



# GUIDANCE NOTE: Identification of asbestos containing material

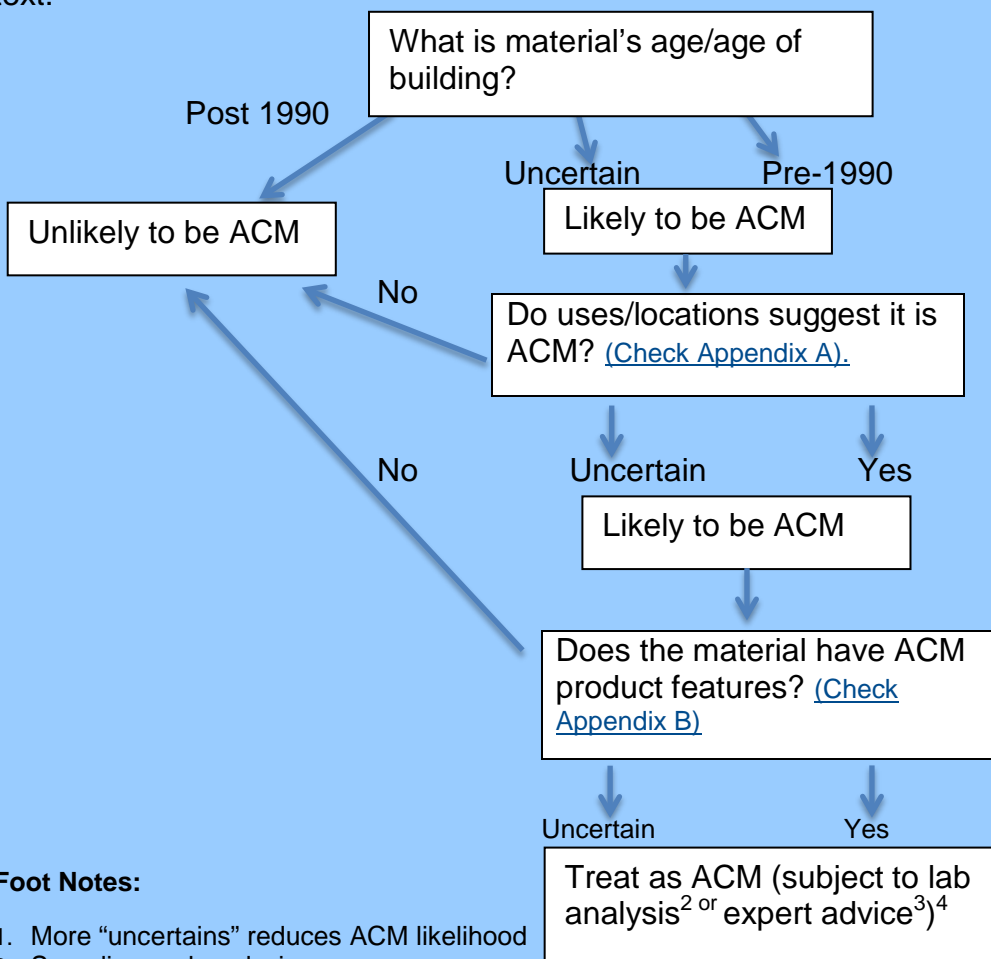
## 1. Purpose

This Guidance Note provides direction on identifying asbestos containing materials (ACM) in residential settings.

It is primarily for use by the members of the public and Local Government Environmental Health Officers (LG EHOs).

## 2. Quick identification guide

Use the following process for a quick asbestos (ACM) identification without going to detailed text:



### Foot Notes:

1. More "uncertains" reduces ACM likelihood
2. Sampling and analysis
3. For ACM Professionals see 6.2
4. For Dangerous ACM see 6.4

In Western Australia many older residential and commercial buildings built pre-1990 (possibly up to 75 per cent), may contain asbestos, mainly as cement sheeting in walls, ceilings, eaves, fences and roofs. Occasionally it may occur in other forms in limited amounts such as the backing for sheet linoleum, within vinyl floor tiles, some fibre boards and as non-bonded (friable) material for insulation purposes.

### 3. ACM general principles

- If suspect material satisfies age, use and appearance criteria for ACM, it is best to assume it is ACM until professionally assessed, or subject to laboratory analysis.
- Non-friable ACM (i.e. not loose) is unlikely to pose a risk if in a good condition and not physically disturbed.
- Even if in sound condition, early proper removal of ACM (which is still aging) should be considered especially in conjunction with any other property renovations or development.
- Any ACM disturbance should, and in some cases must, be undertaken by ACM professionals.

### 4. Background

ACM was extensively used in Australian products from the 1940s until about 1987 when its use ceased in the building industry. Use of ACM was totally banned in 2003.

As a result of its extensive use, Australia has some of the highest asbestos-related disease (mesothelioma) rates in the world.

The cause of most of these diseases was due to high levels of ACM exposure in the asbestos mining, milling and installation industries. However, in more recent times asbestos-related diseases are increasingly occurring among building maintenance workers such as carpenters, electricians and plumbers, and also members of the public undertaking home renovations themselves.



#### 4.1. What is asbestos?

Asbestos is the term given to a group of naturally occurring fibrous minerals. The most common types of asbestos are chrysotile (white), followed by amosite (brown) and crocidolite (blue) asbestos.

When disturbed the asbestos minerals breakdown, creating microscopic fibres released into the air. These fibres can lodge in lung tissues if inhaled and give rise to significant and irreversible health effects, including asbestosis, mesothelioma and lung cancer.

ACM is classified as being non-friable (bonded) or friable (loose form e.g. insulation material). The latter is more dangerous as asbestos fibres are more readily released by disturbance.

## 4.2. Occurrence of asbestos in the home

The ACT Asbestos Task Force (2005) guide “Asbestos Management in the ACT”, provides a list of typical asbestos uses in the home. The list is also largely applicable to Western Australia, although with the inclusion of ACM fencing which is very common in this State. The list and associated house location guide is reproduced in Appendix A.

## 5. ACM identification

Sometimes it is necessary to identify the ACM to help manage any potential risk from it or to avoid its disturbance during renovations or a demolition. The process for ACM identification will depend on its purpose and circumstances. This Guidance Note covers a range of situations including identifying suspect fragments in soil, evaluating structural elements or undertaking a whole of property survey.

The Quick Identification Guide above provides a simple aid to ACM identification. More detail about the process is included in this section and in sections six and eight.

The key criteria for identifying ACM are the material's **age, uses and features**. These criteria, especially in combination, can provide strong evidence whether suspect material is ACM or not. However, often even asbestos professionals cannot be certain. Therefore, suspected ACM should be assumed to be ACM.

Information on asbestos identification is also covered in the Cancer Council eLearning asbestos course at: [elearning.cancer.org.au/courses/](http://elearning.cancer.org.au/courses/)

### 5.1. The age criterion

The primary indicator for ACM in buildings or structures is their construction or renovation date. Those constructed prior to 1990 are likely to contain ACM and this should be assumed subject to other information. Even though sale of ACM building products ceased around 1987, a period of asbestos content phasing out, together with use of backlogged/surplus materials, justifies using 1990 as the main post-ACM boundary date.

Additional evidence of potential ACM status may be obtained from building records and material specifications, and/or any previous proper ACM surveys or removal documents. Some of this information may also be available from

local government records. Reference to product names such as those in the boxed list would usually be a strong indication of an ACM product, noting however that the term “Hardiflex” and some other trade names were again later used in non-ACM products.

Be aware that even a more recent dwelling may be on a pre-1990 site with some legacy ACM structures still present such as sheds and fences, or fragments of ACM in the soil. Also if a pre-1990 building has had renovations after 1990 then any added or replacement products should be non-ACM.

#### En-Health, 2005, Management of Asbestos in a Non-Occupational Environment

provides a list of trade names for *James Hardie & Co. Pty Ltd.* asbestos products in Australia and the approximate year when they stopped being manufactured with asbestos.

Hardiflex (1981)	Hardiplank (1981)
Villaboard (1981)	Versilux (1982)
Harditherm (1984)	Compressed (1984)
Drain Pipe (1984)	Super Six (1985)
Highline (1985)	Shadowline (1985)
Coverline (1985)	Pressure Pipe (1987)
Roofing Accessories (1985)	

In cases of fragments or products, such as cement sheeting, that are not part of existing *in situ* structures, the context of their presence will be important, such as dates and means of arrival if known. Dumped cement sheet materials would normally be highly suspected of being ACM.

## 5.2. Material uses and features

By far the most extensive type of ACM in pre-1990 buildings is as asbestos cement sheeting as fences, roofs, walls and eaves. Appendix A provides an outline of ACM uses and locations around the home based on the Asbestos Management in ACT (2005) guide. In addition, Appendix B provides a list of ACM features corresponding to the different common ACM uses. This information should be regarded as indicative, not definitive and is best used in conjunction with other ACM-related information.

ACM product photographs are also available at the Queensland government website: <http://www.deir.qld.gov.au/asbestos/general/where-found/photogallery.htm>

*If the relevant criteria are met by a material, especially the age factor, it is highly likely to be ACM.*

## 6. ACM identification procedures

Depending on the thoroughness and extent of the task, it may be necessary to go beyond basic ACM identification – which only takes account of the above criteria. For instance, in some cases a property survey may be called for and also ACM sampling. Such activities may be associated with a more formal process and a need for a professional assessment report.

As the task becomes more substantial it is important to remember that handling ACM can be dangerous and there also may be other hazards associated with doing a detailed property survey, such as electrical hazards and falling from heights.

Normally members of the public and local government EHOs would not need to go beyond simple identification. When required any detailed inspection should be conducted as a “walk through” and could include the following steps:

1. Developing a simple inspection plan
2. Undertaking the inspection based on that plan
3. Taking samples for analysis as necessary
4. Preparing an inspection report.

Appendix C provides a template that incorporates all of these elements although each can be deleted or ignored by a user depending on a task’s requirements.

### 6.1. Sampling and Analysis

Sampling of suspect ACM may be generally divided into passive and destructive methods. In this Guidance Note passive means picking up suspect ACM fragments or collecting tape samples. Destructive includes breaking or cutting off a sample, such as from ACM cement sheeting. Members of the public are advised not to undertake destructive sampling, and certainly not any sampling involving friable ACM.

All samples should be double-bagged in plastic and be labelled with a warning “**Caution Asbestos**” plus sample identification details.

They can be taken to a laboratory accredited for asbestos analysis by NATA (Search for

asbestos at: <http://www.nata.com.au/nata/orgs-and-facilities/advanced-facilities-search> or call 08 9486 2800).

### *Passive Sampling*

Fragments may be on a surface or the soil as a result of a previous poor removal or demolition activities, or from damage to an existing structure. More than one sample may be necessary for varied material. Disposable gloves should be used.

In the case of suspect ACM in soil it may be appropriate to provide notification of this contamination to the Department of Environment Regulation as required under the *Contaminated Sites Act 2003* (WA). However this can be discussed first with the Department of Health Environmental Health Directorate (See "Contacts").

For unpainted cement sheeting, such as fences, it may be possible to apply a clear sticky tape to the surface which when removed may retain samples of any superficial debris or fibres. Again disposable gloves should be used. The tape should then be folded in on itself so the exposed sticky areas are stuck together and put into a re-sealable plastic bag and labelled as outlined above.

*To ensure that this process is done properly and that analysis will produce a meaningful result, the NATA laboratory should be consulted first.*

### *Destructive Sampling*

A LG EHO may take a sample using the following procedure or as required by the *Health (Asbestos) Regulations 1992*:

1. Ensure no one else is in the vicinity when sampling is done.
2. Wear disposable gloves and an Approved Australian Standards P1 or P2 disposable respirator (AS/NZS 1716: 2012)(available from hardware stores).
3. Lay down a plastic drop sheet to catch any loose material.
4. Wet the material using a fine mist of water with a few drops of detergent before taking the sample.
5. Carefully cut or break a thumb nail piece using a hand tool, **never** a power tool as they create ACM dust.
6. For cement sheeting, take the sample from a corner edge or along an existing hole or crack.
7. Bag and label as above.
8. Use damp paper towelling to clean around sampled area.
9. Seal the sampled area with PVA glue or paint.
10. Bag the plastic drop sheet, towelling and gloves and dispose of based on local government advice.

## **6.2. Asbestos Professionals**

For difficult, large or risky tasks, especially involving friable ACM, using an ACM professional is highly recommended.

ACM professionals can include ACM competent persons, occupational hygienists and asbestos removalists. Listings of these may be found at [yellowpages.com.au](http://yellowpages.com.au) under “asbestos”. For ACM identification, the most relevant subcategories are “asbestos inspections”, “asbestos survey” and “asbestos testing”, which may all include many of the same companies. Depending on the task, other relevant subcategories may be “asbestos removals” and “asbestos disposal”.

Choose an ACM professional based on:

- obtaining at least three detailed quotes with discussion.
- the company’s ability to demonstrate they have the necessary asbestos competency based on their qualifications, experience and skills.
- the company being able to outline a process or plan for doing the work, and willingness to provide a report or completion document.
- in the case of an ACM removal, the company having either a restricted or unrestricted license from WorkSafe. See [www.commerce.wa.gov.au/worksafe/find-asbestos-licence-holder](http://www.commerce.wa.gov.au/worksafe/find-asbestos-licence-holder)
- the contractor using necessary precautions such as personal protective equipment and them thoroughly cleaning up the area on completion.

If in doubt, contact the Department of Health or your local government.

### 6.3. Protective Measures

Normally the use of personal protective measures for ACM identification would be minimal and consist of simply wearing disposable gloves in case surfaces or fragments may be handled. However, a P1 or P2 Approved Australian Standards P1 or P2 disposable or reusable respirator (AS/NZS 1716: 2012) should also be used, as well as disposable overalls and durable footwear, if samples are collected through breakage or if ACM dust may be encountered such as in suspect roof spaces.



Disposable particulate respirator (dust mask)



Reusable particulate respirator

All of the protective equipment used for ACM identification is available at any large hardware store.

### 6.4. Dangerous ACM

If the ACM is in a poor condition or friable and may be disturbed or accessed by people then an assessment by an asbestos professional should be arranged as soon as possible – with a view to the material being contained or removed. The critical risk here is the likely release of asbestos fibres from the ACM and their inhalation by someone nearby. Examples may be:

- broken ACM fence panels that are being driven over and pulverized in a driveway.
- asbestos fibre backing board being exposed as a result of worn linoleum.
- major breakage of, or badly weathered, roofing.

## 7. Contact Information

### Department of Health, Environmental Health Directorate

For information and advice on asbestos in relation to public health

T: (08) 9388 4999

E: <mailto:ehinfo@health.wa.gov.au>

W: [http://www.public.health.wa.gov.au/3/1143/2/asbestos\\_and\\_public\\_health.pm](http://www.public.health.wa.gov.au/3/1143/2/asbestos_and_public_health.pm)

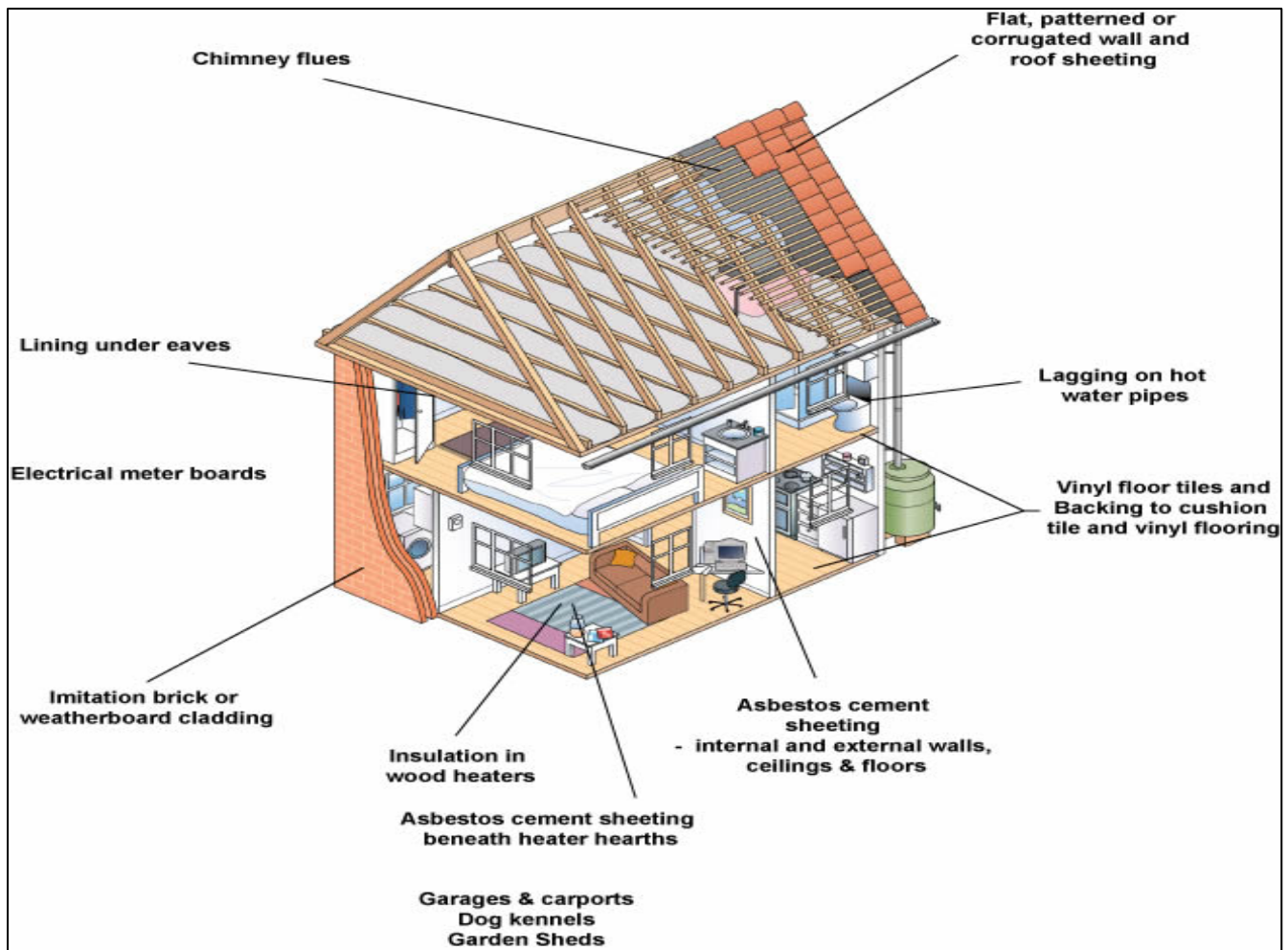
### Local government environmental health officers

W: <http://dlg.wa.gov.au/Content/Directory/Default.aspx>

## 8. Useful Links

- Asbestos and DIY renovations – Cancer Council eLearning course (<http://elearning.cancer.org.au/courses/>) or call 131120
- Queensland Government Asbestos Website (<http://www.deir.qld.gov.au/asbestos/general/where-found/photogallery.htm>)
- Asbestos in workplaces -WorkSafe ([www.commerce.wa.gov.au](http://www.commerce.wa.gov.au)) or call 1300 307 877
- Asbestos contaminated soil - Department of Environment Regulation, Contaminated Sites Branch - call 1300 762 982 or email [contaminated.sites@der.wa.gov.au](mailto:contaminated.sites@der.wa.gov.au)
- Asbestos disposal - Department of Environment Regulation (<http://www.der.wa.gov.au/our-work/controlled-waste>) or call 08 6467 5359
- Accredited asbestos analytical laboratories -NATA (search for asbestos at: <http://www.nata.com.au/nata/orgs-and-facilities/advanced-facilities-search> or call 08 9486 2800
- EnHealth Asbestos- *A guide for householders and the general public – February 2013* <http://www.public.health.wa.gov.au/cproot/4774/2/asbestos-feb13.pdf>

## APPENDIX A – ACM Household Uses



from: ACT Asbestos Task Force, (2005) Asbestos Management

Location	Materials
Bathroom, toilet and laundry	Asbestos cement sheeting used in walls, ceilings and floors Hot water pipes Lagging on hot water pipes
Living areas	Door seal insulation in wood heaters Asbestos cement sheeting beneath heater hearths
Kitchen	Vinyl floor tiles Backing to vinyl flooring Hot water pipes
Exterior	Ironing board covers, Heatproof mats Flat, patterned and corrugated wall and roof sheeting, Imitation brick cladding Lining under eaves
Backyard	Fences, Garden sheds, Dog kennels Garages and carports Electrical meter boards



## APPENDIX B - Guide to ACM uses and Features

### Listed Categories

General Situations: “Fibro House”; ACM Fragments; ACM Cement Sheeting.

Specific Uses – House, Internal: Wall Panels; Damp Areas; Ceiling Panels; Flooring, Electrical; Corner Sections.

Specific Uses – House, External: Wall Sheets and Eaves; Decorative Cladding; Roofing; Gutters; Insulation; Sewer Vents and Flue Pipes.

Specific Uses – External Yard: Fences; Sheds.

Less Common Uses: Shingles; Ovens; Putty; Sprayed Insulation; Joint Sealant.

### General Situations

#### Typical “Fibro” House

Single storey; wood frame; tile, metal or ACM roof; ACM cement sheet internal and external walls and eaves.



Typical “Fibro” clad houses

#### ACM Fragments and Waste

Includes all ACM but especially cement sheets from previous ACM structure, dumping or imported impacted fill.



ACM cement surface fragments

#### ACM Cement Sheeting (flat and corrugated)

Usually 5-7mm thick.

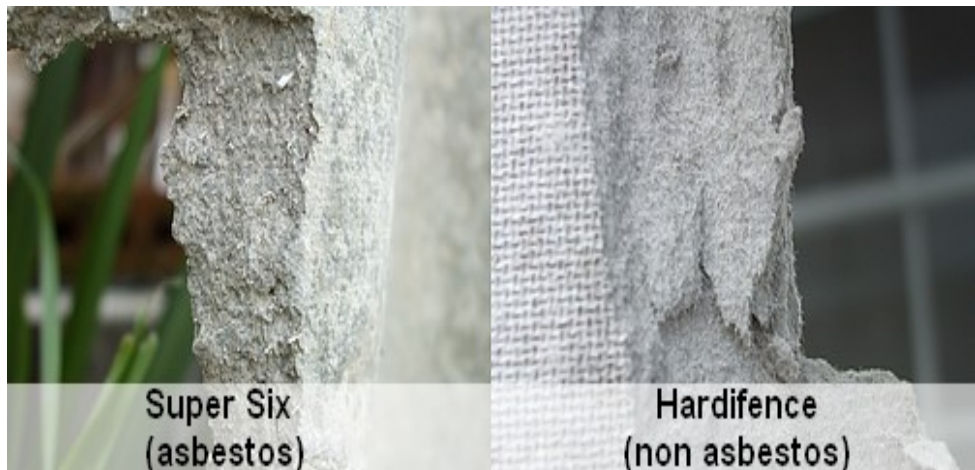
Called ‘Fibrolite’ or ‘fibro’.

Fibres visible on sheet /fragment edge & can be:

-slightly reflective;

-white, brown or blue;

-possibly confused with safe cellulose fibre.



Super Six  
(asbestos)

Hardifence  
(non asbestos)

Non-asbestos cement sheet is more layered and homogeneous.

See specific uses below.

### ACM Cement Sheeting (flat)

External sheets have 40 x 6mm or 75 x 8mm ACM battens over join. Prone to breakage.

Use blunt nosed nails.

Aluminium joiners also used.

Internal joiners are normally wooden battens or aluminium H sections.

Modern joiners are plastic.

Often have deep dimpled texture on one side.

“Hardiflex” ACM discontinued in 1981 but name has been used post-1990 for non-ACM products.



ACM batten (broken)



Painted wooden battens



Aluminium batten



Flat nosed ACM sheet nail



Asbestos Fibro and Hardiflex Compared Back To Back

## Specific Uses

<p><b>House, Internal</b></p>		
<p><b>Internal Wall Panels</b></p> <p>Usually well maintained and painted but some are covered with wall paper, tiles or veneers.</p> <p>May have joining strips as above (See “ACM Cement Sheeting (flat)”.</p> <p>“Versilux” brand name.</p>		
<p><b>Damp Area Fascia and Panels</b> e.g. kitchens, toilets, laundries and bathrooms</p> <p>ACM in waterproof plastic or resin matrix (i.e. Formica).</p> <p>ACM can be found under tiles or within cupboards and beneath baths.</p> <p>May have joining strips for sheets (See “ACM Cement Sheeting (flat)”.</p> <p>Names include “Tilux” and “Villaboard” brand names.</p>		
<p><b>Ceiling Panels and Tiles</b></p> <p>Usually well cared for and painted.</p> <p>Can include low density board (LDB) tiles.</p> <p>May have joining strips as above (See “ACM Cement Sheeting (flat)”.”Versilux” brand name.</p>		
	<p>Cement sheet and tile ceiling panels</p>	

### Internal Vinyl and Linoleum Flooring Tiles

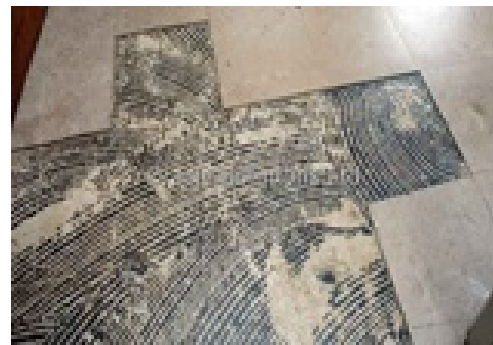
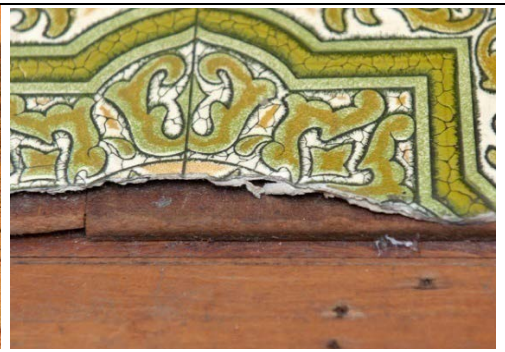
ACM may be in vinyl tile or loosely held in a linoleum backing sheet.

Tiles had standard sizes of 9 x 9 and 12 x 12 inches.

ACM in some mastic adhesives and rarely hessian carpet underlay.



Linoleum with friable ACM backing



Mastic adhesive



Contaminated carpet underlay

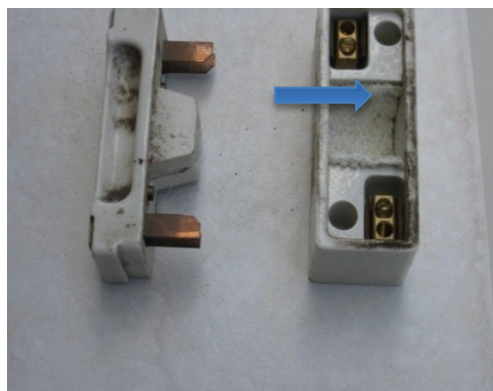
### Electrical Insulation and Circuit Boards, Fuse Boxes and Switch Panels



Cement sheet (black) fuse board



Cement sheet (black) switch backing



Friable fuse lining (white)



Cement millboard inside h/w system

**Corner and Angle  
Joining Sections  
(cement)**



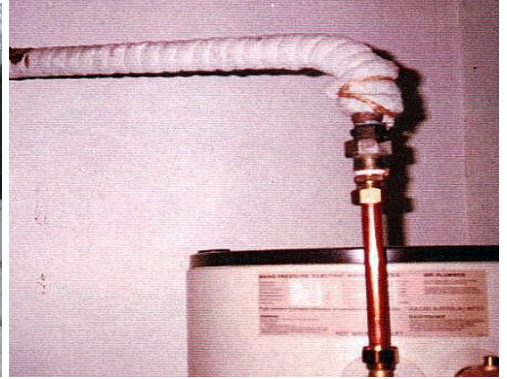
Inward corner section



Outward corner section

**Insulation or Lagging,  
Plumbers Wrap Around  
Hot Water Pipes**

High asbestos content and friable.



Hot water pipes wrapped in friable woven ACM textile

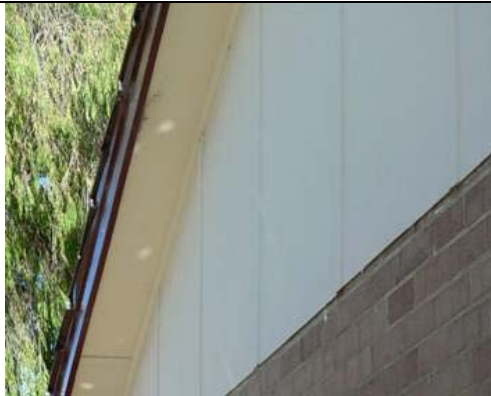
**House, External**

**Flat and Contoured Wall  
Sheets, Gables and Eave  
Linings**

Usually well cared for and painted.

May have joining strips as above (See "ACM Cement Sheeting (flat)").

Contoured sheet names may be "Shadowline", "Coverline" and "Highline".



Cement sheet gable



"Shadowline" cement sheet gable



Cement sheet eave



Slotted soffit cement sheet eave

**Decorative Cement and Resin Moulded Laminate Wall Cladding**

Backing sheet to false brick cladding may be ACM.

Usually well cared for and painted.

Includes "Hardiplank" brand name.



False brick cladding



Weatherboard

**Roofing (corrugated)**

Same ridge pattern and fasters as for fencing (See below). Panel length variable.

Prone to weathering.

ACM debris likely present in gutter and downpipe outflow e.g. soak well.



Short sheeting in poor condition



ACM debris in gutter from roof

**Gutters , Downpipes and Drains**



Gutter and downpipe



Gutter and roof



Broken ACM downpipe



Square ACM downpipe

**Sewer Vents and Flue Pipes**

Usually near toilet or bathroom.

Also from heater/hot water system or stove.

ACM can be as surrounds to a drain trap.



Flue pipe



Drain trap surround

**Hot Water Pipe Lagging**

See House, Internal

**Corner Sections**

See "House, Internal"

**Electrical Insulation and Circuit Boards, Fuse Boxes and Switch Panels**

See "House, Internal"

**External Yard**

**ACM Fences**

Usually known as Hardie's "Super Six".

Compared to ACM-free fences ("Hardifence"), Super Six fencing usually has:

- 7 ridges per 1m panel (not 5);

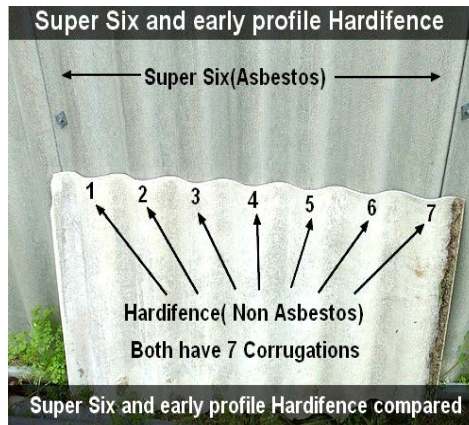
- diamond shaped fasteners;

- ACM cement capping.

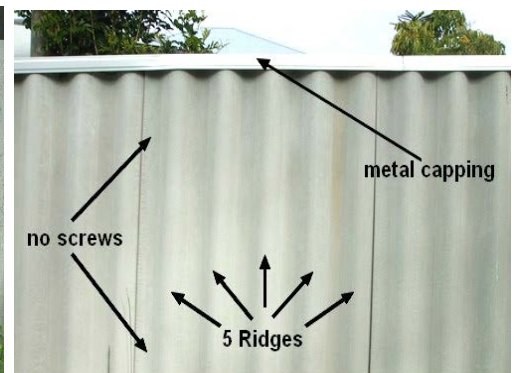
Note, early Hardifence had 7 peaks per panel and sometimes an asbestos-free label.

Often ACM capping has been removed or replaced by metal capping.

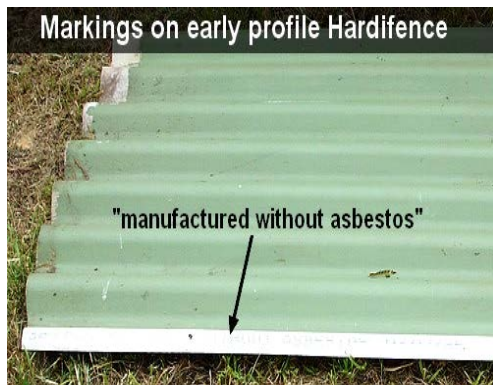
Some ACM fences have other contours.



Super Six and early profile Hardifence compared



Features of modern Hardifence(non asbestos)



Markings on early profile Hardifence



Contoured ACM fence and capping

## Sheds and Outbuildings



Garden sheds



## Other Asbestos Uses



Roof tiles and shingles



Stove/Heater Rope Door Seal



Window putty/mastic



Spray-on cement ceiling render



ACM as vermiculite over plasterboard



ACM as joint sealant





ACM Type /Location <small>(See Plan/Sketch Reference)</small>	Extent (Area /Vol.)	Condition: Good/Non-Friable or Poor/Friable	Photo Reference	Relevant Features <small>(as per Appendix B of this Guidance Note, or &gt;1990 renovations)</small>	Result if Sampled	Likelihood of ACM? <small>(Confirmed, Likely, Possibly, Unlikely, Not)</small>

**Any Urgent Risk Management Required?**

**Summary of Results and Further Actions:**

**Signature:**

Person:

Date:

**Attachment 1 – Annotated Plan or Sketch Property**

**Attachment 2 – Photographic Evidence**

**Attachment 3 – Analytical Reports**

**Attachment 4 – Relevant Property Records Information**



**This document can be made available in alternative formats  
on request for a person with a disability.**

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