine whether the level of risk posed by the ACMs has changed
- identifying ACMs missed in previous surveys (e.g. due to areas being previously inaccessible), and
- sampling assumed ACMs to confirm the presence or absence of asbestos.

Demolition or refurbishment survey (intrusive survey)

This type of survey is used to identify all ACMs that are likely to be disturbed by demolition or refurbishment, so that they can be removed prior to work commencing. This can include major maintenance and repair work or when determining the future economic viability of a structure or plant.

The survey report should be provided to designers and contractors who may be bidding for the work, so that the asbestos risks can be addressed. It can also be used in the tendering process for removal of ACMs from the building before work starts.

The survey will involve destructive inspection, for example lifting carpets and tiles, penetrating walls, ceilings, cladding and partitions, and opening up floors to gain access to all areas, including those that may be difficult to reach. In these situations, controls should be put in place to prevent the spread of debris, which may include asbestos. Some areas may need specialist assistance or equipment to access. **Appendix D** provides detailed information on carrying out a demolition and refurbishment survey.

The survey should include assessing the condition and friability of the ACMs to determine appropriate removal requirements, e.g. whether a Class A or Class B licensed asbestos removalist is needed.

Intrusive surveys should only be conducted in unoccupied areas to minimise risks to the public or workers on the premises. Ideally, the premises or part of the premises should not be in use or service and all furnishings removed. For example, intrusive surveys may be conducted in schools during a closure period (e.g. weekends, holidays) with any disturbance areas made safe before reoccupation and the ACM removal work not undertaken until the next holiday period.

Survey restrictions and caveats

Restrictions and caveats on the scope of the survey imposed by either the client or surveyor can seriously undermine the usefulness of the survey and consequently make managing or removing ACMs more complex, expensive and potentially less effective.

- **For management surveys** - surveyors should be properly prepared for accessing all parts of the building, including ceiling voids, plant rooms and basements, with the correct equipment. Potentially difficult to enter areas (including locked rooms) should be identified in the planning stage and arrangements made for access, e.g. mobile elevating work platforms (MEWPs) for work at height, rooms unlocked, doors/corridors unblocked etc. In situations where there is no entry on the day of the survey, a revisit should be arranged when access will be possible.

- **For intrusive surveys** - there should be no restrictions on access unless the site is unsafe (e.g., fire damaged premises) or access is physically impractical. It may be necessary to undertake a staged intrusive survey as the refurbishment and demolition work progresses and previously inaccessible areas become accessible. Where access has not been possible during intrusive surveys, these areas must be clearly indicated on plans and in the text of the report to allow the refurbishment and demolition to be progressive in those areas. Any ACMs must be identified and removed at this time.

Where there are health and safety risks associated with some activities (e.g., height, confined spaces), these should be assessed and controlled (see Step 4 in section 4.2). Any area not accessed

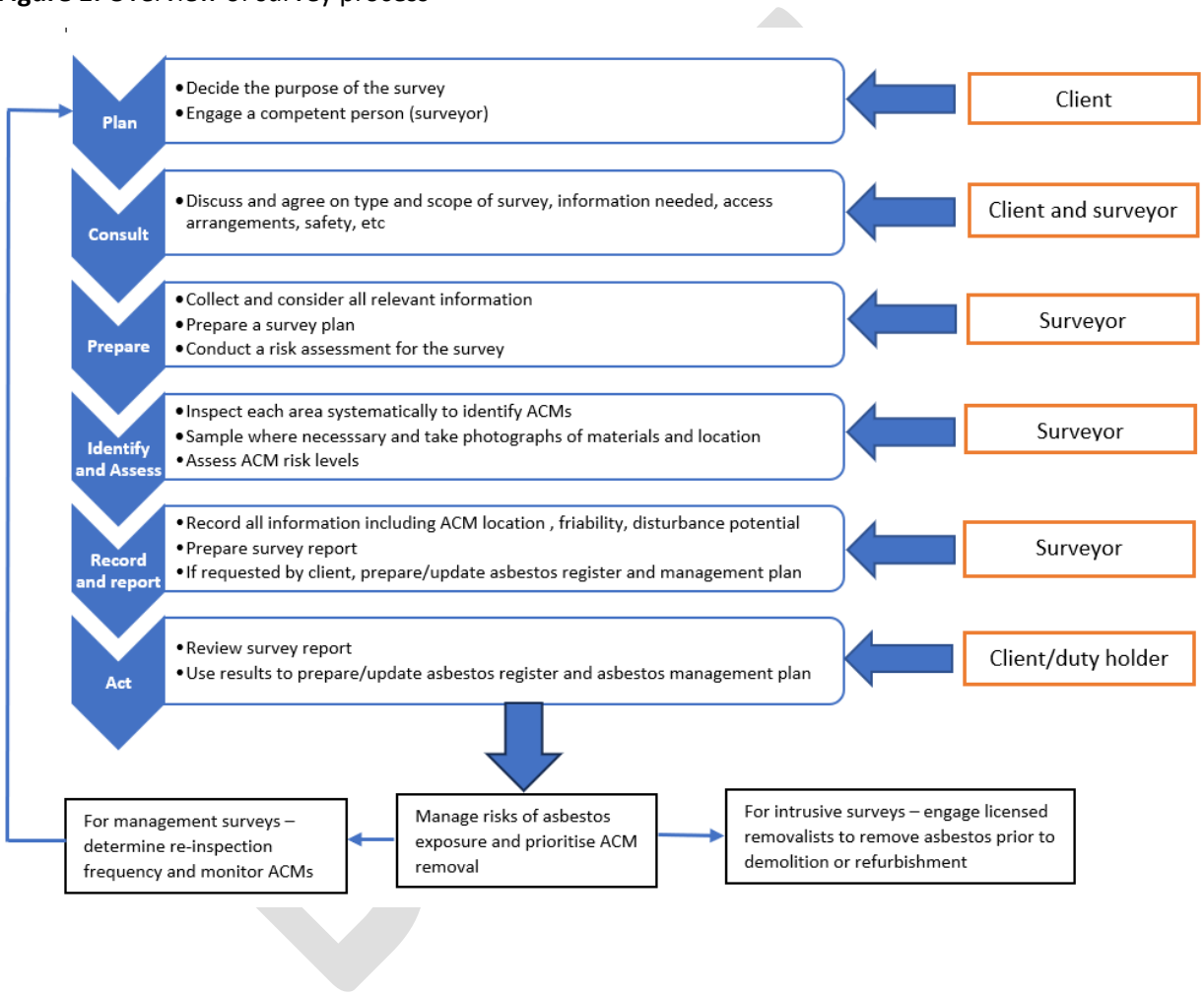
(and where no other information exists) must be assumed to contain asbestos and be managed on that basis.

3.5. The survey process

The asbestos survey process involves a number of phases and begins with the client planning for the commissioning of a survey and ends with the client taking the necessary actions after receiving the survey results.

The process may also require taking samples of materials for further analysis by a NATA accredited laboratory.

Figure 1: Overview of survey process



4. Asbestos survey planning, consultation and preparation

The guidance in this section aims to help clients be better prepared as well as help surveyors ask the right questions. The key to an effective survey is the planning, carried out initially by the client and then with the surveyor once they are engaged. The degree of planning and preparation will depend on the extent and complexity of the premises. Simple one-storey buildings will be different from a school or a large hospital complex. Sites with numerous and variable types of buildings will need considerable planning and prioritising.

An initial exchange of information is needed between the client and surveyor so that both parties have a clear understanding of what is required. The information should be used to form the contract between the client and the surveyor, including where the assessment is performed in-house.

If the client is a person conducting a business or undertaking, they must, so far as is reasonably practicable, consult with workers who carry out work for the business or undertaking and who are likely to be directly affected by asbestos exposure risks. Consultation could include the scope of the survey, when it should be conducted, safety procedures and how the survey report will be actioned.

4.1. What do clients need to consider?

The client should consider the following issues when planning to engage an asbestos surveyor:

- Why is a survey needed?
- What type(s) of survey is needed?
- What information must the survey provide? For example, will it include:
    - An ACM risk assessment?
    - An updated asbestos register?
    - Recommendations on actions to ensure occupant safety such as management practices or removal?
- What format do I need the report in?
- What information will the surveyor require?

Issues that should be discussed with the surveyor

- The purpose of the assessment and survey type(s)
- Details of the premises, or parts of the premises or plant to be surveyed such as plans and reports on design and construction
- Information on the premises including age, history of renovation, hours of operation, uses, occupant profile, plant used at the site, room numbers or location names
- Existing asbestos registers or survey reports
- Proposed scope of work, including sampling or asbestos disturbance
- The time that is needed to carry out the site inspection effectively
- Access arrangements, including where permits are required or assistance has to be arranged
- Safety and security information: hazardous areas, fire alarm testing, special clothing areas (e.g., food production).
- Contacts for operational or health and safety issues
- Details of any caveats
- The report (format and contents)

Refer to **Appendix B** for a checklist on information needed to plan an asbestos survey.

If any restrictions need to be imposed on the scope or extent of the survey, these items should be agreed by both parties before work starts and clearly documented as part of the contract.

4.2. Planning process for surveyors

The survey planning should be structured and include the following steps:

1. Collect all the relevant information to plan the survey.
2. Consider the information (desk-top study).
3. Prepare a survey plan (including how data will be recorded).
4. Conduct a risk assessment for the survey.

There may be some situations where all the steps are not necessary or possible (e.g., small or simple premises, fire-damaged premises and pre-purchase surveys etc). Where the survey involves sampling or asbestos disturbance, a site-specific assessment and plan of work is needed.

Step 1: Collect all the relevant information to plan the survey

The first step involves collecting all the necessary relevant information to ensure that the survey is completed efficiently, effectively and safely, and that it meets the client's requirements.

Refer to **Appendix B** for a checklist of information to be collected. It is often easier to obtain this information through direct discussion with the client. The meeting is also an opportunity to explain further the nature of the survey and agree on the format of the results and report.

Accurate plans of the building(s) and the floor layout should be obtained at this stage, particularly for complex premises. The plans should:

- contain the main features of each room, corridors, stairs etc.
- be marked with unique floor and room numbers to help identify individual locations
- be used to refer to and record the position of any suspect material and the location of any samples taken for identification
- be used to locate and record any sensitive or restricted areas and hazards.

If plans are not available, a drawing of the premises should be made by the surveyor before the survey starts.

Preliminary site meeting and walk-through inspection

If possible, a preliminary site meeting should be arranged which includes a walk-through inspection. This is essential for large and complex premises but may not be necessary for review surveys and may not be practical in some cases, for example where there are multiple sites (e.g., shopping malls). In such situations the information will need to be gathered in other ways (e.g., corresponding with the client or during a preliminary meeting and walk-through immediately before the survey).

A walk-through inspection helps to identify potential issues and will enable the surveyor to:

- become familiar with the layout of the premises, including the location of plant, equipment and furniture which may impede access or sampling
- check the accuracy of the building plans
- gain an appreciation of the size of the project and estimate the extent of sampling required
- assess how the premises is used, including interaction of people and plant with potential ACMs
- identify any specific hazards and discuss how to eliminate or minimise the risks.

The site meeting should be used to discuss and resolve any potential issues, such as:

- entry or access restrictions (e.g., to ceiling voids, high areas and crawl spaces)
- sampling matters (e.g., sampling only when the area is unoccupied, materials or decorations which cannot be disturbed, labelling sample locations, future placement of asbestos warning labels)
- measures to reduce dust release and clean-up
- the potential need for a licensed asbestos removalist or tradespersons (joiner, electrician, builder) to gain access during the survey or to reinstate areas on completion
- the need for specialised equipment (e.g., scaffolding, a tower crane or MEWP to access high areas).

Speaking with experienced workers will also assist in the survey process as they may be aware of the history of the building, including renovations or repairs, and be able to provide information on how the building is used when assessing the potential for asbestos disturbance, and may know where asbestos is located in the workplace.

Step 2: Consider the information (desk-top study)

The second step involves a desk-top examination of the information collected under step 1 to plan the survey strategy and work out if there are any gaps in the information.

The surveyor should also consider the following:

- competency needed to undertake the work
- resources needed to complete the work
- intended programme of works
- expected equipment to be used for access:
    - into the structure
    - to high levels
    - into contaminated areas or confined spaces
    - through known ACMs
- bulk sampling strategy and expected number of samples to be taken with reference to the site plan.

Step 3: Prepare a survey plan (including how data will be recorded)

The third step involves preparing a written survey plan. The plan sets out the content of the survey and can also form the basis of the contract with the client. The plan should specify:

Scope

- The type of survey (identification, review or intrusive).
- Any areas to be included and excluded.
- Any inaccessible areas.

Survey procedure

- The survey procedure (e.g., how it will be conducted) and sampling strategy including:
    - order of survey where different areas or buildings are involved
    - numbers of samples and sampling methods
    - procedures for any repair work
    - agreed survey times of work
    - signage and access

    - agreed start and completion dates
- The ACM risk assessment method and the parameters to be assessed (e.g., product type, friability, extent, condition and disturbance potential).
- The information to be recorded and the format to be used.
- The quality assurance checks and procedures to be undertaken.

Personnel and safety issues

- Names of surveyors (for security purposes).
- Safety precautions from the surveyor's risk assessment, including steps to minimise asbestos disturbance and prevent asbestos spread.
- Site safety procedures including emergencies (e.g. decontamination etc.)

Report

- Report format with headings (see section 7)
- What data will be reported
- How the data will be presented (each room/area must be individually recorded)
- The way the survey data will be stored, accessed and updated (e.g., a database accessible on a network or the internet)
- The way photographic or video records and marked-up plans will be stored
- Other information required by the client that may have been agreed, e.g., detailing fixings.

Step 4: Conduct a risk assessment for the survey

The final step involves carrying out an assessment of the health and safety risks to surveyors and building occupants based on information collected during Step 1.

The types of non-asbestos hazards which may be associated with surveys include:

- working at heights, in ceiling voids or on a fragile roof
- working on operable machinery or plant
- working in confined spaces
- chemical hazards
- electrical hazards
- biological hazards
- radiological hazards
- noise, and
- isolated or remote work.

The risk assessment must also specifically address the asbestos issues, including:

- the need to prevent the release of asbestos fibres and disturbance of ACMs as far as possible
- identification of safe work procedures (e.g., controls to be used while taking samples, arrangements for entering contaminated areas)
- PPE to be used, including respiratory protective equipment, and
- decontamination and disposal arrangements.

Asbestos identification, sampling and any activity that involves physically handling ACMs (e.g., moving low density board ceiling tiles) is regarded as 'asbestos-related work' under WHS laws. The specific WHS regulations for managing the risks of exposure to asbestos fibres must be followed when any asbestos-related work is undertaken.

Guidance on safe work procedures and the type of PPE that should be used for asbestos-related work is provided in WHS Codes of Practice on how to manage and control asbestos in the workplace.

Intrusive surveys present a higher risk of exposure to asbestos fibres due to the destructive nature of the work. Other risks include hidden electrical cables or pipes or unstable buildings. All risks must be eliminated or minimised so far as is reasonably practicable (e.g. disconnecting electricity supply) with procedures in place to deal with emergencies.

Some direct work on asbestos to support the survey may need to be carried out by a licensed asbestos removalist.

5. Carrying out the survey

Surveys should be carried out methodically, systematically and diligently to ensure ACMs are not missed and all areas of the premises are inspected.

Refer to the Asbestos Product Guide for a description (including images) of commonly used ACMs to help identify ACMs.

5.1. Survey strategy

Building plans should be referenced to prepare the survey strategy and for checking progress through the premises, ensuring that building features and services such as voids, cavities, risers and ducting are included. Inspect each area or room in the same systematic way, for example:

External areas

- Work downwards from high to low
- Work from the periphery inwards

Internal areas

- Work upwards from basement to roof
- Inspect each area individually
- Work around each area clockwise from the door of entry
- Examine materials individually in the following order:
    - structural elements working high to low
    - fixtures and fittings, plant, equipment and services within or associated with the structure.

General survey approach

- Allow enough time for the survey
- Check and inspect everything, materials should be tapped and prodded
- Do not assume every item is the same just because it looks similar
- Sample and take photographs as you go along
- Apply a method to cross-reference each photograph with the relevant ACM location and sample
- Look out for unusual items and products
- If possible, survey with two people working together, with both inspecting one area at the same time.
- Recheck areas which are complex or have many items (e.g., plant rooms).
- Do a final walk-through, checking notes against plans.

If any location cannot be accessed during the survey, inform the client as soon as possible to discuss whether access can be arranged. If access is not possible, then the survey report must clearly identify these areas not accessed.

In premises where there are large numbers of similar or near-identical rooms (e.g., offices or hotels), a survey strategy can be adopted which reflects the scale and nature of the buildings. All rooms should be visually inspected, as there can be differences in rooms due to location (e.g., presence of risers, services) or function/facilities. Subsequently, ‘similar’ rooms can be placed into groups (i.e., rooms with similar locations or facilities, such as next to lifts, containing risers, gable end or middle building rooms, plant rooms etc). In these groups there is likely to be greater uniformity in the

presence of ACMs, e.g., fire protection next to lift shafts). Within these groups, there will be less need for sampling in all rooms.

Sampling can be conducted in a representative number of rooms and, where ACMs are identified, the same items in other rooms in this group can be strongly assumed to contain asbestos.

Residential premises

Generally, the above strategy can also be used when surveying residential properties.

Where there is considerable variability between properties, the ratio surveyed will need to be high. The presence of ACMs can be quite variable and unpredictable even within residential buildings of the same age, style and design. Reasons for variable asbestos use includes:

- previous renovations or modifications (adding or removing ACMs)
- random use of legacy waste pieces and offcuts by builders.

5.2. Inspecting ACMs in specific areas

Floors, walls and doors

Pay particular attention to multiple lower layers of floor covering and the walls beneath rendered layers. Construction joints should also be checked for the presence of any asbestos mastics or insulation encased within the joint. When inspecting below top layers of floor covering, ensure that multiple areas of the room are checked as the lower layer of floor covering may not be consistent throughout the room. Check all walls within the area as not all walls within a room will necessarily be made of the same material. Also inspect windows, caulking, infill panels, doors etc.

Figure 2: *Sealant in wall expansion joint*

Figure 3: *Window putty*

Fire doors

Accessing fire door cores to determine whether they contain asbestos may create a risk, for example drilling can result in the release of airborne asbestos and compromise fire resistance integrity. Instead, inspections can be carried out by removing the door lock hardware or inspecting the top and bottom edges of the door where the core may be exposed. This may impact the risk assessment if the bottom edge is unsealed and rubs over carpet. Cores can be made of multiple layers with variations between layers. Fire doors may have a compliance tag on the door jamb stating the fire rating and a compliance date. This can provide an indication of whether the door is likely to contain asbestos.

Plant and machinery

Find out the age of plant and machinery (by checking the ID plate if present) and its function to determine whether ACMs may have been used in its manufacture. The country of origin should also be checked, as even new products imported to Australia may contain asbestos parts.[2]

When surveying plant rooms, the inspection should include:

- Plant and equipment that provide heat and electrical insulation, high performance seals and frictional components (e.g., driving belts, clutches, brakes and bearings)
- Pipework for the presence of asbestos-containing gaskets, valves, brackets and bitumen coated polystyrene insulation
- The potential release of dust and debris from any friable insulation products, previous maintenance work or accidental disturbance
- Boilers for the presence of remnant lagging, burner gaskets, inspection hatch and rope seals
- Electrical equipment for the presence of electrical backing boards, millboard linings, fuses, bitumen coatings, rope sheath and flash guards
- Any storage areas or boxes for old machinery parts that may contain asbestos.

Surveyors should not sample or work on machinery unless qualified to do so. The assistance of engineers, electricians, fitters or maintenance personnel may be needed in these situations.

Figure 4: *Woven asbestos flexible duct seal on vibration isolator*

Figure 5: *Brake pads on lift motor*

Pipes

Where pipe runs are in place, e.g. in plant rooms, ceiling voids, riser cupboards, inspect any pipe brackets, pipe elbows, floor and wall penetrations. Where an older building has what appears to be new style insulation applied to pipework (e.g., foil wrapped synthetic mineral fibre), the underside of the insulation should be checked to determine if any residual asbestos lagging is present on the

[2] Refer to the Australian Border Force website for detailed information about unlawful importation of goods containing asbestos into Australia: www.abf.gov.au/asbestos.

pipework. Walls, ceilings, soffits etc. adjacent to the pipework should be checked to determine if any overspray is present from the original insulating process.

Where pipes have been removed, only brackets or remnants of fixtures may remain with residual asbestos in areas where pipes are no longer present.

Figure 6: *Damaged asbestos insulation to pipe*

Figure 7: *Woven asbestos textile under pipe bracket in service riser*

Ceiling cavities

Ceiling cavities should be inspected using a strong light source. Inspection should include:

- Pipework, perimeter beams and any cladding brackets that may be present
- Penetrations through concrete slabs to check for insulating products or packing material
- Horizontal surfaces to identify accumulation of asbestos containing dust and/or debris from existing or previously existing ACMs
- Ceiling tiles and manhole covers
- Any previous limpet removal zones to identify residual asbestos that may be present. This includes beside brackets, fixings and within concrete imperfections. Limpet also has the potential for contaminating voids/risers/cavities that are close to original sprayed fixings.
- The potential presence of loose-fill asbestos insulation[3]

If the building has a corrugated asbestos cement roof or is of a style of building that may have previously had a corrugated cement sheet roof, the roof cavity will likely be contaminated with asbestos-containing dust. The correct PPE and RPE must be worn before accessing the roof cavity.

Power should be disconnected before examining ceiling spaces.

[3] Loose-fill asbestos was sold as ceiling insulation in the 1960s and 1970s by a company trading as Mr Fluffy. While most properties impacted were located in the ACT, some properties in NSW were identified as containing this type of insulation and their addresses are recorded in a register on the NSW Fair Trading website.

Figure 8: *Original asbestos cement ceiling damaged when suspended ceiling system installed*

Figure 9: *Section of thermoplastic pipe insulation located in ceiling space, with debris.*

External areas

Inspection should include:

- External walls, joints and infill panels.
- Pipework and/or ductwork protruding from the building, including their flange joints.
- Roofs to determine what type of materials may have been used to waterproof a flat roof building, e.g., a bituminous membrane. When sampling roof membrane, ensure that a sample is taken to the full depth of the material.
- Joints to parapet walls, windowsills, expansion joints and window frames for the presence of caulking, putty or mastics.
- Flues, eave/soffit linings
- Subfloor areas for vent lintels, stump packers and stored ACMs or debris
- Asbestos cement roof sheeting for any damage or deterioration.

Figure 10: *Damaged AC downpipe*

Figure 11: *Bituminous membrane in water channel*

Debris and ground contamination

Ground/soil areas adjacent to buildings with asbestos cement roofs, guttering and/or downpipes should be checked for the presence of run-off debris. Assess the ground around the building for any potential surface contamination such as fragments of asbestos cement sheeting, which may indicate previous removal work on site. It could also indicate further contamination at the site, either within or outside the building. ACM contamination and debris may have been produced at the time of

construction or installation, e.g., due to overspray, burying off-cuts on site or sweeping debris into voids, lift shafts and other risers.

Where possible, the likely source of the contamination should be determined.

Communications/electrical/Telstra pits and water services pipework may be present at the site, but not necessarily within the building itself. A site walk through should be conducted to identify any of these potential items.

Figure 12: *AC debris under roof guttering from AC roof*

Figure 13: *AC dust/debris on AC corrugated roof with organic growth*

5.3. Sampling

Sampling will normally be carried out at the time of the survey. However, for very large premises or where access has not been possible, sampling may be carried out as a separate exercise.

Sampling should be undertaken by following safe work procedures based on the risk assessment of the survey site. Sampling should not be carried out where there is an electrical hazard or if it will damage the critical integrity of a structural or working component, e.g. roof, gutter, pipe etc.

All asbestos samples must be analysed by a NATA-accredited facility. It is important to check that the NATA accredited facility's scope of accreditation covers the analysis of the specific type of asbestos samples being collected.

Sampling must be undertaken in a way that ensures the testing result is accurate. For example, precautions must be taken to ensure that cross-contamination of samples does not occur. In addition, the analytical result relates only to the actual sample tested. If the sample collected is not representative, the result will not be representative of the material.

Appendix C provides guidance on sampling procedures, including an equipment checklist.

Chain of custody

Surveyors need to consider how samples will be collected, stored (on or off-site), transported and analysed. Documentation ensuring that proper handling has occurred throughout these activities provides an auditable chain of custody record and a mechanism for tracking samples from the point of collection to analysis. Custody records can be used for quality assurance purposes, evidence in legal proceedings and where a client disputes a result. Chain of custody is not required if the same person or organisation that collects the sample also analyses it.

Bulk sampling strategy

The sampling strategy will be based on several factors, including the size and number of premises/rooms and the extent, types and variation in materials present. The visual inspection of each material to identify variations in appearance and composition will allow the sample numbers and locations to be specified. The sample number should be sufficient to establish whether asbestos is present or not in the material. Taking excessive samples could increase the potential for fibre release, additional analysis costs and possible damage to the integrity of the structure.

For homogeneous ACMs, it can be generally assumed that the asbestos is uniformly distributed throughout the material, and one or two samples will suffice, e.g., boards, sheets, cement products, textiles, ropes, friction products, mastics, sealant, bitumen roofing felt and gaskets.

In some types of material, particularly those that have been mixed at a building site, rather than a commercial product manufactured and mixed under a formulation and quality control procedure, the asbestos may not be distributed homogeneously within the material. For these types of materials, it is necessary to collect a larger sample to ensure that the sample is representative of the material. For example, insulation materials are non-homogenous as they were applied on site and their composition also varied depending on the manufacturer (identical products made by different manufacturers). Subsequent repairs and patching may add to this variability and increase the number of samples required. Repaired and replaced materials should always be sampled in addition to the original items.

If the inspection shows that the material is finely divided and homogeneous when examined visually, or if the nature of the material is recognized as such from previous knowledge, a minimum sample size of approximately 1 cm^3 generally provides sufficient material for analysis. However, a minimum volume of 10 cm^3 is recommended for materials such as sprayed fireproofing, and as much as 1 000 cm^3 for materials such as vermiculite insulation.

If the material has a layered structure, e.g. in the case of multilayer pipe insulations or multilayer floor coverings, include all layers of the material in the collected sample. Include any coverings or adhesive layers, such as coatings or glues. Do not attempt to separate individual layers as this is best performed under controlled conditions in the laboratory.

Larger sample sizes (at least the size of a credit card) are also recommended for vinyl materials, including any adhesive, due to potentially lower asbestos content.

If the product to be tested is behind a wall cladding or other covering, power sockets or light switch recesses are frequently suitable as locations for collecting samples. If it is not possible to gain access in this way, it may be necessary to cut the cladding or covering open in order to enable sample collection. These openings should be made at a location that detracts from the visual appearance as little as possible, e.g. behind baseboards.

Obtaining a sufficient sample will provide the ability to adequately sub-sample if necessary, for example if a higher resolution analysis is needed to confirm the presence of asbestiform asbestos when unidentified mineral fibres are reported from initial Polarised Light Microscopy (PLM) analysis.[4]

[4] Refer to Australian Standard AS 5370:2024 - *Sampling and qualitative identification of asbestos in bulk materials*

Settled dust

Sampling and analysis of asbestos in settled surface dust is not recommended, except in specific circumstances where the spread of asbestos from a substantial recent release incident is being investigated. Sampling is not recommended due to the technical difficulties (e.g. efficiency of collection methods) and settled dust variability (i.e. representativeness), as well as uncertainties in the statistical relevance and in the risk assessment that arises from the detection of low numbers of fibres. Dust samples can be collected by micro-vacuuming or scraping the dust layer into a pile and transferring it into a container. Dust should **not** be collected as wipe samples on adhesive tapes or filters.

The number of samples to be taken for various materials are suggested in Table 1 below.

Table 1: Bulk sampling strategy

Material	Number of suggested samples
Spray coatings, encapsulated sprays and bulk materials	Spray coatings are usually homogenous with a high asbestos content. Where the material appears uniform and consistent, 2 samples will typically be enough if taken at either end of the sprayed surface. If the installation is particularly large (e.g., >100m^2) one sample should be taken approximately every 25-30m^2. Samples should also be taken from all patches of repairs or alterations.
Pipe/thermal insulation	Often highly variable composition. In general, 1 sample should be taken per 3 metre run of pipe, with particular attention paid to different layers and functional items (valves, etc). It is important to sample the full depth of the insulation, using a core cutter or borer. For long pipe runs (e.g., >20 m), one sample per 6 m will usually be enough. It can be difficult to demonstrate that individual pipes are asbestos free so all pipes should be sampled even when they appear similar. Samples should also be taken from all patches of repairs or alterations.
Insulating board/low density board	1 sample per room or every 25m^2 If there is clearly more than one type of panel (e.g., based on colour, pattern, design, size, etc) then representative samples of each should be taken.
Asbestos cement materials	1 sample of each type of sheet or product (e.g., gutters, downpipes, etc) and of each eave lining, wall lining and ceiling lining particularly where different strapping or screw fixing has been used.
Textured (decorative) coatings	Asbestos fibres are often obscure or difficult to detect and may not be evenly distributed in the coating, which is usually thin. Using a scraper or chisel, at least 20cm^2 should be collected. If possible, thicker areas or ridges should be included in the sample. Collect a minimum of 2 separate samples per surface (wall or ceiling). For large areas take one sample per 25m^2

Floor tiles/coverings	One sample of each type or colour of tile is usually sufficient. Include any backings or applied adhesive or bitumen (as 2 separate samples if possible).
Debris and dust	Samples can be collected by picking fragments that appear to be consistent with asbestos products or appear to contain visible fibres. Dust samples should consist of a significant amount of loose dust (ideally 1 tablespoon) – debris should be excluded.
Other products (textiles, rope, felt)	1-2 samples from each separate source (2 are recommended if there are more than a few square metres of material)

Sample and site labelling

Whenever a sample is collected, it should be labelled with a unique identifier or reference number that is also recorded in the survey documentation, records and site plans so that the sample origin can be traced. The sampling position at the site may also be labelled with the same identifier. Visual records such as marked-up plans and/or photographic records showing the location and extent of the sample are also effective ways of recording the sampling position and the location of the ACMs.

5.4. Assuming the presence of asbestos

If a sample is not taken, a decision is needed on whether the material is assumed to contain asbestos or not. Surveyors may visually assess the edges and damaged areas of suspect materials and record the following:

- whether visible fibres are present on close inspection
- whether fibres are visually consistent with asbestos (e.g., form bundles with splayed ends).

Some products, like textured plasters, paints and vinyl floor tiles, may contain very fine dispersed chrysotile asbestos which may not be seen by eye or with a magnifying glass, and these materials (if old) must be assumed to contain asbestos unless they are sampled and analysed by a NATA accredited laboratory.

Under WHS laws, a person with management or control of a workplace must:

- assume material is asbestos or ACM if it cannot be identified but a competent person reasonably believes it is asbestos or ACM, and
- assume asbestos is present if part of the workplace is inaccessible (that is, cannot be accessed during normal daily activities or routine maintenance) and it is likely to contain asbestos or ACM.

Reasonable grounds to assume asbestos or ACM *is* present include:

- a laboratory analysis has confirmed the presence of asbestos in a similar construction material
- asbestos is known to have been commonly used in the manufactured product at the time of installation (e.g. James Hardie fibro cement sheeting with stamped product codes), or
- it has the appearance of asbestos, e.g., thermal insulation on a pipe where fibres are clearly visible
- there is insufficient evidence (e.g. no analysis) to confirm that it is asbestos free
- areas likely to contain asbestos cannot be accessed or inspected.

Reasonable grounds to assume asbestos or ACM *is not* present include:

- Buildings constructed after 31 December 2003 where the building is constructed (including the roof) wholly of metal, brick or concrete, and has no internal walls made of asbestos cement, gyprock or similar cladding, for instance a corrugated iron shed or a Colorbond® type warehouse building constructed of double brick with bare brick internally
- Non-asbestos substitute materials were specified in the original architect's/quantity surveyor's plans or in subsequent refurbishments
- A register indicates that all the identified and assumed asbestos has been removed.

Once the presence and location of asbestos has been assumed:

- The surveyor should make a judgement on the type of ACM, friability and disturbance potential
- The workplace asbestos register must include all the assumptions made about materials in the workplace with a clear description of the product type such as: 'Roof sheeting is assumed to contain asbestos' or 'All underground conduits are assumed to contain asbestos'
- All requirements for managing asbestos must be followed until the material is removed or testing has confirmed that it is asbestos free.

By assuming the presence of asbestos, the need for sampling and analysis can be deferred until a later time (e.g., before any work is carried out). However, this approach may result in the client facing additional costs due to managing potential non-ACMs as if they contain asbestos, for example by unnecessarily removing non-ACM and disposing of it as asbestos waste.

Surveyors should always endeavour to positively identify ACMs. A sufficient number of samples should be taken to confirm the location and extent of ACMs. It is legitimate to reduce sample numbers where materials can be strongly assumed to be ACMs.

Inaccessible areas

If there are inaccessible areas in the workplace that a surveyor has identified as likely to have ACMs, it must be assumed they contain asbestos until they are accessed and it is determined whether asbestos is present or not.

As a general rule, an inaccessible area is an area that cannot be accessed during normal daily activities or routine maintenance. The following areas are not regarded as 'inaccessible areas' and must be inspected or assumed to contain asbestos:

- locked rooms
- crawl spaces
- basements, cellars and storage areas
- ceiling spaces
- fire doors
- locked security safes.

Examples of inaccessible areas that may contain asbestos or ACM are:

- a cavity in a building that is completely (or almost completely) enclosed and suspected of containing asbestos (based on where asbestos is located elsewhere in the building) where access is only possible through destruction of part of the walls of the cavity
- the inner lining of an old boiler pressure vessel (information on this type of vessel suggests it contains asbestos) which is not accessible due to the design and operation of the boiler and access can only be via partial destruction of the outer layer

- vinyl tiles that may contain asbestos, which have had a number of layers of non-ACM placed over them and secured, where the layers above it have been well secured and require some form of destruction in order to access the vinyl that may contain asbestos
- enclosed riser shafts in multistorey buildings containing cables that may be insulated with ACM
- air-conditioning ducts that may contain asbestos gaskets and linings.

5.5. What to assess and record

The information to be assessed and recorded must be adequate for the purposes of maintaining an asbestos register as well as an asbestos management plan. The information listed below should be obtained and recorded for each ACM or assumed ACM:

- Full description of the type of material
- The date the ACM was identified
- Location of the material – ask the building occupants what they call the rooms or areas and use those terms to ensure a common understanding
- Extent (or quantity) of the material
- Friability
- Accessibility and disturbance potential
- Amount of damage or deterioration
- Surface treatment (if any) and its condition

Where sampling has been carried out, also record:

- all details recorded on the sample label
- precise description of the sampling location
- the date that the sample was collected
- the name of the person who collected the sample
- whether the sample is a composite derived from the combination of separately collected samples
- whether the sample is a multilayer sample.

6. Assessing the risk of ACMs

A survey should include an assessment of the likelihood of various ACMs releasing asbestos fibres due to their condition and potential disturbance.

This information can then be used to assess the level of risk that each ACM poses and make recommendations on the type of action that needs to be taken by the client or duty holder to eliminate or minimise exposure to asbestos fibres from ACMs.

6.1. Risk assessment model[5]

Appendix E provides a standardised ACM risk assessment tool to assess the potential for fibre release and rank ACMs in a simple numerical order. It is based on an additive algorithm. The tool is not designed to calculate absolute differences in potency or fibre release/hazard potential between ACMs.

Four risk factors are weighted according to contributory risk and combined for an overall score which determines the level of risk. Each factor of the risk model is assessed systematically and objectively, and applied a percentage weighting, to determine remediation or removal priority. In applying the model:

- *identified ACMs* are assessed on how easily the ACM releases asbestos fibres, the condition of the material and its disturbance potential, and
- *buildings with ACMs* are assessed based on building use, nature and frequency of access and the building type.

Although a surveyor will be able to assess ACMs as part of the inspection, most of the information needed about the building should be provided by the client or duty holder, who will have more detailed knowledge of the activities carried out at the premises.

The model takes a precautionary approach by:

- attributing a numeric value to all risk factors as there is no safe level of exposure to asbestos (i.e., rather than attributing a zero score to some risk factors), and
- giving a higher risk weighting where an ACM item, its condition or disturbance potential are assessed as ‘unknown’.

6.2. Risk factors

There are four risk factors:

- **Product risk level** – refers to how easily the product releases asbestos fibres in its original manufactured or installed form.
- **ACM condition** – refers to the state of an ACM with regard to its appearance, surface treatment (sealing or encapsulation) and extent of deterioration or damage.

[5] Based on an evidence-based model developed and used by the Victorian Asbestos Eradication Agency for ensuring a consistent, objective and best practice risk assessment of ACMs.

- **ACM disturbance potential** – refers to how likely ACMs may be damaged or disturbed by the activities of building occupants, maintenance personnel or through exposure to physical or chemical forces.
- **Building rating** – is based on public access, frequency and duration of use, level of activity and presence of mobile plant.

Product risk level and condition together account for 50% of the risk assessment model.

Disturbance potential and building rating, which are based on a situation assessment, together constitute the remaining 50% of the risk assessment model. The ACM risk assessment should only be carried out in consultation with the client or duty holder, who must provide accurate information on all the activities carried out on the premises.

7. Preparing an asbestos survey report

The survey report is a record of the information collected at a particular time on the presence and condition of ACMs. The report should be carefully prepared with attention to detail, particularly in transposing data, as the document will be the formal record of the survey. It will contain the information and data that will be used to warn people of the presence of ACMs to prevent exposure to asbestos fibres and to make decisions and judgements on the need for action. Errors in the report could lead to incorrect conclusions and inappropriate decisions.

7.1. Format

The survey report format should be discussed and agreed with the client so that it can be presented in a way that is comprehensible and easy to use. Ideally, the results should be directly entered into the client's asbestos register, or should be easy for the client to extract, for example by presenting the results in a manner or format that can be directly copied into the register. The report should also contain the results of sample analyses.

A site plan with photographs should be used to show the location of each ACM and its condition. Photographs can help the client manage asbestos by providing a benchmark for comparing condition over time. Photographs can also be used to identify the actual sampling points.

The design, layout, content and size of the report are very important. Large reports can be unwieldy and even intimidating. Clients are most interested in the summary, results, conclusions and actions. It can be useful to separate the report into different parts, with the bulk analysis results and the individual survey results, particularly if displayed with accompanying photographs, contained in separate appendices.

7.2. Contents

The survey report should contain the following sections:

- executive summary
- introduction covering the scope of work
- site plan, general site and survey information
- statement of the survey limitations
- list of the inaccessible areas
- survey results (including material assessment results)
- conclusions and actions
- bulk analysis results.

Executive summary

The executive summary should briefly describe the scope, type and extent of the survey and it should summarise the most important information, including:

- the locations with identified (or assumed) ACMs
- areas not accessed (which should be specific to the survey and not generic)
- ACMs with high risk assessment scores
- clear notes on any recommended actions (and priorities).

Introduction

The introduction should explain the scope of the work and the purpose of the survey. It should also contain a description of the nature and age of the building(s) or other structures plus construction type.

General site information

General site and survey information should include:

- the name and address of the organisation
- the names of the surveyors
- the name and address of the person who commissioned the survey
- the name and address of the premises surveyed
- the date of the report
- the date of the survey
- a description of the areas included in the survey
- a description of any areas excluded in the survey
- the type of survey undertaken (management or refurbishment/demolition) and, if more than one type is used, where they apply within the premises
- the survey method used
- any variations or deviations from the method, and
- agreed exclusions and inaccessible areas (with reasons) which should be specific to the survey and not generic.

Survey results

The survey results should be summarised in table format (see **Appendix F**) and as a set of marked-up plans (diagrams) showing the location of ACMs and assumed ACMs. The summary table should contain the following information:

- description of all areas inspected (e.g., building identifier, floor number or level, room identifier and position/orientation)
- the location and extent of identified or assumed ACMs
- ACM product type
- level of identification of the ACM (identified or assumed, including basis for assumption).

For a management survey (and demolition and refurbishment surveys where the work is not imminent), the following additional information should be provided:

- accessibility of the ACM
- amount of damage or deterioration
- disturbance potential
- the ACM risk assessment score or category (high, medium, low) and any actions required.

The information in the results table should be presented on an individual room basis. Any rooms or areas not accessed and assumed to contain asbestos should be included in the results table.

Where suspect material is proved not to be asbestos, by sampling or other means, this should be recorded in a separate table. This will help in any future debate over the nature of these materials.

Conclusions and actions

The conclusions section should summarise the rooms where asbestos is present and the products/items which contain asbestos (i.e., it should be an 'easy guide' for the client/duty holder). It should also contain a list of recommended actions arising from the ACM risk assessment results and the timeframes for taking action, e.g., within 6 months, 2 years, etc.

Recommended monitoring and review timeframes should also be included.

Bulk analysis results

The survey report should also include the NATA endorsed certificate of analysis showing the results of the samples taken. This data can be listed in an appendix with the following information:

- the name, address and NATA accreditation details of the laboratory carrying out the testing
- a reference to the method used
- a table or appendix summarising the results of the bulk analysis, including asbestos found or not found and types identified, by sample identifier
- dates the bulk analysis was carried out and reported by the laboratory, and
- the names and signatures of the analyst and any approving signatory.

8. How to use an asbestos survey report

Survey reports are essential tools for making decisions on how to prevent exposure to asbestos fibres and for meeting health and safety duties under WHS, environment protection and public health laws, as well as disclosure requirements for residential properties.

The surveyor should review the survey report with the client to check:

- the report against the original tender
- the survey is as requested e.g., Management or refurbishment/demolition (or a combination).
- diagrams and plans are clear and accurate
- all rooms and areas have been accessed
- sufficient samples have been taken (usually 1–2 per area/room) and that sample numbers are not disproportionate (e.g., dominated by one ACM type)
- sample numbers reflect variations in the same ACMs, e.g., different ceiling tiles in the same room
- for any obvious discrepancies, inconsistencies and any unagreed caveats or disclaimers.

8.1. For workplaces

Under WHS laws a person with management or control of a workplace is responsible for preparing and maintaining an **asbestos register**[6] and an **asbestos management plan** where they are needed. The asbestos register is intended to ensure workers and other at the workplace do not accidentally disturb asbestos.

The information in the survey report should be used to form the asbestos register which is a key component of the management plan. The survey report itself will generally not be the asbestos register. The asbestos register will be a simpler document and will not contain most of the information in the survey report, e.g. the bulk analysis results or survey site information.

Under WHS laws the asbestos register **must** include the following information:[7]

- the date on which the asbestos or ACM was identified, and
- the location, type and condition of the asbestos or ACM.

The recommended actions in the survey report should be used to inform the asbestos management plan.

8.2. For residential properties

Survey reports will help owners of residential properties understand exactly where ACMs are located, how dangerous they might be in terms of releasing asbestos fibres and what to do about them to prevent exposure. The information in survey reports should be used to:

- avoid disturbing ACMs during home improvements, maintenance or repair
- alert tradespersons working at the home about the presence and location of asbestos to help the tradesperson comply with WHS laws

[6] Guidance on asbestos registers is available here: Asbestos registers at the workplace | Safe Work Australia
[7] The ACT WHS Regulations and the Victorian OHS Regulations require additional information to be included in the register.

- ensure that home insurance policies are sufficient to cover asbestos liabilities
- disclose the presence of asbestos at point of sale or lease
- remove ACMs before commencing any renovations
- remove ACMs that might become damaged in disaster events, particularly if the property is located in disaster prone areas.

Figure 14: *Residence with multiple AC structural components*

Appendix A: Glossary

Term	Meaning
Asbestos cement	Preformed products comprising Portland cement, sand, binders, and reinforced with various combinations of both asbestos and non-asbestos fibres.
Asbestos containing material (ACM)	Any material or thing that, as part of its design, contains asbestos.
Asbestos contaminated dust or debris (ACD)	Dust or debris that has settled on a surface and is, or is assumed to be, contaminated with asbestos.
Asbestos survey	A physical and visual inspection of a building or structure conducted by a competent person to identify the presence, location and condition of ACMs so that effective actions can be taken to prevent exposure to airborne respirable asbestos fibres.
Asbestos management plan	A document that sets out how asbestos or ACM at a workplace will be managed. It must include information on: • the identification of asbestos and ACM, for example a reference or link to the asbestos register for the workplace, and the locations of signs and labels • decisions, and reasons for the decisions, about the management of asbestos at the workplace, for example safe work procedures and control measures • procedures for detailing accidents, incidents or emergencies involving asbestos at the workplace, and • workers carrying out work involving asbestos, for example consultation, information and training responsibilities.

Asbestos register	A document that lists all identified or assumed asbestos or ACM in a workplace. It must:
	• record any asbestos or ACM that has been identified or is likely to be present at the workplace from time to time, including:
	  ○ the date on which the asbestos or ACM was identified (or assumed)
	  ○ the location, type and condition of the asbestos;
	or
	• state that no asbestos or ACM has been identified at the workplace if the person knows that:
	  ○ asbestos or ACM has not been identified or assumed to be present at the workplace, and
	  ○ asbestos or ACM is not likely to be present from time to time at the workplace.

Term	Meaning
ACM risk assessment	An assessment of the likelihood of an ACM releasing asbestos fibres due to its condition, friability, disturbance potential and use of the building in which it is located.
Asbestos surveyor	A person that is competent to conduct an asbestos identification survey and risk assessment in accordance with this Guide.
Competent person	A person who has acquired through training, qualification or experience, the knowledge and skills to carry out the task. Note: a different definition of competent person applies to carrying out asbestos clearance inspections under WHS Regulation 473. Such work is not covered by these guidelines.
Hazard	A situation or thing that has the potential to harm a person.
Homogenous sample	A bulk sample that exhibits a more or less uniform distribution of fibres (of any type) through the entire sample, or in each discernibly discrete layer of the sample
In situ asbestos	Asbestos or ACM fixed or installed in a structure, equipment or plant but does not include naturally occurring asbestos.
Friable asbestos	Material that is in a powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry, and contains asbestos. Note: a different definition of friable or fibrous asbestos is applied under the National Environmental Protection Measures (NEPM) for contaminated soils which is not covered under these guidelines.
Non-friable asbestos	Material containing asbestos that is not *friable asbestos*, including material containing asbestos fibres reinforced with a bonding compound.
Non-homogenous sample	A bulk sample containing small, discrete amounts of asbestos distributed unevenly in a large body of non-asbestos material
Respirable asbestos fibre	An asbestos fibre that: • is less than 3 microns (µm) wide, and • is more than 5 microns (µm) long, and • has a length to width ratio of more than 3:1
Risk	The probability of a hazardous event occurring (in a defined set of circumstances) and consequences / severity of that event. The probability is defined as the product of the frequency of exposure to the hazard and level of exposure.
Workplace	A workplace is a place where work is carried out for a business or undertaking and includes any place where a worker goes, or is likely to be, while at work.

Appendix B: Checklist – information needed to plan an asbestos survey

An asbestos surveyor should collect the following information to ensure they can effectively plan the asbestos survey.

- ☐ Description and use of the premises (i.e., industrial, office, retail, domestic, education, health care etc) and details of past businesses that have operated on the site
- ☐ Number of buildings/structures
- ☐ Age, type and construction details (e.g., what products were used) of each building and number of rooms within each to be surveyed
- ☐ Drawings: architectural, structural, mechanical services, etc.
- ☐ Any unusual features and underground sections
- ☐ Details of whether the buildings have been extended, adapted or refurbished including when that work was done
- ☐ Any plant or equipment installed
- ☐ The general condition of the structure/building/plant? (e.g., is it damaged/derelict, abandoned or currently operational)
- ☐ Whether the building is subject to conservation or heritage requirements etc that may impact how sampling is carried out
- ☐ Any related environmental or contaminated land reports that need to be reviewed for the survey
- ☐ Potential presence of contaminated landfill, such as waste building materials that may have been discarded on site
- ☐ The extent or scope of survey required – this could be detailed on a site plan or architects' drawings
- ☐ Whether the surrounding ground and associated buildings or structures are to be included in the scope of the survey
- ☐ Current and original (if different) plans or design specifications for the site
- ☐ Previous plans, including 'as built' plans and subsequent plans for major changes and refurbishments
- ☐ Whether the premises are vacant or occupied
- ☐ Any access restrictions
- ☐ Special requirements or instructions
- ☐ Responsibility and arrangements for access
- ☐ Whether survey damage is to be repaired (refurbishment/demolition surveys)
- ☐ Site-specific hazards (mechanical, electrical, chemical etc)
- ☐ Responsibility for isolation of services, power, gas, chemicals etc
- ☐ Working machinery or plant (including lifts) to be made safe
- ☐ How many bulk samples will be necessary?
- ☐ The location of all services, heating and ventilation ducts, plant rooms, riser shafts and lift shafts
- ☐ Previous asbestos assessment reports, current asbestos registers and all records of asbestos removal or repairs
- ☐ Information on previous repairs to ACMs, e.g., pipe/thermal insulation
- ☐ History of the site: any buildings previously demolished; presence of underground ducts or shafts etc

Appendix C: Asbestos sampling procedures

Sampling equipment

- ☐ PPE – disposable nitrile gloves, disposable coveralls, P2 respirator
- ☐ Non-serrated pliers
- ☐ Screwdrivers
- ☐ Core samplers or cork borers
- ☐ Aluminium foil or cloth tape
- ☐ Stanley knife with spare blades
- ☐ Hand-spray with diluted PVA or surfactant
- ☐ Dust-tight containers for packaging the sample, e.g. plastic bags with "zip" closures or bottles with screw caps
- ☐ Labels or waterproof markers
- ☐ Type H vacuum
- ☐ Asbestos waste bags of the approved type and adhesive tape
- ☐ Warning signs, e.g., 'Asbestos sampling: Keep clear'
- ☐ Wet wipes or rags
- ☐ Polythene sheeting
- ☐ Waterproof sealant, fillers
- ☐ Torch

Sampling procedure

Step 1—Preparation

- ☐ Isolate the area and use warning signs if necessary
- ☐ Use appropriate PPE and ensure fit testing is carried out for respirators
- ☐ Set down a plastic drop sheet to catch any debris in the sampling area
- ☐ Prepare patching and clean up materials for ease of access when required

Step 2—Taking the sample

- ☐ Do not disturb the material any more than is needed to take a sample.
- ☐ If necessary, wet the material using a surface spray or shadow vacuum with a HEPA filtered Class H industrial vacuum cleaner around the sample area to minimise the release of asbestos fibres.
- ☐ Sample from less conspicuous areas or where there is already some damage. For fibre cement sheeting, take the sample from a corner edge or along an existing hole or crack using pliers or a screwdriver blade.

- Carefully remove samples that are representative of the whole material. For friable materials (e.g. sprayed products, pipe lagging) the sample must extend to the full depth of the material.
- Avoid cross-contamination of samples by cleaning equipment between each sample
- Place each sample in its own container or sealable polythene bag which is then sealed in a second container or polythene bag.
- Label each sample bag with the date, location, a unique reference number and an asbestos warning.
- Use a wet wipe to clean up any material on the outside of the container and around the area sampled.
- Patch or seal the sampled area to prevent fibre release (e.g. with waterproof sealant or fillers).
- Send the sample to a NATA-accredited laboratory. Samples analysed by a third party should be accompanied by an auditable Chain of Custody document.

Step 3—Cleaning up

- Carefully wrap up the plastic drop sheet with adhesive (cloth or duct) tape and then put this into a labelled heavy duty plastic asbestos waste disposal bag.
- Wipe down tools and equipment with wet wipes.
- Place disposable gloves and coveralls into labelled heavy duty plastic asbestos waste disposal bag, along with wet wipes and drop sheet. Keep RPE on until clean-up is completed.
- Seal the plastic bag and then place it in another labelled heavy duty plastic asbestos waste disposal bag (i.e., double bag).
- Follow a decontamination procedure (personal washing), wash and store non-disposable RPE in a sealed and labelled container or dispose of the RPE as asbestos waste.
- Dispose of asbestos waste at a licensed asbestos waste facility.

Appendix D: Demolition and refurbishment surveys

This appendix provides additional guidance for carrying out demolition and refurbishment surveys.

Demolition and refurbishment surveys can be more challenging than management surveys for various reasons, including:

- the need to identify **all** ACMs that are likely to be disturbed as a result of demolition or refurbishment, whereas the requirement to identify ACMs for management surveys is qualified by what is reasonably practicable
- the number of changes or modifications to building structures or plant and the need to access areas and treatments hidden behind false floors, ceilings and walls
- old building plans and drawings that may not have been updated
- the level of competency and knowledge needed is greater than for management surveys, and
- the intrusive nature presents more health and safety risks.

Textured coatings

In many cases, it will not be reasonably practicable to remove textured coatings before demolition as the removal is resource-intensive/time consuming and involves other risks, e.g. where textured coatings are attached directly to substrates such as concrete or lath. However, where textured coatings are attached onto materials which can be removed intact, then removal may be reasonably practicable, e.g. by removing whole fibreboard sheets intact. The survey should identify the nature of the substrate and whether textured coating removal will be required. Textured coating removal will be necessary where refurbishment is taking place.

'No access' areas from previous survey

All 'no access' areas on previous surveys (if available) must be accessed with suitable equipment and procedures.

Suspended ceilings

Suspended ceilings not previously accessed (e.g. low density asbestos fibreboard tiles screwed to wooden battens) must be entered through an enclosure and airlock system constructed by a licensed asbestos removalist. All ACMs in the void will need to be located.

Partition walls (plasterboard/low density asbestos fibreboard sandwich)

Walls may not be uniform and may have undergone partial replacement. All sections of a partition wall will need to be examined, unless documentary evidence confirms that they were erected at a time when ACMs would not have been used or the original specification confirms that ACMs were not to be used. Visual inspection will not be enough on its own. If the evidence is that the walls were erected at a specific time and that no refurbishment or alteration has taken place, then an appropriate proportion of the sections should be examined.

The joints between partition panels may contain asbestos rope fire seals. The rope may only be apparent when the outer trim (e.g. aluminium) is removed.

Cavity walls

Wall cavities should be inspected with an endoscope to check for the presence of any asbestos materials or debris particularly in buildings where loose fill asbestos may have been used as ceiling

insulation (i.e. Mr Fluffy). Entry points should be agreed with a competent person, such as a builder, joiner or structural engineer.

Walls should also be examined thoroughly where insulated heating pipes pass through brick or breeze block walls. Check for insulation or residues within the wall cavity itself.

Apertures (doors, windows etc)

Cavity closers (usually AC) are sometimes found around air bricks, windows etc. All apertures should be considered and examined thoroughly.

Window frames may have asbestos putty securing the glass panels. Asbestos rope seals as fire breaks are also found.

Floors

Carpets and tiles must be lifted. Floor tile adhesives also frequently contained asbestos.

Floor ducts or trenches must be accessed and inspected for shuttering, services, pipe insulation, fire stops, debris etc. The inspection includes the duct cover itself, which may have asbestos cement or low density fibreboard shuttering. The full length of each duct will need to be inspected, unless it is clear that asbestos pipe insulation is present throughout, when the entire run can be treated as containing asbestos.

Where subfloors cannot be easily accessed, floorboards should be lifted to examine the void below. Sufficient boards must be lifted to ensure that the whole floor void is examined for loose asbestos, ACM debris, packers, fire protection, electric cables etc. It may be necessary to inspect the ends of the joists for ACM packing.

Slab (poured concrete) floors are known to contain ACM which was used as an expansion joint or shuttering below the surface. These may only be found by drilling core samples through the slab. This will need specialist advice on the structural considerations and on the equipment needed to carry out this type of investigation.

ACM sleeves were used where cables or pipes run through a slab floor, although these should be visible at the surface.

Ducts

Service risers, including fire stops between floors, if not investigated under a previous survey, must be inspected. Lift shafts must be inspected, including the pit at the bottom of the shaft. Ventilation shafts or ducts have been seen with asbestos acoustic attenuators and with debris from assorted ACMs. Ventilation flexible ducting should also be examined.

Figure 15: *Airconditioning duct clad in low density fibreboard sheeting*

Cladding

Columns or stanchions may have been originally provided with fire protection from ACM or sprayed coating. It may be concealed by over-cladding with a non-asbestos board, wood or metal sheet. Inspect all columns.

External cladding of tiles or slates (which may or may not be asbestos) will usually conceal a moisture membrane based on a bituminous ACM or panels.

Debris in boiler room areas

This should have been investigated during a previous survey but it may be necessary to look closely at where pipes pass through walls, or in sumps and gulleys, behind and underneath tanks and other plant. In particular, the walls and floors should be inspected for insulation debris, which may have been painted over. All plant and electrical equipment must be investigated (while certified in a safe condition).

It may not be possible to locate some or all of the debris until the plant (tanks or boilers) has been removed. It will be necessary to remove the plant under controlled conditions with an appropriate plan of work. Cast iron sectional boilers with asbestos between the sections (or as a plinth under the boiler) will need to be disassembled under controlled conditions.

Debris underneath non-asbestos re-insulation

If the desk-top study reveals that asbestos insulation has been stripped and replaced, a proportion of the new insulation must be removed to examine the extent of any asbestos debris on the pipes, boltheads, and flanges. If any of the pipes are shown to have frequent occurrences of asbestos debris, then it is likely that the pipes will have to be removed as ACMs.

Roof voids

Where Rockwool or fibreglass insulation is present in a roof void, the areas underneath it should be inspected, particularly if there is evidence of other ACMs.

Previously demolished areas: From the desk-top study

The desk-top study should be used to investigate whether any previous structures (including underground structures) remain or may have released asbestos debris into the soil.

Whether the desk-top study information is available or not, the site must be inspected visually to identify obvious signs of demolition works and associated surface asbestos debris. It may be necessary to treat the external area as a contaminated site for investigation purposes, in which case, trenches and pits may need to be excavated to establish the extent of the debris.

The desk-top study will need to include reference to old plans.

Overspray debris from sprayed coatings

If a sprayed asbestos coating is present or known to have been present at some time in the past, the area must be inspected carefully for the presence of debris and to establish the extent and location of any overspray.

Figure 16: *Sprayed coating on framework with overspray*

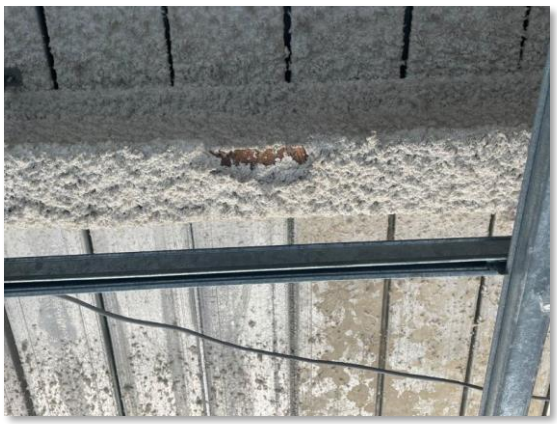


Figure 17: *Damaged sprayed coating which was originally tamped*

Use of ACM as packing and shuttering

Depending on the age of the building, surveyors need to be vigilant in buildings constructed prior to the 1990's for the use of ACM as packing and shuttering.

This was frequently used simply as a convenient piece of board and not because of the need for fire protection.

Damp-proof course

Any damp-proof course with asbestos should have been detected in a previous survey. It will not normally be necessary to remove this during demolition.

Appendix E: ACM Risk Assessment Tool

Risk Factor 1: Product Risk Level – Percentage weighting up to 35%

Products are categorised into ten levels of risk, based on how strongly asbestos fibres are bonded in the material the asbestos was mixed with during manufacture or installation, and the proportion of asbestos fibre content. Level 1 products have the lowest potential for fibre release (non-friable), whereas Level 10 products have the highest (friable), with each level increasing the risk score by 3.5%. Refer to Table 2 below and Table 6 for a list of asbestos products and their risk values.

As this factor presents the greatest risk from exposure to asbestos fibres, it is given the greatest weight of 35%.

ACMs that were non-friable at manufacture or installation can become friable due to ageing, deterioration, disturbance or damage – this is assessed under Risk Factor 2: ACM Condition.

Table 2 – Risk levels for various asbestos products

Risk level	Product type	Score
Level 1	Reinforced resins, plastics	3.5%
Level 2	Adhesives and vinyl products	7.0%
Level 3	Bitumen based products	10.5%
Level 4	Cement based products	14.0%
Level 5	Cement product debris	17.5%
Level 6	Cloth, fire blankets and rope	21.0%
Level 7	Insulation board and millboard	24.5%
Level 8	Lagging, woven product debris	28.0%
Level 9	Sprayed coatings	31.5%
Level 10	Loose-fill, sprayed insulation (limpet)	35.0%

Risk Factor 2: ACM Condition – Percentage weighting up to 15%

Each of the following condition categories in Table 3 account for 3.75% contribution to the 15% condition component.

Table 3 - Scoring ACM condition by category

Condition	Description	Score
Stable	• Firmly bonded • Painted or sealed • Without visible cracks or damage • Without associated debris • Without weathering or deterioration	3.75%
Fair	• Unpainted or unsealed • Subject to minor or infrequent weathering	7.5%

	• Friable but completely encapsulated (e.g., pipe lagging wrapped in plastic) • Without significant visual damage or deterioration (e.g. minor cracks or frayed edges)	
Unknown	Use when: • Material is inaccessible • Area or room is inaccessible, but is assumed to have ACMs within it	11.25%
Poor	• Un-bonded • Unstable • Significant damage • Friable and damaged • Fire damaged • Visible dust and debris	15%

Risk Factor 3: Disturbance potential – Percentage weighting up to 25%

A scale of four levels of disturbance potential is outlined below.

Table 4 - Scoring ACM disturbance potential

Disturbance potential	Description	Score
Level 1 • **Low** accessibility • **Low** risk of damage or deterioration	**Fixed or installed ACMs** in locations where: • no maintenance or access to the materials occurs • the frequency and intensity of activities in proximity to the ACM is low • the likelihood of disturbance arising from human activities or deterioration from environmental factors is low. For example: • High level eaves • Core of an internal fire door in fire escape.	6.25%
Level 2 • **Moderate** risk of damage or deterioration	**Fixed or installed ACMs** that may be subject to routine maintenance and/or a moderate level of activity in the vicinity of the ACM. For example: • Electrical boards, boilers, pipework • Walls and floors.	12.5%
Level 3	**Fixed or installed ACMs** that: • are frequently and easily accessed, either for maintenance or as part of general use of the building	18.75%

Disturbance potential	Description	Score
• **High** accessibility • **High** risk of damage or deterioration • **Unknown**	• are frequently subjected to vibration/physical abrasion due to standard use (e.g. brake pads in the lift motor of a frequently used lift, or vinyl flooring in a high traffic area) • are highly susceptible to weathering or chemical erosion, e.g., roofing and rainwater goods, or • disturbance potential cannot be assessed.	
Level 4 • **Non-fixed ACMs**	**Non-fixed ACMs** that are regularly handled (e.g. asbestos heat mats) or can be easily disturbed (e.g. debris and dust)	25.0%

Risk Factor 4: Building rating – Percentage weighting up to 25%

The building rating consists of five factors assessed for each building. Each of those factors are weighted to a maximum of 20% initially, with the total then calculated to arrive at a rating of up to 25% for the building.

Table 5 - Scoring building ratings by factor

Factor	Building use	Score
Public Access (a)	Yes	20.0%
	No	10.0%
Frequency of use (b)	Every day	20.0%
	Every day with intermittent breaks	16.6%
	Once every 3-5 days	13.3%
	Every 2-3 weeks	9.9%
	Once every 2-3 months	6.6%
	Annually or less frequently	3.3%
Daily duration (c)	24 hours	20.0%
	12 hours	16.0%
	8 hours (typical working day)	12.0%
	4 hours	8.0%
	<4 hours	4.0%
	Very high	20.0%

Factor	Building use	Score
Level of activity (d)	High	16.0%
	Moderate	12.0%
	Low	8.0%
	Very low	4.0%
Mobile plant (e)	Yes	20.0%
	No	10.0%

To calculate the building rating, add the results from each factor for a maximum of 100, and then divide by four to obtain the weighted building rating. As an equation, this calculation is:

$$Building\ rating = (a + b + c + d + e) \div 4$$

Calculating the final risk score

The final risk score is calculated by adding the score for each of four risk model factors. The **minimum** possible risk score is 18.82. The **maximum** possible risk score is 100.

The ACM risk level is categorised as follows:

Risk level	Total score	Recommended actions
High	≥ 68	• Restrict access to the area and arrange removal as soon as reasonably practicable – the higher the total score the greater the removal priority
Medium	≥ 45 < 68	• Apply sealant/encapsulate any damaged or deteriorating areas to prevent fibre release • Monitor for signs of further deterioration • Schedule future removal or a review survey • Remove if impacted by planned demolition or refurbishment
Low	< 45	• Manage and inspect on a regular basis • Avoid damage or disturbance • Schedule review survey • Remove if impacted by planned demolition or refurbishment

ACM risk calculator

An easy-to-use online tool developed by the Victorian Asbestos Eradication Agency automates the above calculations to simplify the ACM risk assessment process. It is available to use: https://vaea.my.site.com/ram/

Simply upload your ACM data – for example, from a register or spreadsheet – to receive a risk rating for each ACM, based on the four risk factors above.

Table 6: Product risk levels – ease of fibre release

Level 1 – 3.5% **e.g. resins, plastics**	**Level 2 – 7%** **e.g. adhesives, vinyl products**	**Level 3 – 10.5%** **e.g. bitumen based products**	**Level 4 – 14%** **e.g. cement based products**	**Level 5 – 17.5%** **e.g. cement product debris**
Concrete levelling compound Grout Masonry Paint Plastic Resinous block Rubber gasket Rubber products Terrazzo Textured coating	Adhesives Asphalt Caulking Fire brick Glue Hessian backed vinyl sheet Mastic Mortar Putty Render Non-fibrous backed vinyl sheet and adhesive Vinyl tiles and adhesive	Acoustic pad Asbestos-coated metal sheet (Galbestos) Bitumen-coated paper Bitumen-coated polystyrene Bitumen coating Bitumen coating to underside of sink Bitumen washer Bituminous adhesive to flooring (Blackjack) Compressed electrical panels Malthoid Mastic debris Non-fibrous backed vinyl debris Vinyl tile debris Plaster Vermiculite plaster Waterproof membranes and damp proof courses	Bitumen product debris Brake pads Cement flues Cement pipes Cement strapping Cement water tank Clutch plates Communications pit Corrugated cement sheet Electrical arc shields Faux brick cladding Faux timber sheeting Fibrous cement electrical components Flat sheeting Flue capping Laminated cement sheeting (Tilux) Moulded sheet Pebble coated cement sheeting Profiled cement sheet Strawboard with cement sheet lining	Cement product debris Contaminated soil (non-friable debris) Gauze mats Render debris

Level 6 – 21% **e.g. woven products, cement roofing products**	**Level 7 – 24.5%** **e.g. insulation board, millboard**	**Level 8 – 28%** **e.g. lagging**	**Level 9 – 31.5%** **e.g. sprayed coatings**	**Level 10 – 35%** **e.g. loose-fill, contaminated dust**
CAF gasket(s) Corrugated roof sheeting Cloth Electrical cable shrouding Felt Fire blanket Fire curtains Fire-fighting clothing Fuse holder Gland packing Gloves Mattresses Profiled roof sheeting Rainwater guttering Ridge capping Roof tiles Rope and string Rope/braided gasket Valley gutters Woven products	CAF gasket debris Low density asbestos fibre board Fire door core HRC fuse Internal insulation (suspected) Millboard Millboard backed vinyl sheet Paper Paper backed vinyl sheet Strawboard with millboard lining Tape Unknown	Contaminated soil (friable debris) Fire rated material Gutter deposits Lagging Pipe lagging and associated residues Woven product/textile debris	Sprayed insulation (not limpet or vermiculite) Vermiculite insulation Naturally occurring	Sprayed insulation (Limpet) and associated debris Loose-fill insulation Fireproof bags/pillows Dust Insulation product dust/debris

Appendix F: Survey Results Table – example

Site name and address:	**Date of inspection:**	**Survey conducted by:**	**Survey type/scope:**

Internal/ external	Floor Level Room/Area	Location in room/area	Product type	Quantity of material	Friable/ non-friable	Condition	ACM Risk level	Sample no. and result	Photo	Comments and recommendations
		Cross-reference diagrams or building plans highlighting the location	*e.g. cement sheet, vinyl tiles*	*e.g. surface area, length, number of gaskets*		*e.g. stable, poor, unknown, severe weathering, cracks, peeling paint, exposed fibres.*	*High* *Medium* *Low* *based on ACM risk assessment*		*Include photos of ACM and location – cross reference by number.*	
Materials identified that <u>do not</u> contain asbestos										
					N/A		N/A			
Areas not surveyed	*Describe the location of areas not accessed during the asbestos survey and explain why*									