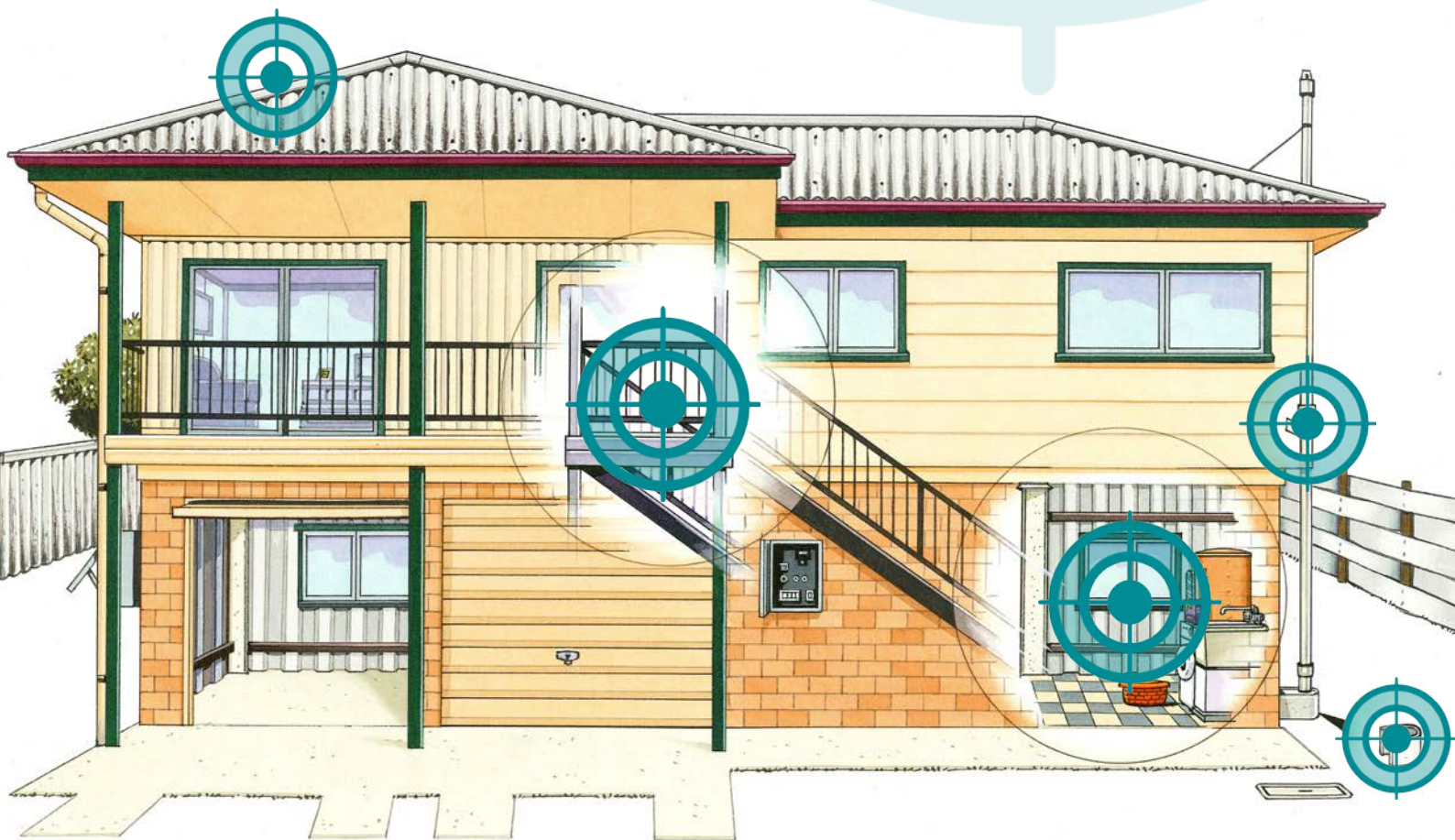


Asbestos

A guide for minor renovation



Acknowledgements

This guide, produced by the Queensland Government, is based on an original guide entitled *Asbestos: A home renovator's and tradesperson's guide for minor work in domestic buildings*.

PN 10824 | 12/5150

© The State of Queensland 2016

Copyright protects this document. The State of Queensland has no objection to this material being reproduced, but asserts its right to be recognised as author of the original material and the right to have the material unaltered.

Disclaimer

The material presented in this publication is distributed by the Queensland Government as an information source only. The State of Queensland makes no statements, representations, or warranties about the accuracy or completeness of the information contained in this publication, and the reader should not rely on it.

The Queensland Government disclaims all responsibility and all liability (including, without limitation, liability in negligence) for all expenses, losses, damages and costs you might incur as a result of the information being inaccurate or incomplete in any way, and for any reason.

If you are uncertain about any of the advice in this publication, please contact the Queensland Government on 13 QGOV (13 74 68) before starting work.

References in this booklet to 'law', 'laws', 'specific laws' and similar refer to the *Public Health Act 2005*, the *Environmental Protection Act 1994* and the *Work Health and Safety Act 2011*.

The information in this booklet has been adapted from various sources. Further information can be found in:

- *Management of asbestos in the non-occupational environment 2005* enHealth Council
- Public Health Regulation 2005
- Work Health and Safety Regulation 2011
- *How to Safely Remove Asbestos Code of Practice 2011*
- *How to Manage and Control Asbestos in the Workplace Code of Practice 2011*

Asbestos

A guide for minor renovation

Section 1

Asbestos: play it safe

What is asbestos? | Is it dangerous? | Where is it found?

Section 2

Types of asbestos-containing materials

What is non-friable and friable asbestos? | Common locations in Queensland homes and commercial buildings | Asbestos in vinyl sheet flooring | Testing materials for asbestos

Section 3

Working safely with non-friable asbestos

Checklist before starting a job | Information for tradespeople
Clearance inspections | Managing your renovation job

Section 4

Safe work procedures

Drilling | Painting or sealing | Removing ceramic tiles
Removing non-friable asbestos sheets

Section 5

Transport and disposal

Homeowners | Contractors and businesses | Regulated waste transport

Asbestos: play it safe

This guide mainly applies to tradespeople and ‘do-it-yourself’ (DIY) home renovators carrying out minor renovations on building materials that may contain asbestos.

Minor renovations are small scale and usually completed quickly. Examples include:

- ✓ maintenance or surface preparation of walls, roofing, ceilings or flooring
- ✓ installation of plumbing components
- ✓ installation of electrical components or data cables
- ✓ tiling and floor covering tasks
- ✓ removing asbestos cement sheets less than 10 m² in total area.

This guide doesn’t cover the major removal work of either non-friable or friable asbestos.

Is asbestos dangerous?

Scientific and medical evidence supports the fact that simply living or working in a building containing asbestos is not dangerous as long as the asbestos product is in good condition (i.e. undamaged and undisturbed), meaning the asbestos fibres are still tightly bound within the compound (usually cement).

In this case the safest option is to leave them alone – let sleeping dogs lie!

Visually inspect the materials from time to time for deterioration and damage.

What is asbestos?

Asbestos is a naturally occurring mineral found in the ground. It contains strong fibres that have excellent durability, fire resistance and insulating properties.



Chrysotile asbestos (white).



Crocidolite asbestos (blue)

Asbestos fibres are **50–200 times thinner than a human hair**, can float in the air for a long time, can be invisible to the naked eye and can be **breathed into the lungs**.

Asbestos was manufactured into many different materials, commonly used in the Australian building industry between the **1940s and late 1980s**.

All forms of asbestos have been **nationally banned from use** since 31 December 2003. However, the ban does not mean that all asbestos installed prior to this date needs to be removed (e.g. asbestos-containing materials in houses).

Asbestos: play it safe

What are the possible health effects of asbestos exposure?

Asbestos can affect your health if fibres are breathed into the lungs. Most fibres are removed by your body's natural defences, however, some fibres can remain in the lungs.

The possible health effects of asbestos are:

- asbestosis (progressive and irreversible scarring of lung tissue that impairs breathing)
- lung cancer
- mesothelioma, a cancer of the linings around the lungs and abdomen
- non-cancerous diseases that affect the linings around the lungs and abdomen (commonly called 'benign pleural diseases').

Some diseases can take up to 50 years to develop, but others can also develop in much less time than that. While there are some treatments for asbestos related diseases, there are no known cures.

Where is asbestos commonly found in buildings?

It can be difficult to tell whether a building has asbestos-containing materials, just by looking at it.

As a general rule, if the building was built:

- before the mid 1980s, it is highly likely that it would have some materials containing asbestos
- between the mid 1980s and 1990, it is likely that it would have materials containing asbestos
- after 1990, it is highly unlikely it would have materials containing asbestos.

If you are not sure whether a building material contains asbestos, play it safe and assume that it does. Alternatively, seek advice from an asbestos consultant or other competent person experienced at working with asbestos or get the material tested by a laboratory.

Play it safe with asbestos. If you are not sure whether a material contains asbestos, assume that it does and take adequate precautions.

If asbestos is in good condition, leave it alone

When asbestos is disturbed, broken, sanded or cut, asbestos fibres are released into the air and can increase the risk of being inhaled by yourself, family or neighbours.

While most cases of asbestos related diseases result from sustained workplace exposure to asbestos fibres, some asbestos related diseases, such as mesothelioma, can result from brief periods of breathing in high concentration asbestos fibres without adequate protection.

To minimise anyone being exposed to asbestos fibres, it is important that DIY home renovators and tradespeople prevent the release of asbestos fibres into the air as much as possible and take necessary precautions to capture them before they become airborne during any disturbance.

Do new building materials contain asbestos?

New building materials do not contain asbestos. Since 31 December 2003, asbestos and all products containing asbestos have been banned throughout Australia. It is illegal to import, store, supply, sell, install, use or re-use these materials.

Asbestos has not been used in building materials since the late 1980s. Cellulose fibres are now used instead of asbestos in building materials. Non-asbestos fibres, such as glass, are now used in insulation products.

Types of asbestos-containing materials

What is non-friable and friable asbestos?

There are two main types of material used in building construction that contain asbestos: non-friable (bonded) and friable (loosely bound) asbestos.

Non-friable (bonded) asbestos

Non-friable asbestos-containing materials are commonly found in both domestic and non-domestic buildings. They are not dangerous if they are in good condition (i.e. undamaged) and remain undisturbed. Non-friable asbestos cement bonded products are solid, rigid and the asbestos fibres are tightly bound in the material to prevent them becoming airborne. This kind of material is commonly known as 'fibro', 'asbestos cement' or 'AC sheeting' and typically contains 5–20 per cent asbestos.

Asbestos can also be found in asbestos vinyl tiles that were often used in Queensland houses. Asbestos vinyl tiles contain 8–30 per cent asbestos in a tightly bonded matrix. They do not have a backing to the tile and are usually glued directly to the floor. It should be noted that glue used to adhere the asbestos vinyl tiles to the floor might also contain asbestos. Where any bonded asbestos product has deteriorated to such a state that it can turn to dust with very light pressure, such as crushing with your hand, it should be treated as being friable.

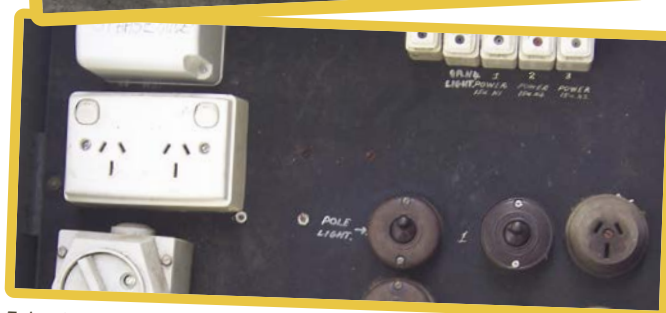
Non-friable asbestos-containing materials were commonly used, in both domestic and non-domestic buildings for:

- roof sheeting and capping
- guttering
- gables, eaves/soffits
- water pipes and flues
- DT surrounds (disconnecter trap surrounds)
- wall sheeting (flat or a weatherboard style)
- zelemite backing boards to the switchboards
- flexible building boards
- imitation brick cladding
- fencing
- car ports and sheds
- waterproofing membrane
- telecommunications pits
- some window putty
- expansion joints
- packing under beams
- concrete formwork.

Moulded telecommunications pit



External cladding containing asbestos



Zelemite backing board to an external switchboard



Vinyl floor tiles



Vent pipe cap and socket fitted over a vent pipe

Types of asbestos-containing materials



Flat sheet cladding



Slotted hardi flex soffit sheeting



DT surround (disconnector trap)



Hardi plank wall sheeting



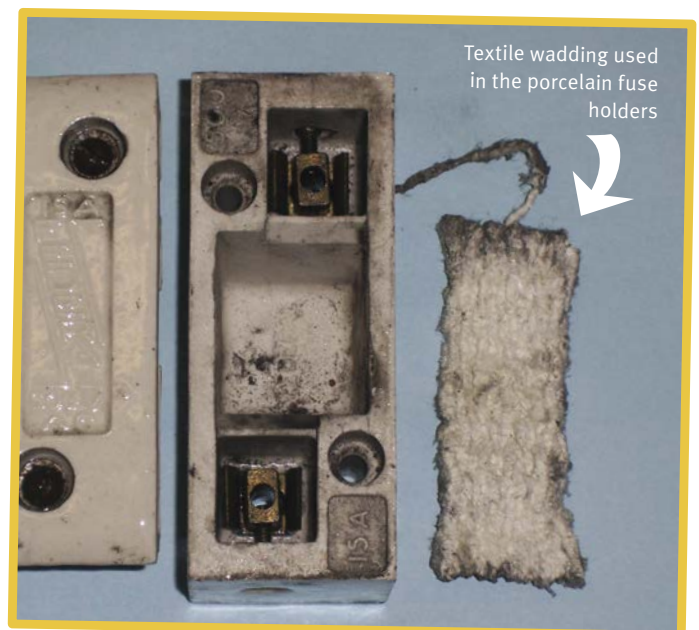
Hardi plank woven fencing

Friable (loosely bound) asbestos

Loosely bound friable asbestos-containing materials are potentially very dangerous. Friable materials can contain up to 100 per cent asbestos. The fibres are quite loose and can be turned to dust and released into the atmosphere with very light pressure, such as crushing with your hand.

Friable asbestos was primarily used in commercial and industrial settings for fire proofing, sound proofing and insulation. Sometimes, small amounts of friable asbestos were used in domestic buildings, including:

- in old domestic heaters, stoves, hot water systems and pipe lagging
- in the backing of sheet vinyl floor coverings
- inside fireplaces
- within fire doors in the main entry doors of units and stairwells
- sprayed on vermiculite insulation material in some common areas of unit blocks.



Types of asbestos-containing materials

Low density board

Low density asbestos fibre board is a lightly compressed board which looks similar to asbestos cement sheeting or plasterboard but is different to AC sheeting because it can be easily bent in the hand or dented by soft pressure. It is softer than AC sheeting because calcium silicate plaster was used to bond the material instead of cement.

The asbestos content of lightly compressed board can range up to 70 per cent. It was manufactured as a flat sheet product although some perforated sheeting, typically used for acoustic ceiling applications, was also manufactured.

Commonly known as low density asbestos fibre board, some product names include 'Asbestolux' and 'Duralux'. If low density board is in good condition and left undisturbed it presents a low risk. However, because it is softer than AC sheeting, low density board can crumble more easily when disturbed.

If low density board is to be removed, it will be necessary to determine whether the material is friable or non-friable on a case by case basis. Such assessments may only be undertaken by persons who are competent in working with asbestos-containing materials. Where the assessment indicates the low density board is in poor condition and/or could become friable (e.g. breaking up) during the removal process, an A class removalist must be engaged to safely remove the material.

Due to the need for professional assessment of the friable nature of low density board as well as its high asbestos content with subsequently higher potential to release asbestos fibres, homeowners must not undertake any work with this product. Homeowners should ensure an appropriately qualified tradesperson is engaged for any work with low density asbestos fibre board. The *Public Health Act 2005* prohibits the removal of friable asbestos products unless the person holds an A class licence.

Common locations

View common locations of asbestos-containing materials in two types of Queensland houses and a commercial building on pages 23-25 of this guide.

Queenslander: type 1

Example of a house built in the 1970s



Page 23

Queenslander: type 2

Concrete or clay (terracotta) tiled roof



Page 24

Commercial buildings



Page 25

Types of asbestos-containing materials

Friable asbestos in vinyl sheet flooring

Vinyl sheet flooring sometimes contained friable (loosely bound) asbestos material in the backing of the product (the side attached to the floor) or as an underlay. The vinyl sheet itself does not contain asbestos.

Manufacturers sometimes incorporated a felt-like 'backing' for cushioning and insulation purposes and it typically contains 80–100 per cent asbestos. This product can be identified as it was usually supplied in sheet form and has a 'terrazzo' type (colourful marble or stone chip) pattern look on the surface. It is most often found in buildings constructed before the mid-1980s.

Friable materials, such as the backing of this vinyl sheet flooring are potentially very dangerous because the asbestos fibres can become airborne very easily. These materials must only be handled and removed by an asbestos removalist with a class A asbestos removal licence.

Having materials tested for asbestos

Laboratories that analyse building materials for asbestos can be found by contacting the National Association of Testing Authorities.

The laboratories can also give you advice on how to correctly take and send a sample. There will be fees involved. You can also contact an asbestos consultant or competent person for advice by searching the internet or local phone directory.

National Association of Testing Authorities

1800 621 666

www.nata.asn.au



Working safely with non-friable asbestos

The chance of inhaling asbestos fibres increases when renovating or carrying out repair work on asbestos materials, but the risk to your health is very low if you take the necessary safety precautions.

Laws about asbestos

In Queensland, there are a number of laws relating to building and renovating. There are also specific laws designed to protect the health of homeowners, their families, the general community and tradespeople by ensuring asbestos is handled, removed and disposed of safely.

- Legal action can be taken against you for working* unsafely with asbestos.
- Government officers will investigate complaints and issue notices, on-the-spot fines or prosecute if you are breaking the law.
- You could also have legal action taken against you by other people, such as a neighbour.

Tradespeople

Tradespeople are legally responsible for determining whether they are dealing with asbestos-containing materials before starting any work. They must have it identified by a competent person, have a sample tested or simply assume asbestos is present. Any tradesperson disturbing asbestos should use safe work procedures for the work they are contracted to carry out and these must comply with the Work Health and Safety Regulation 2011.

Seven steps you need to take before you start work:

1. Check with your local council to see if you need approvals for the planned work

Some renovation activities may require approvals from your local council, such as planning permits and building approvals. Please contact them before starting any work.

2. Decide how you will dispose of the asbestos waste

Your choices are to dispose of the waste yourself, if it's a small quantity, otherwise you must use a licensed waste contractor. If disposing of asbestos waste yourself, it is important to contact your local council to find out specific requirements (e.g. where to take the waste and how much it will cost). You will need to wet down the asbestos and package it in thick plastic to minimise the chance of any asbestos fibres getting into the air.

3. Determine whether you need a licensed asbestos removalist

Anyone planning to remove 10 m², or less, of non-friable material containing asbestos, does not require an asbestos removal licence or certificate. However, safety precautions still need to be taken to minimise asbestos fibres getting into the air.

As a guide, 10 m² is equivalent to about four sheets of asbestos cement wall sheeting, or usually only one wall of an average bathroom.

Before starting a job with asbestos, consider your alternatives:

- ✓ Take samples from the proposed work area and have them tested to determine if asbestos is present.
- ✓ Consider working around any asbestos materials
- ✓ Consider leaving asbestos materials in good condition undisturbed.
- ✓ Try painting or sealing an asbestos product rather than removing it.
- ✓ Contract a licensed asbestos removalist to safely remove asbestos rather than removing it yourself (however, if friable asbestos-containing materials need to be removed, you **MUST** use a Class A licensed removalist).

*Working includes breaking, cleaning, cutting, maintaining, removing, repairing, storing and using. It also includes separating asbestos waste from other waste. Removing includes moving an asbestos-containing material from the position where it was installed.

Working safely with non-friable asbestos

For work other than removal (for example preparing a non-friable asbestos wall for painting or drilling a hole for piping or electrical cabling) you do not require a licence or certificate. However safety precautions to minimise asbestos fibres getting into the air must be taken.

If you are planning to remove friable asbestos-containing materials (loosely bound), you **MUST** use a business with a current class A asbestos removal licence to do the work.

If you are a tradesperson or other business operator removing more than 10 m² of non-friable asbestos materials you can only carry out this work under the authority of a class B or class A asbestos removal licence, issued by Workplace Health and Safety Queensland.

Homeowners planning to remove more than 10 m² of non-friable asbestos-containing materials must either:

- use a business with a current class A or class B asbestos removal licence to do the work; or
- hold a certificate obtained under arrangements established by Queensland Health. Information on these certificates is available by calling 13QGOV (13 74 68) or going to www.qld.gov.au/asbestos.

Homeowners or tradespeople seeking a business that removes asbestos materials should search the internet or their local phone directory. Check the business holds the appropriate asbestos removal licence (class A or B) issued by Workplace Health and Safety Queensland.

Avoid prohibited activities

There are restrictions on high risk activities (and substantial penalties apply) when working with asbestos-containing material, as these activities will release extensive amounts of asbestos fibres and will also contaminate the equipment:

- a) Never use power tools such as angle grinders, circular saws and electric sanders on surfaces that contain asbestos unless the equipment is designed and/or used in a manner that captures or suppresses airborne asbestos fibres, such as dust extraction devices connected to an H class and HEPA filtered industrial vacuum cleaner. Use only low speed items and hand-operated drills when conducting home renovations.

4. Think of those who could be affected by your work

When planning your work, don't forget to consider yourself, other people in the building, neighbours and family pets.

Under public health laws and workplace health and safety laws, you have a responsibility to make sure that you protect your own and others' health by not releasing asbestos fibres into the air during your work or leaving behind asbestos dust once you've completed the task.

Here are some tips to consider your practices before you begin work:

- Prevent public access to the work area.
- Avoid dropping or the unnecessary breaking of asbestos-containing sheets to reduce the release of fibres into the air.
- Use disposable clothing such as disposable coveralls and boot covers to ensure fibres don't get trapped in your clothing and spread into the air later.
- Speak to people in neighbouring properties about the work you're about to do. It is important to explain the safety precautions you will be taking to minimise the chance of asbestos fibres getting into the air.
- Do not take work clothing home to be laundered that may have been exposed to asbestos work, as they may have been contaminated with asbestos fibres.



Water blasting asbestos cement will cause debris to be sprayed everywhere. It puts you and your neighbours' health at risk and is very difficult to contain the residue material. **The result could cost you more than \$100 000 to clean up.**

- b) Never use high pressure water blasters.
- c) Never use compressed air tools.
- d) Never use household vacuum cleaners.

Working safely with non-friable asbestos

5. Plan your activity and purchase necessary equipment

Plan the job and how you will purchase the necessary equipment in advance to work with asbestos. Safe work procedures in this booklet and on the website detail the minimum equipment required, which is readily available from hardware stores and safety equipment suppliers.

During the job, temporarily store waste asbestos either in a plastic lined skip or on top of thick plastic ready for later wrapping. Make sure you clean up debris and decontaminate the work area before allowing access by others.

6. Know how to protect yourself from exposure

Wearing the right personal protective equipment (PPE) is essential to protecting your health when working with asbestos. Personal protective equipment is available from most hardware or safety equipment suppliers.

Wear disposable clothing

Disposable coveralls with a hood should be used to prevent the contamination of any clothing, including your shoes/boots.

- After your work is complete, spray your disposable coveralls with a light mist of water and remove them. Keep your respirator on when doing this.
- Do not keep or reuse the disposable clothing and do not shake the dust out of them. Quickly dispose of the clothing by sealing it in an asbestos waste bag.

Shower afterwards

To remove any dust and asbestos that may be on your skin, thoroughly shower and wash your hair after finishing the task.

7. Plan to dispose of asbestos waste quickly and correctly

Clean up, package and dispose of all asbestos waste (including PPE, scraps and surplus asbestos) as soon as possible. Under Queensland law, no asbestos can be stored, given away, sold or kept for another use.

Wear the proper respirator

Ordinary dust masks are not effective to prevent inhaling asbestos fibres and dust. Cheap masks may save money, but they do not provide adequate protection against asbestos fibres.

You will need to purchase and use a respirator designed specifically for working with asbestos. Wear a half-face filter respirator fitted with a class P1 or P2 filter cartridge, or a class P1 or P2 disposable respirator appropriate for asbestos.



Example of a respirator for use when working with asbestos.



Example of a disposable P2 respirator with two straps, suitable for working with asbestos.

Respirators should comply with Australian Standard AS1716. This number should be printed somewhere on the mask.

- Men should be clean-shaven to make sure of the best seal between their face and the mask.
- The respirator should have an airtight fit. Read and follow the manufacturer's instructions on how to check the fit of the respirator.
- Respirators should be continuously worn until all work and cleaning up is completed and contaminated clothing has been removed, bagged and sealed. The last thing to be removed is the mask.



Men should be clean-shaven to ensure a good seal between their face and the mask.



This type of dust mask with one strap DOES NOT prevent the inhalation of asbestos fibres.

Working safely with non-friable asbestos

Clearance inspection for the minor work on asbestos-containing materials

When a contractor has completed the work, a visual inspection of the work area should be conducted prior to resumption of normal occupancy.

This ensures that all asbestos waste has been removed and the area has been properly cleaned with no visual evidence of dust and debris. Particular attention should be paid to the presence of dust on all horizontal surfaces, such as, window sills, architraves, skirtings, the tops of air-conditioning ducts, fan blades and flooring.

Written confirmation that the work area is clean and free of asbestos waste, dust, and debris should be given to the home owner.



Nothing precludes a homeowner or tradesperson from demanding a higher standard for safe asbestos work procedures to those outlined in this guide.



Homeowners can reasonably expect tradespeople performing minor renovation works on asbestos-containing materials to follow the safe work methods outlined in this guide.

Managing your renovation job

What if I need to put a hole in non-friable asbestos-containing material?

If it is necessary to put a hole in non-friable asbestos-containing material (e.g. for a new window or power point), it could be safer to remove the whole sheet following safe work procedure 4 on page 17 of this guide and replace it with non-asbestos sheeting (e.g. plywood, plasterboard, fibre cement sheeting) and cut the hole in the new sheeting.

What if I accidentally break asbestos?

If you accidentally break an asbestos-containing material, the safest way to manage any health risks is to wipe up any dust with a damp cloth or damp paper towel. Place the damp cloth or damp towel inside a plastic bag, tie the bag up and then place this inside a second plastic bag. Tie the final bag up tightly and place into your rubbish bin.

Do not use a normal vacuum cleaner as it cannot filter out all particles and can release more asbestos fibres into the air.

If the asbestos-containing material is cracked, you should seal the crack with a product like PVA glue, polyfiller or paint. If the damage is more significant, the entire sheet should be replaced and the old sheet disposed of correctly.

Safe work procedures

Safe work procedure 1

Drilling into non-friable asbestos-containing materials

To reduce the risk of asbestos fibres being released into the air, caution must be taken when drilling into non-friable asbestos-containing materials. Follow the safety procedures below when drilling vertical and horizontal surfaces:

1. Ensure you have the correct equipment needed

- Hand drill or low-speed battery powered drill.
- Disposable cleaning rags (e.g. paper towel or a disposable cloth).
- Bucket of water and/or a misting spray bottle.
- Duct tape.
- Sealant (e.g. PVA glue).
- A paste or gel like substance (e.g. wallpaper paste, shaving cream or hair gel).
- Several 200 micron (0.2 mm) thick plastic bags for asbestos waste.
- A roll of 200 micron (0.2 mm) thick disposable plastic drop sheeting to cover the floor and other surfaces such as furniture and window ledges under where you are drilling.
- A sturdy, disposable clear plastic cup.
- Personal protective equipment consisting of a P1 or P2 respirator, disposable coveralls, safety goggles and shoe protectors.

Warning!

Never use a high-speed drill on an asbestos-containing material because it will quickly release asbestos fibres into the air. Only use a hand drill or a low-speed battery powered drill and follow this safe work procedure closely.



Warning!

Check for electrical hazards. As water is being used in this task, it is safest to turn off all electricity where you are working to prevent electrocution.



2. Prepare the work area

- Remove all loose and unnecessary items from the work area.
- Restrict other people from entering the asbestos work areas (e.g. by closing a door or putting up warning barriers).
- Use plastic sheeting secured with duct tape to cover any surface of the work area and act as drop sheets.
- Turn off air-conditioning and fans.
- Put on your personal protective equipment.
- Check the fit of your respirator as per the manufacturer's instructions.

3. Drilling steps

- Step 1:** Tape the point to be drilled and the exit point (if possible).
- Step 2:** Cover the drill entry and exit points (if accessible) on the asbestos sheet with a generous amount of a thickened substance (e.g. shaving cream).
- Step 3:** Drill a hole through the bottom of the disposable cup.
- Step 4:** Fill or line the inside of the cup with the thickened substance.
- Step 5:** Put the drill bit through the hole in the cup and make sure the drill bit extends beyond the lip of the cup.
- Step 6:** Align the drill bit with the marked point.
- Step 7:** Ensure cup is firmly held against the surface to be drilled.
- Step 8:** Drill through the surface.
- Step 9:** Remove the cup from the surface and dispose in asbestos waste bag.
- Step 10:** If a cable is to be passed through the drilled hole, insert a sleeve to protect the inner edge of the hole or seal the edges with a sealant such as PVA glue or paint.



Disposable cup with hole through bottom



Residue dust captured in shaving cream inside cup

Safe work procedures

4. Clean up

Important! Keep your respirator on until all clean up is finished and you have removed your disposable clothing.

- Never use dusting, sweeping or brushing methods as they will circulate asbestos fibres into the air.
- If available, use an H class industrial vacuum cleaner that complies with AS/NZS 60335.2.69 fitted with a HEPA filter that complies with AS4260-1997 to clean your equipment and any remaining visible dust in the work area, including framework or cavities. Domestic vacuum cleaners should never be used. Even if they have a HEPA filter, they are unsuitable for asbestos work.
- Wet wipe surfaces where asbestos fibres may have collected. Do not resoak used rags in the bucket, as this will contaminate the water. Either fold the rag and use the clean surface or use a new rag.
- While still wearing your protective equipment, lightly spray the plastic with a diluted mixture of 1:5 PVA glue and water to hold remaining dust. Carefully roll or fold plastic drop sheeting from the floor or ground, and other surfaces such as furniture and window sills, so any remaining dust or debris does not spill.
- Place asbestos debris, used rags, plastic sheeting and other asbestos waste in disposal bags (only half fill the bag – this is to reduce the chance of the bag splitting).
- After the work area is clean, wet down your personal protective equipment and clothing with a light spray of water and place them and all used damp cloths into a disposable bag.
- Seal all disposal bags with duct tape, place into a second disposal bag and seal again.
- Label all bags with an appropriate warning such as:
CAUTION – ASBESTOS
DO NOT DAMAGE OR OPEN BAG
DO NOT INHALE DUST
- Dispose of asbestos waste at the appropriate waste facility. Contact your local council for more information.

Vacuuming

The use of shadow vacuuming when using a power drill will also capture airborne dust and debris from the asbestos-containing material.

Shadow vacuuming requires the operation of an H class industrial asbestos vacuum cleaner that complies with AS/NZS 60335.2.69 fitted with a HEPA filter and that complies with AS4260-1997. The vacuum head should be either directly attached to the drilling equipment or used as close as possible to the tool.

Domestic vacuum cleaners should never be used. Even if they have a HEPA filter, they are unsuitable for asbestos work.

Safe work procedure 2

Painting or sealing non-friable asbestos-containing materials

While it's not always necessary to seal, paint or clean non-friable asbestos-containing materials that are in good condition, the edges of sheets should be sealed. It is advisable to extend structural life of asbestos-containing materials and improve their appearance through painting.

Sealing or painting should only be carried out on materials that are in good condition. If the material is significantly weathered, damaged or broken, the material should be removed and replaced with a non-asbestos material (e.g. plywood, plasterboard, fibre cement sheeting).

This safe work procedure includes surface preparation which may require the use of personal protective equipment. If surface preparation is not required, it is a simple matter of painting over the asbestos-containing material.

Warning!

Under no circumstances are asbestos-containing materials to be water blasted or dry sanded. This is illegal and substantial fines apply.

It can be very dangerous to work on an asbestos roof. Asbestos roofs become very brittle with age

(increasing the risk of falling through) and are very slippery when wet. Working at heights also presents a risk of falling. Consider using a business that specialises in asbestos roofs.



Safe work procedures

1. Ensure you have the correct equipment needed

- Paint brushes, paint rollers or airless spray gun and equipment.
- Sealant (e.g. PVA glue) or paint. You may also need a specific respirator for the sealant or paint to protect yourself from any harmful vapours (read the safety directions on the container).
- Duct tape.
- Several 200 micron (0.2 mm) thick plastic bags no more than 1200 mm long and 900 mm wide for disposing of asbestos waste.
- A roll of 200 micron (0.2 mm) thick plastic sheeting to be used as drop sheets.
- Disposable cleaning rags (e.g. paper towel or disposable cloths).
- Bucket of water and spray bottle for misting.
- Personal protective equipment consisting of a P1 or P2 respirator, disposable coveralls and shoe protectors.
- Ensure you only use wet and dry paper in a wet condition to smooth edges of flaking paint.

Choosing the right sealant

- ➔ Sealants should be used on external surfaces such as roofs, as they penetrate the surface and bind into the material.
- ➔ Choose a sealant specifically designed for use on asbestos materials that has a life of 10 years or more and can be reapplied over the top of the existing coat if required.
- ➔ Avoid products that require the asbestos material to be vigorously cleaned beforehand as this can release asbestos fibres into air.

2. Prepare the work area for surface preparation

- Advise your neighbours of what you are planning to do.
- Remove all loose and unnecessary items from the work area.
- Restrict entry to the asbestos work area/s (e.g. by closing a door or putting up warning barriers).
- Cover the floor of the work area with the plastic sheeting and secure with duct tape (this will help contain any run-off from wet sanding methods).
- Put on your personal protective equipment.
- Check the fit of your respirator as per the manufacturer's instructions.

3. Surface preparation and painting

- Wash with sugar soap or another cleaning chemical—do not use high pressure water.
- If needed, hand-sand the surface using light **wet sanding** methods, or use a chemical paint stripper and a scraper – but **only on wet surfaces** and taking care not to damage the asbestos material.
- When removing wallpaper, use a steamer if you need to and keep a spray water bottle handy to ensure the surface remains damp.
- Paint over existing paint if it's in good condition.
- If spray painting, use airless equipment as the low air pressure reduces overspray compared to normal high pressure equipment.
- If using a paint brush or roller, use it lightly to avoid exposed surface abrasion.

Environmental tip

If you need to clean an asbestos roof with chemicals before sealing, consider how you will manage the run-off. It is important that run-off from the roof is not washed into downpipes as these lead to your water tank or the roadside gutter which washes into local creeks and waterways.

Safe work procedures

4. Clean up

- **Never** use dusting, sweeping or brushing methods as this will circulate asbestos fibres into the air.
- If available, use an H class industrial vacuum cleaner that complies with AS/NZS 60335.2.69 fitted with a HEPA filter that complies with AS4260-1997 to clean your equipment and any remaining visible dust in the work area, including framework or cavities. Domestic vacuum cleaners should never be used. Even if they have a HEPA filter, they are unsuitable for asbestos work.
- Wet wipe surfaces and equipment, then dispose of the rags. Do not resoak used rags in the bucket, as this will contaminate the water. Either fold the rag and use clean surface or use a new rag.
- While still wearing your protective equipment, lightly spray the dust or debris with a diluted mixture of water and PVA glue (five parts water and one part PVA) to hold down any remaining dust. Carefully roll or fold plastic drop sheeting from the floor, ground, and other surfaces, so any collected dust, debris or water does not spill.
- Place asbestos debris, used rags, plastic sheeting and other waste in disposal bags (only half fill the bag to reduce the chance of the bag splitting).
- After the work area is clean, wet down your personal protective equipment and overalls with a light spray of water and place them and all used damp cloths into a disposal bag.
- Seal all disposal bags with duct tape, place into a second disposal bag and seal again.
- Label all bags with an appropriate warning such as:
CAUTION – ASBESTOS
DO NOT DAMAGE OR OPEN BAG
DO NOT INHALE DUST
- Dispose of asbestos waste at the appropriate waste facility (contact your local council for more information).

Warning!

Domestic vacuum cleaners are unsuitable and should never be used, even if they have a HEPA filter!



Safe work procedure 3

Removing ceramic tiles from asbestos sheeting

1. Ensure you have the correct equipment needed

- Several 200 micron (0.2 mm) thick plastic bags no more than 1200 mm long and 900 mm wide for collection of asbestos waste.
- A roll of 200 micron (0.2 mm) thick plastic sheeting as a drop sheet.
- Duct tape.
- Bucket of water and spray bottle filled with detergent and water.
- Sealant (e.g. PVA glue).
- Wide scraper, hammer and chisel.
- Disposable cleaning rags (e.g. paper towels or disposable cloths).
- Personal protective equipment consisting of a P1 or P2 respirator, disposable coveralls, safety goggles and shoe protectors.

Warning!

Check for electrical hazards. As you will be using water in this task, it is safest to turn off all electricity where you are working to prevent electrocution.



2. Prepare the work area

- Remove all loose and unnecessary items from the work area.
- Restrict entry to the asbestos work area/s (e.g. by closing a door or putting up warning barriers).
- Cover the floor with plastic sheeting and secure with duct tape.
- Put on your personal protective equipment.
- Check the fit of your respirator as per the manufacturer's instructions.

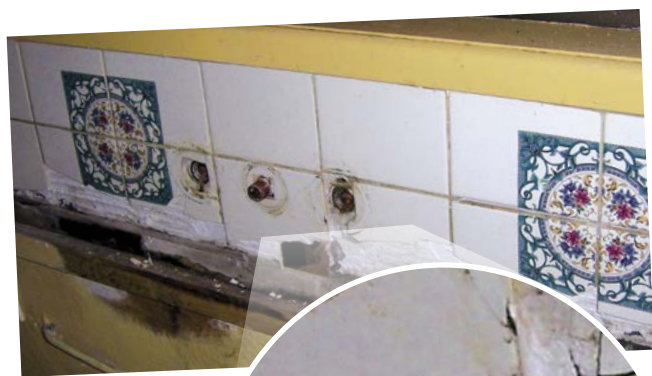
Safe work procedures

3. Remove wall tiles

- Use the chisel to gently tap between the top of the tile and the backing asbestos cement sheet to release the tile. Do not dig the chisel into the asbestos cement sheet.
- As the tile is released, spray detergent water lightly behind the tile to prevent the release of fibres.
- Try to prevent the tile from falling onto the plastic.
- Place tiles in disposal bags (only half fill the bag).
- Chisel or scrape off tile adhesive and grout residue from asbestos cement sheet to achieve a relatively flat and clean surface before laying new tiles. **Do not sand! Treat all waste as asbestos waste.**

If the asbestos cement sheet is broken or not usable as a base for re-tiling, you will need to remove the whole sheet. Removing the whole sheet may be the better option if you can't remove the tiles without damaging the wall sheet or you desire a different finish to tiles. You'll then need to replace the asbestos cement sheeting with an alternative wall lining (e.g. plywood, plasterboard, fibre cement sheeting).

The sheet in question can be removed by a professional or remove it yourself using safe work procedure 4: Removing non-friable asbestos cement sheets on page 17.



Ceramic tiles on asbestos sheeting

4. Clean up

- Remove larger scraps from ground plastic sheet and place in a disposal bag.
- Never use dusting, sweeping or brushing methods as this will circulate asbestos fibres into the air.
- If available, use an H class industrial vacuum cleaner that complies with AS/NZS 60335.2.69 fitted with a HEPA filter that complies with AS4260-1997 to clean your equipment and any remaining visible dust in the work area, including framework or cavities. Domestic vacuum cleaners should never be used. Even if they have a HEPA filter, they are unsuitable for asbestos work.
- Wet wipe surfaces and equipment, then dispose of the rags. Do not resoak used rags in the bucket, as this will contaminate the water. Either fold the rag and use the clean surface or use a new rag.
- While still wearing your protective equipment, lightly spray the dust or debris with a diluted mixture of PVA glue and water (5 parts water and 1 part PVA) to hold down any remaining dust. Carefully roll or fold the plastic drop sheeting.
- Place asbestos debris, used rags, plastic sheeting and other waste in disposal bags (only half fill the bag to reduce the chance of the bag splitting).
- After the work area is clean, wet down your personal protective equipment and overalls with a light spray of water and place them and all used damp cloths into a disposal bag.
- Seal all disposal bags with duct tape, place into a second disposal bag and seal again.
- Label all bags with an appropriate warning such as:
CAUTION – ASBESTOS
DO NOT DAMAGE OR OPEN BAG
DO NOT INHALE DUST
- Dispose of asbestos waste at the appropriate waste facility (contact your local council for more information).

Warning!

Domestic vacuum cleaners are unsuitable and should never be used, even if they have a HEPA filter.



Safe work procedures

Safe work procedure 4

Removing non-friable asbestos cement sheets

Non-friable asbestos cement sheets are the most common asbestos materials in Queensland homes. The products include flat wall and ceiling sheeting (fibro), corrugated roofing (Super Six) and ridge capping, eaves/soffits, fencing, water, drainage and flue pipes, roofing shingles and building boards (e.g. Villaboard, Hardiflex, Wunderboard, Tilux, and Flexiboard).

This safe work procedure is intended only for removing 10 m² or less of asbestos sheeting otherwise a licensed asbestos removalist with a class B or A licence should be sought, or a homeowner should obtain a removal certificate under arrangements established by Queensland Health.

Tradespeople must also comply with the Work Health and Safety Regulation 2011. Additional information is provided in *How to Safely Remove Asbestos Code of Practice 2011*.

1. Ensure you have the correct equipment needed

- A roll of 200 micron (0.2 mm) thick plastic sheeting for double wrapping asbestos sheets and to use as drop sheets.
- Several 200 micron (0.2 mm) thick plastic bags for asbestos waste.
- Spray bottle filled with detergent and water.
- PVA sealant and low pressure spray equipment (five parts water and one part PVA).
- Hammer and punch or chisel (for removal of screws, bolts or similar fittings).
- Disposable cleaning rags (e.g. paper, cloth).
- Personal protective equipment consisting of a P1 or P2 respirator, disposable coveralls, safety goggles and shoe protectors.

2. Prepare the work area

- Ensure you have a method for wrapping asbestos sheets in plastic for disposal. For example, using an approved asbestos skip lined with two layers of 200 micron (0.2 mm) plastic sheeting.
- Advise your neighbours of what you are planning to do.
- Remove all loose and unnecessary items from the work area.
- Cover the floor or ground of the work area with plastic sheeting and secure with duct tape or stakes/tent pegs.
- Restrict entry to the asbestos work area/s (e.g. close doors, put up a barrier).
- Put on your personal protective equipment.
- Check the fit of your respirator as per the manufacturer's instructions.

3. Removing the non-friable asbestos

To remove non-friable asbestos roof sheet:

- Avoid working in windy environments.
- Avoid dust entering the house by ensuring all windows and doors are closed.
- Asbestos-cement can become brittle with age, and can be slippery, so any removal work on roofs must address the risk of falling through or off the roof through applying an appropriate solution to eliminate or reduce the risk.
- Do not break up the sheeting into smaller pieces and avoid dropping sheets from heights to prevent it breaking into small pieces.
- Do not slide sheeting across other sheets as this may release asbestos fibres.
- Turn off all electricity in the house to prevent electrocution.
- Be cautious when using water on roofs as wet sheeting is very slippery particularly if there is lichen or moss on the roof sheeting. Roofing should be sprayed with diluted PVA glue (five parts water and one part PVA), and let dry before sheet removal begins. Never use high pressure water to clean the roof sheeting as this will release asbestos fibres from the sheeting.
- Remove anchoring screws/bolts from the roofing sheets in a way that will not damage the sheet.

Safe work procedures

To remove non-friable asbestos walls and fencing:

- If the asbestos-cement is behind ceramic tiles, remove enough tiles to get access to the fixings of the sheet. This can be done by following safe work procedure 3: Removing ceramic tiles from asbestos sheeting on page 15.
- Spray the surface of the sheet down with detergent and water to avoid any fibres becoming airborne.
- Either unscrew the screws and washers holding the sheet in place, or use a wide punch that is bigger than the clout nail head and with a hammer punch over the nail head.
- Remove the whole sheet intact without breaking it.
- Remove all nails or other fixings and small pieces of asbestos waste from the timber.

4. Clean up

- Wet all asbestos sheets using a fine water spray (including the backs of the sheets once removed).
- Wrap all asbestos sheets in plastic sheeting, seal with duct tape and place in the plastic-lined asbestos waste container or double-wrap in plastic sheeting and seal.
- Never use dusting, sweeping or brushing methods as this will circulate asbestos fibres into the air.
- If available, use an H class industrial vacuum cleaner that complies with AS/NZS 60335.2.69 fitted with a HEPA filter that complies with AS4260-1997 to clean your equipment and any remaining visible dust in the work area, including framework or cavities. Domestic vacuum cleaners should never be used. Even if they have a HEPA filter, they are unsuitable for asbestos work.
- Wet wipe surfaces and equipment, then dispose of the rags. Do not resoak used rags in the bucket, as this will contaminate the water. Either fold the rag and use the flat clean surface or use a new rag.
- While still wearing your protective equipment, lightly spray the dust or debris with a diluted mixture of PVA glue and water to hold down any remaining dust. Carefully roll or fold the plastic drop sheeting.

Note: Rough-sawn timber and insulation materials cannot be wet wiped or vacuumed. They should be sealed with diluted PVA glue using a low-pressure spray.

- Place asbestos debris, used rags, plastic sheeting and other waste in disposal bags (only half fill the bag to reduce the chance of the bag splitting).
- After the work area is clean, wet down your personal protective equipment and overalls with a light spray of water and place them and all used damp cloths into a disposal bag.
- Seal all disposal bags with duct tape, place into a second disposal bag and seal again.
- Label all bags with an appropriate warning such as:
CAUTION – ASBESTOS
DO NOT DAMAGE OR OPEN BAG
DO NOT INHALE DUST
- Dispose of asbestos waste at the appropriate waste facility (contact your local council for more information).

Warning!

It is very dangerous to work on an asbestos roof. Asbestos roofs become very brittle with age (and you could fall through) and are very slippery when wet. Working at a height also presents a risk of falling.

Warning!

Never use angle grinders or other power tools to remove screws, nails or bolts. These actions can release asbestos fibres into the air and are illegal.

Transport and disposal: homeowners

Regulated waste transport

Asbestos waste must be disposed of quickly and correctly.

There are legal requirements in relation to regulated waste transport for some people if you are transporting on a:

- non-commercial basis 250 kg or more of asbestos in a vehicle; or
- commercial basis any quantity of asbestos in a vehicle.

These laws require the person to:

- a) hold an environmental authority to transport regulated waste in a vehicle
- b) accurately record and submit waste tracking information.

Application for environmental authority to transport regulated waste is made to the Department of Environment and Heritage Protection on 13QGOV (13 74 68).

Homeowners with less than 250 kg of asbestos waste

The regulated waste transport laws do not apply if you are transporting less than 250 kg of waste asbestos in a vehicle on a non-commercial basis. Although no approval is required, you must in all situations transport and dispose of the asbestos waste promptly, safely and legally.

As a general guide, 250 kg of typical asbestos waste would occupy about a quarter of a normal household trailer.

Alternatively, you may choose to engage a commercial contractor to transport and dispose of the waste.

Before transporting asbestos waste, you should contact your local council:

- to find out where you can dispose of asbestos waste
- about any conditions for disposal (e.g. time of day, maximum amount at one time)
- about how much it will cost
- to confirm that the intended disposal site will accept asbestos waste from homeowners.

Asbestos waste can only be disposed of at sites approved by a local government for the disposal of asbestos waste.

Super six roofing ridge capping and guttering



Homeowners with 250 kg or more of asbestos waste

The regulated waste transport laws apply if you are transporting 250 kg or more of waste asbestos in a vehicle on a non-commercial basis.

Therefore, you should engage a commercial contractor to undertake the transport and disposal.

Commercial contractors can advise you on how the asbestos waste must be packaged for transport and disposal. They can provide different bags, bins and containers, including drums and skips, for asbestos waste.

Before engaging a commercial contractor, it is critically important that you check whether they hold a current environmental authority to transport regulated waste.

Waste removalists can be found by searching the internet or local phone directory.

If you are taking the asbestos waste to a council approved site yourself, place the double wrapped/bagged asbestos waste (labelled as asbestos waste) in a trailer or in the back of a utility or truck. Secure the load to make sure it doesn't bounce or fly out, ensure the plastic wrappings/bags are not at risk of ripping and that the asbestos is not at risk of breaking. Follow the council's directions when you arrive at the site.

Transport and disposal: contractors and businesses

Contractors and businesses with less than 250 kg of asbestos waste

An environmental authority to transport regulated waste and the completion of waste transport certificates, is not required for the non-commercial transportation of less than 250 kg of asbestos waste.

Therefore, if the main purpose of your commercial operation is not transporting regulated waste, but you transport asbestos waste as an incidental part of carrying out your main business, you do not need to hold an environmental authority for regulated waste transport or complete waste transport certificates when transporting less than 250 kg of asbestos waste.

For example, if you are a plumber and you are carrying out plumbing work that results in the production of asbestos waste, you do not need an environmental authority to take the asbestos waste to the landfill if the load is less than 250 kg (because transporting asbestos waste is not the main purpose of your business).

Contractors and businesses with 250 kg or more of asbestos waste

The regulated waste transport laws apply if you are transporting 250 kg or more of asbestos waste in a vehicle on a non-commercial basis, and you will therefore need to:

- engage a commercial contractor to undertake the transport and dispose of the asbestos; or
- obtain an environmental authority for regulated waste transport (details on the laws are provided below in Regulated waste transport - environmental authority).

Transporting asbestos waste on a commercial basis

The regulated waste transport laws apply if you are transporting any quantity of asbestos in a vehicle on a commercial basis. Commercial basis means that the primary objective of the operator is to transport regulated waste.

When the business's primary objective is to provide other services (for example, plumbing or electrical services) and the transport of regulated waste (asbestos waste) is incidental to the day-to-day business, then the transport is not considered to be on a commercial basis.

Example 1

A company is contracted to install telephone lines, connections and pits. This task involves removing small amounts of asbestos containing material (ACM) that will need transportation to a licensed landfill.

The contractor's primary objective is to install telephone lines, connections and pits (which may require the removal of ACM).

The removal and transport of the waste ACM is considered incidental to the primary objective of the business. Therefore, an environmental authority for regulated waste transport is not required to transport quantities of ACM under 250 kg.

However, if a company is specifically contracted to attend the site to collect and transport the asbestos waste to a licensed landfill, then this is considered their primary objective and an environmental authority for regulated waste transport is required, regardless of the total weight.

Warning!



During transport, ensure asbestos waste is wrapped and/or bagged within strong plastic and the load is secure.

Example 2

A plumber is contracted to install a new shower in a bathroom. This task involves removing a portion of wall sheeting, which is ACM.

The plumber's primary objective is to install plumbing fixtures and the transport of the asbestos waste to a licensed landfill is considered incidental.

Transport and disposal: contractors and businesses

The plumber may charge a labour or a tip fee to transport and dispose of the asbestos waste, however because their primary objective is to provide a plumbing service and not a regulated waste removal service, they would not require an environmental authority to transport under 250 kg of asbestos waste to a landfill.

Where a contractor is engaged to specifically collect the asbestos waste and transport it to a landfill that would be part of their primary objective. In this case, the contractor would be undertaking regulated waste transport on a commercial basis and would require an environmental authority regardless of the total asbestos weight.

Example 3

A licensed asbestos removalist is contracted to remove 15 square metres of asbestos cement sheeting. Although the asbestos cement sheeting is less than 250 kg, the transport is an integral part (i.e. a primary objective) of the asbestos removal business and considered to be on a commercial basis.

Example 4

The operator of a home maintenance business removes three square metres of asbestos cement sheeting to install a new door.

Because their primary task is to provide a home maintenance service and not a regulated waste removal and transport service, they would not require an environmental authority to transport under 250 kg of asbestos waste to a landfill.

Example 5

Occasionally asbestos cement sheets in the walls at a large factory are broken. The broken sheets are removed and one of the employees takes 100 kg of broken asbestos cement sheeting to a licensed landfill.

The transport of the regulated waste (asbestos waste) is not considered to be on a commercial basis because the asbestos handling and transport is incidental to the main objective of the day-to-day business.

Although a portion of the bathroom wall needs to be removed, the transport and disposal of this waste is incidental to the plumber's primary objective—installing the new shower.



Applying for an environmental authority

To apply for an environmental authority to transport regulated waste and to purchase waste transport certificates, please contact the Department of Environment and Heritage Protection on 13QGOV (13 74 68).

Common locations of materials containing asbestos in a house

Example of a house built in the 1970s

Walls and ceilings

'Versilux' sheets used internally in the walls and ceilings (manufactured with either bevelled edged, square edge or recessed for flush jointing)

'Hardiflex' ceiling sheets

Log cabin profiled wall panels used horizontally or vertically

Timber window putty and silicon aluminium window seals

Pieces of asbestos cement packing under timber bearers and behind window and door jambs.

'Super Six' fence panels and fence capping

Asbestos cement downpipe

Bathrooms

Walls and ceiling in 'Versilux' sheets with a recessed edge, plastered over and then tiled over or with 'Tilux' sheeting over the bath tub and shower recess

Asbestos bituminous felt under draining boards either end of kitchen sink

Dining and kitchen

Asbestos backed sheet vinyl flooring, vinyl floor tiles and lining in kitchen shelving

Non-asbestos guttering may contain asbestos residue from 'Super Six' roofs. Some guttering was also manufactured from asbestos cement

'Super Six' corrugated roof sheeting and ridge capping

Asbestos cement vent pipe and cap

Soffit sheeting

'Hardiplank' wall cladding. Building clad in 'Hardies' chamfer board

Textile packing in between the cast iron Y junction pipe and asbestos cement vent pipe

'Hardiplank' woven fencing

Hot water system with a lined thermostat housing or element housing and lagged hot water pipes

DT surround (disconnect trap)

Moulded telecommunications pit or electrical pit

Vinyl floor tiles

Pieces of asbestos cement packing under ant capping

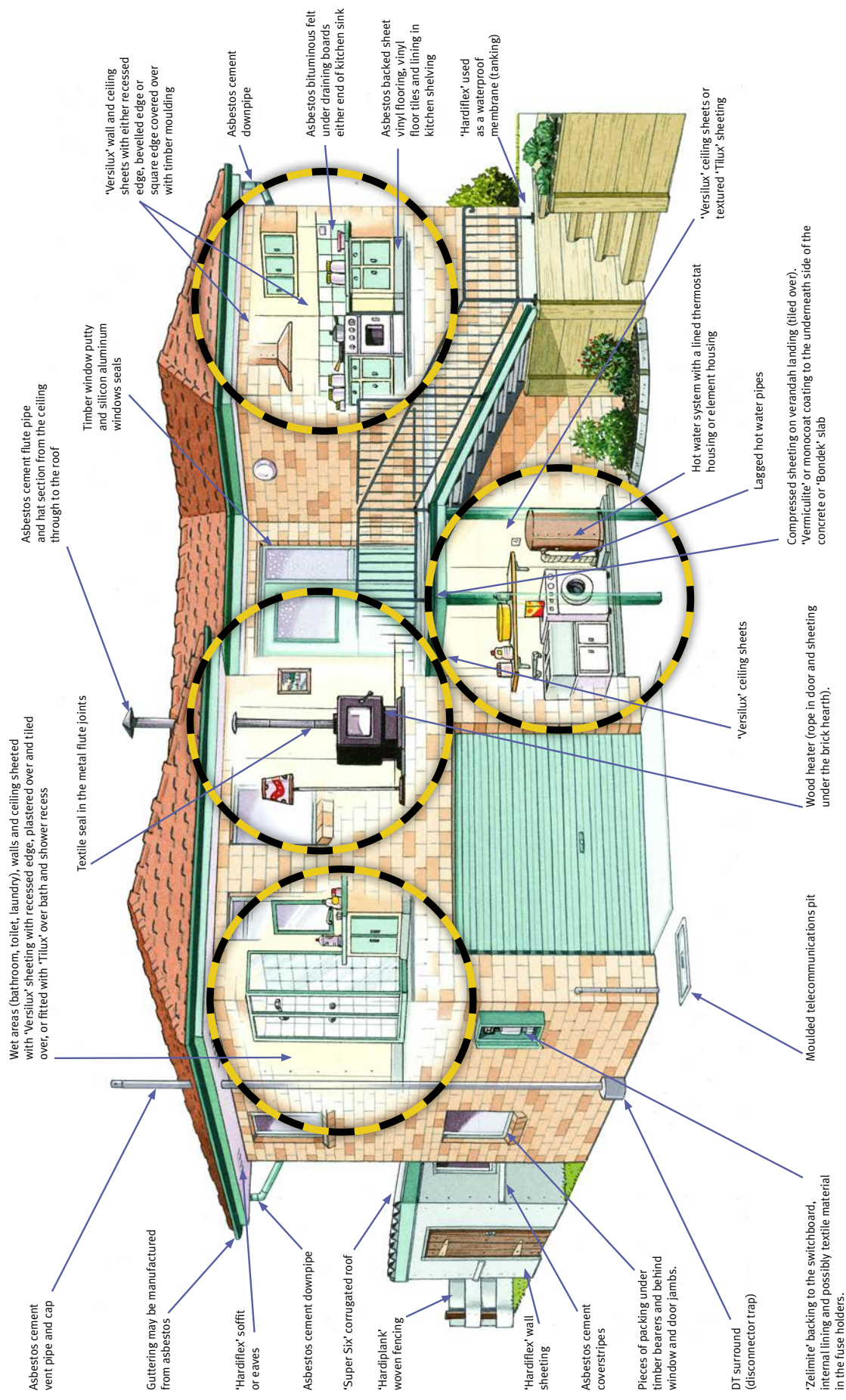
'Zelimite' backing to the switchboard

Compressed sheeting to the rear landing

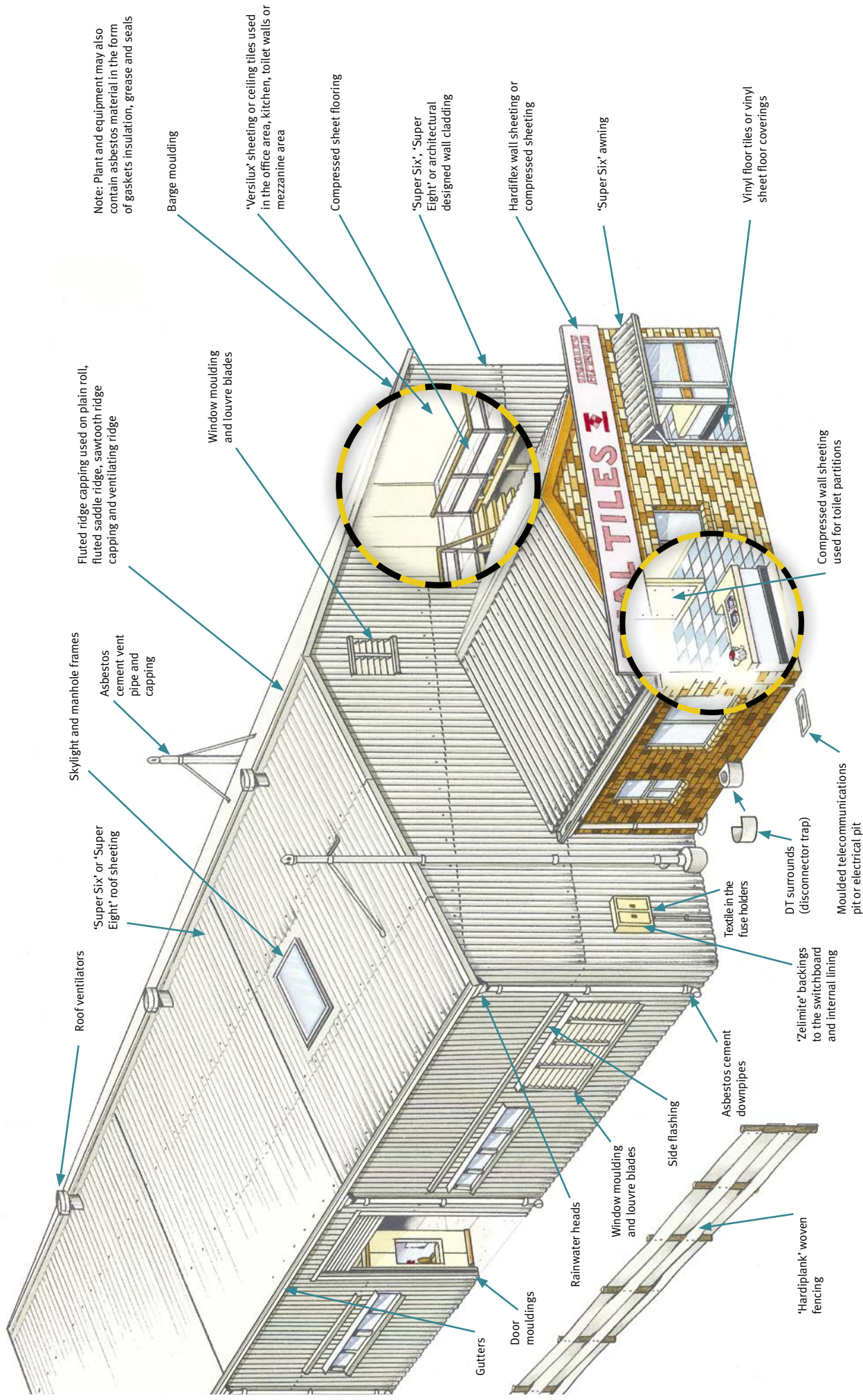
'Shadowline' vertical panels. 'Highline' and 'Coverline' in a vertical profiled panel

Common locations of materials containing asbestos in a house

Example of a house with a concrete or clay (terracotta) tiled roof



Common locations of materials containing asbestos in a commercial building





qld.gov.au/asbestos



13 QGOV (13 74 68)