HSWA

QUICK GUIDE

Working with or near asbestos – for electricians

April 2018

New Zealand Government

WORKSAFE NEW ZEALAND | MAHI HAUMARU AOTEAROA

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figures

1.0 Introduction

This guide is for electricians

This guide is for electricians who work for themselves or have other people (including apprentices) working for them. It explains how you can manage risks and protect yourself and other people from airborne asbestos fibres.

You could also share this guide with your workers to enable them to work safely with asbestos-containing products.

- You must ensure, so far as is reasonably practicable, the health and safety of any workers who work for you or who you influence or direct, and make sure that other persons are not put at risk by the work that you carry out. This is called the 'primary duty of care'.
- If you're self-employed, you must also ensure (so far as is reasonably practicable) your own health and safety at work.

Working with or near asbestos

Did you know that every tradesperson is likely to come into contact with asbestos at work? Electricians are part of a group of tradespeople most at risk of regular exposure to airborne asbestos fibres. This is because electricians often have to deal with products that may contain asbestos, such as fuse boxes, oven door seals and textured ceilings.

This guide explains how you can manage risks and protect yourself and other people from asbestos fibres.

The guide:

- outlines the critical things that you and other electricians need to know about asbestos
- identifies areas where asbestos could be lurking in buildings
- will help you to decide whether you are doing everything you can (so far as is reasonably practicable) to ensure that you and your workers are working safely in areas that contain asbestos.

Do you or your workers need more information? Check out Asbestos Guidance and Information on our website for methods and tips to help you to work with asbestos-containing products safely.

What's the risk?

New Zealand buildings and other structures may contain asbestos. If you and your workers don't take the right steps to protect yourselves, you're putting your health – and your incomes – at risk.

Most asbestos-related diseases are caused by exposure to asbestos fibres at work. Even small jobs might expose you and your workers to danger.

Breathing in airborne asbestos fibres is a serious risk to your health. When asbestos-containing materials (ACMs) are disturbed, tiny asbestos fibres can be released. If you breathe in the fibres, they can lodge in your lungs and cause lung cancer, asbestosis, mesothelioma or other serious lung diseases.

Symptoms for most asbestos-related diseases take between 10 to 40 years before they start to appear.

Use safe work practices to protect yourself, your workers and other people from exposure to asbestos fibres.

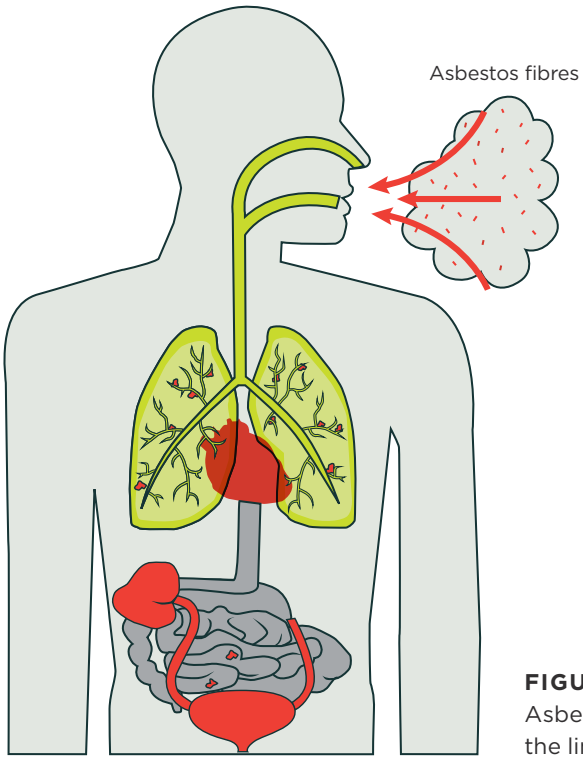

FIGURE 1:
Asbestos lodged in the lining of lungs

Friable and non-friable asbestos

Asbestos or ACM can be friable or non-friable.

- **Friable** asbestos or ACM is in powder form, or able to be crumbled, pulverised, or reduced to a powder by hand pressure when it's dry. This is the riskiest condition for asbestos or ACM to be in as it's able to become airborne easily.
- **Non-friable** asbestos or ACM is not able to be crumbled, pulverised or reduced to a powder by hand pressure only. It is usually safer than friable asbestos or ACM because asbestos fibres are bonded into the product. However, non-friable asbestos or ACM is likely to release fibres if it's disturbed – for example, by cutting or drilling.

2.0
Where you might come across asbestos

Asbestos is in many New Zealand structures

Asbestos is still in many homes, workplaces and public buildings throughout New Zealand.

Any building built before 1 January 2000 is likely to contain some form of asbestos, particularly those built, altered or refurbished between 1940 and the mid-1980s. Even some recently-constructed buildings may have asbestos or ACMs. Asbestos and ACMs are not dangerous if they are in a good condition and remain undisturbed.

Asbestos can be in places that you might not expect. Figures 2 and 3 show potential locations of asbestos in an industrial building and in a house built before 2000.

Look out for asbestos in these locations

- Architraves around doors and windows
- Asbestos cement sheeting walls
- Behind wallpaper (sometimes used to disguise asbestos sheeting)
- Bitumen roofs
- Boilers
- Broken pieces of asbestos sheeting in subfloor spaces
- Cement flooring
- Cement slabs
- Ceramic tiles; wall tiles
- Chimneys
- Compressed asbestos cement panel flooring
- Cornices or moldings
- Eaves and gables
- External angle moldings (on corners)
- External walls (eg corrugated asbestos cement sheeting; artificial brick)
- Fireplaces
- Floor coverings such as carpet, tiles, lino, vinyl
- Flues
- Formwork of cement slabs
- Fuse boxes
- Gussets in ducted air-conditioning systems
- Insulation for hot water pipes and tanks; lagging around hot water pipes
- Internal and external ventilation outlets

- Joinery strips (covering joins)
- Lagging around hot water pipes (eg under the sink) and in wall cavities
- Loose fill asbestos insulation
- Mains water pipes
- Roof capping
- Sealants in air conditioning ducting joins
- Textured ceilings
- Wall caulking and joining compounds, plastic cornice adhesives and sealants
- Wall tiles
- Walls
- Window sills

In kitchens, bathrooms and laundries look out for asbestos in these places too

- Asbestos cement sheeting under vinyl floor coverings
- Fire blankets
- Flues in fuel stoves
- Laminate benchtops (Formica)
- Oven door seals
- Range hoods (asbestos lagging and/or asbestos cement sheeting surround)
- Tilux sheeting/splashbacks (compressed, coloured and patterned waterproof cement sheeting)
- Vinyl sheeting lining cupboard shelves
- Wall tiles, including tiles above sinks

Asbestos might also be in structures like these outside a home or building

- Animal hutches
- Carports
- Extensions and lean-tos
- Fences
- Garages
- Garden beds
- Gazebos and shelters
- Greenhouses
- Outdoor toilets
- Outdoor laundries
- Sheds
- Sleep-outs
- Stables
- Swimming pools
- Water tanks

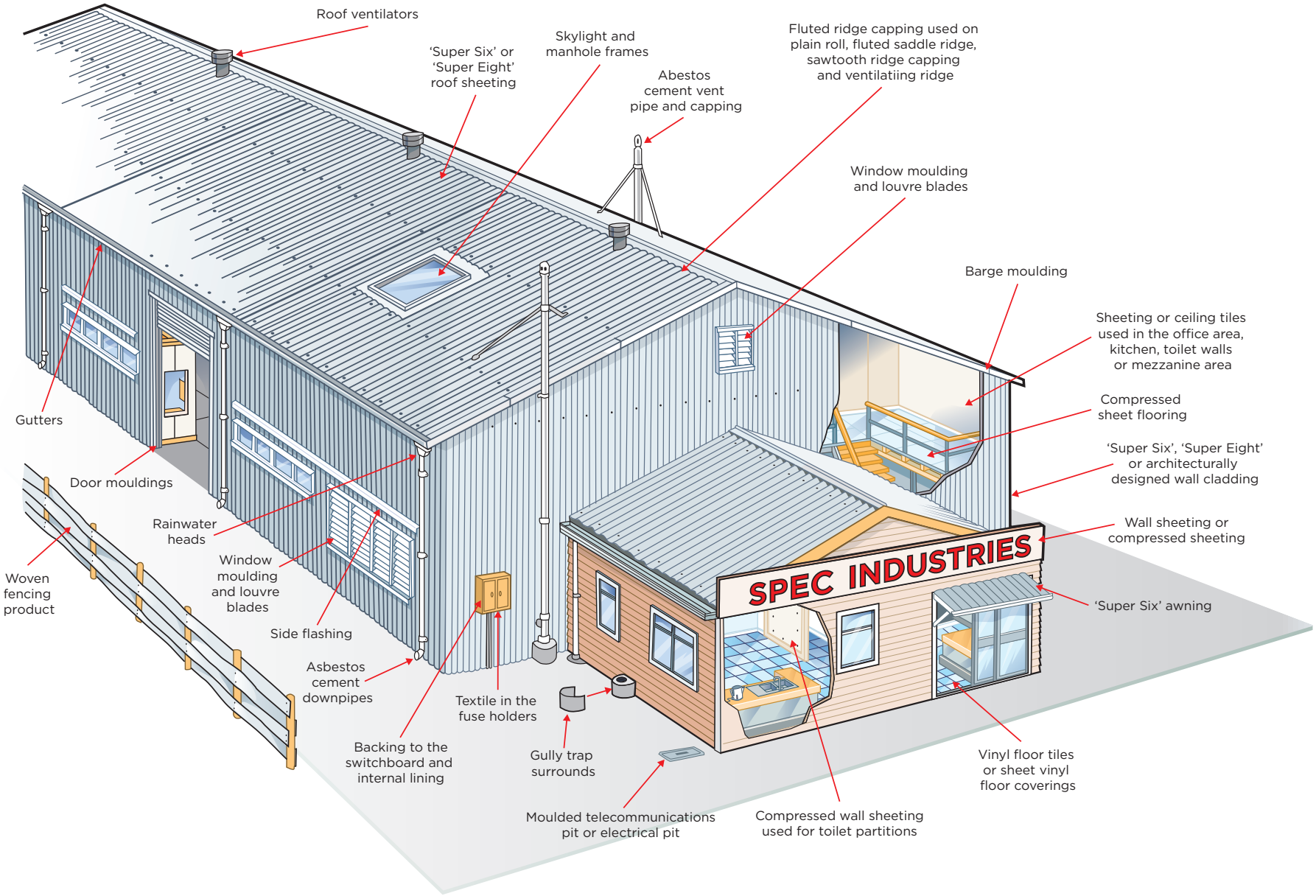

FIGURE 2: Potential locations of asbestos in an industrial building built before 2000

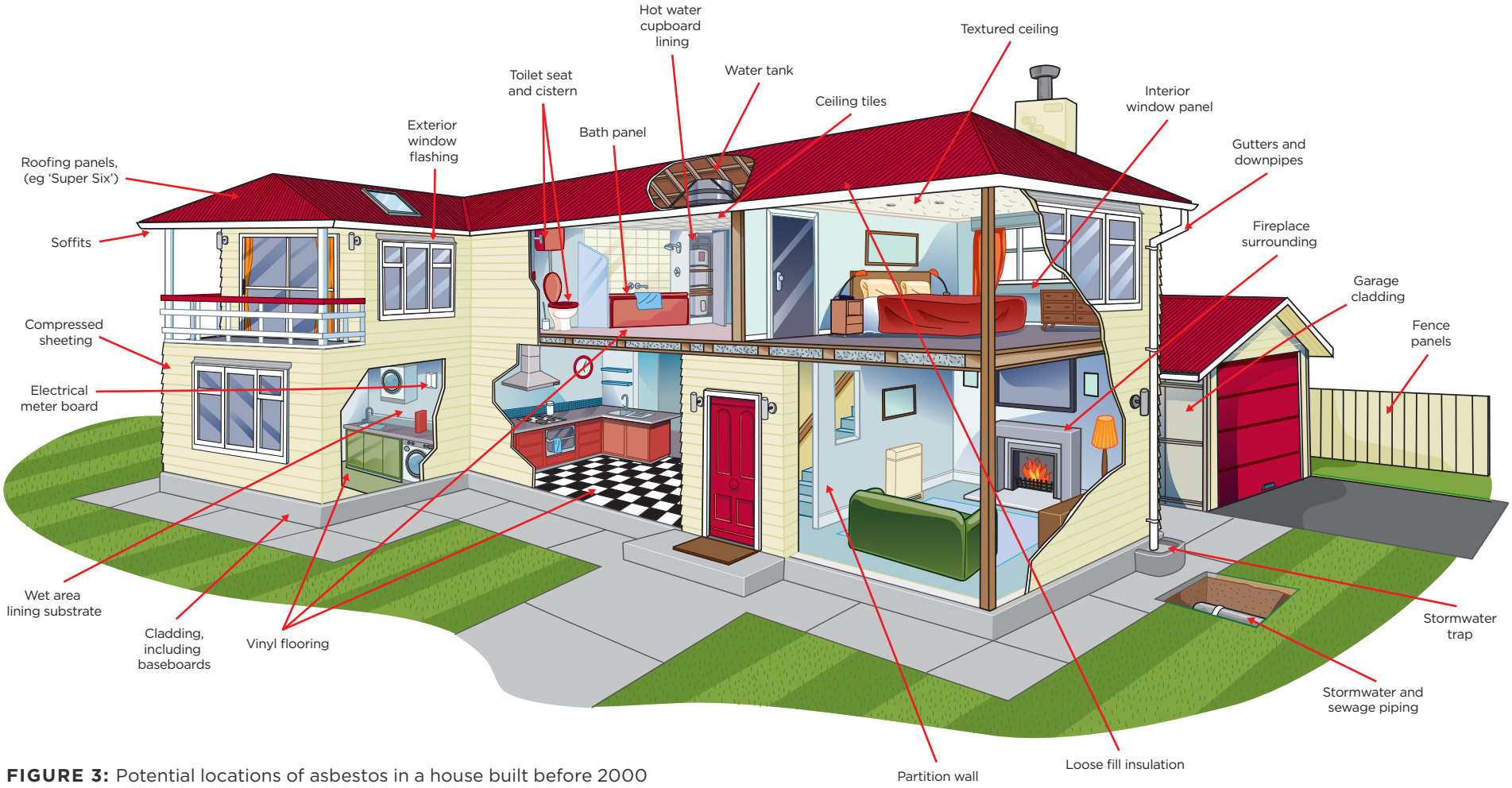

FIGURE 3: Potential locations of asbestos in a house built before 2000

Before starting the job – ask if there's any asbestos

At a commercial or industrial site

When you start planning a job and before you or your workers arrive at a site, ask if there is an Asbestos Management Plan. When asbestos or ACM has been identified (or is likely to be present), the PCBU[1] with management or control of the workplace must prepare an Asbestos Management Plan and review and revise it when necessary.[2]

An Asbestos Management Plan must be in writing and:

- tell you the location and condition of any asbestos that has been identified on-site or is presumed to be located on-site
- set out how any identified asbestos or asbestos-containing materials will be managed on-site.

At someone's home

If you or your workers will be working at someone's home, ask the homeowner if they know if there is any asbestos in or around the house.

If no-one knows for sure, carry out checks so that – if needed – control measures can be put in place before any work starts.

[1] A PCBU is a person conducting a business or undertaking. This legal term describes all types of modern working arrangements commonly referred to as businesses.

[2] This is required by law from 4 April 2018.

3.0
Learn how to work safely with asbestos

Asbestos awareness training

The best way to learn how to identify and safely handle asbestos is to attend asbestos awareness training.

Courses are available across New Zealand and usually take just a couple of hours. Before signing up, check whether the course:

- is relevant to electrical work
- will help electricians to identify asbestos-related hazards faced when installing, repairing and maintaining electrical fixtures or systems
- covers safe handling and appropriate control measures
- provides information about different forms and types of asbestos
- is eligible for continuing professional development (CPD) points.

Protection

It's really important that electricians protect themselves against asbestos, even on small jobs that don't seem to create much dust.

- If possible, plan the job so that no asbestos will be disturbed.
- If asbestos has to be disturbed, don't start work until having the right information and training to work safely.

Keep dust down

Keep ACM damp, but not too wet.

Wet materials using a low-pressure water spray such as a garden sprayer or a hand-held squirt bottle before starting a job. Look out for electrical sockets and wiring before spraying.

Continue wetting the ACM while working. This will reduce the amount of dust as it prevents asbestos becoming airborne.

Do not use a high-pressure hose because this may increase the risk of breathing in dust.

A mixture of eight parts water to one part washing-up liquid will help the water soak into the material. Or you can use thickened substances, pastes and gels to cover the surfaces of the ACM being worked on. Wallpaper paste, hair gel or shaving cream are all effective.

As some asbestos materials (eg asbestos boards or sheets) cannot be wetted all the way through, additional methods to control dust – such as 'shadow vacuuming' – may be needed.

FIGURE 4:
Keep dust down

To shadow vacuum you need a Class H vacuum cleaner with a suitable HEPA filter. Our approved code of practice (ACOP) *Management and Removal of Asbestos* has information about vacuum cleaners used for asbestos work. See Section 13.5 – Vacuum Cleaners.

Hold the vacuum cleaner nozzle close to the work being carried out (eg when removing a screw from asbestos wall cladding) so that the nozzle sucks debris away as soon as it is created.

Class H vacuums can be used for removal of moist or wetted material, but not water.

Use dust collection equipment wherever possible, such as extraction ventilation.

Use plastic sheets to cover your work area to help stop the spread of dust. We recommend 200 µm thickness as a minimum. Using plastic sheets will also make cleaning up easier.

Restrict power tool use

We recommend that you do not use power tools around asbestos, if possible.

The *Health and Safety at Work (Asbestos) Regulations 2016* restrict the use of power tools for asbestos work. Power tools and other equipment (including angle grinders, sanders, saws, drills, brushes and brooms) may only be used on asbestos if:

- the equipment is used only within an enclosed removal area, or
- the equipment is designed to capture or suppress asbestos fibres and is used according to its design, or
- the equipment is used in a way designed to capture or suppress asbestos fibres safely, for example through engineering control measures, such as dust suppression or extraction ventilation.

Power tools used in an enclosed removal area must only be used in that area, to avoid contaminating other locations.

Use the right personal protective equipment (PPE)

Remember that PPE is the least effective control measure – it should not be the first or only control measure considered.

WEAR A SUITABLE MASK

Respiratory protective equipment (RPE) protects workers from breathing in substances hazardous to health.

Not all masks will protect electricians from asbestos.

- A disposable (single-use) P2 mask with a valve is the minimum needed. P1 or 'nuisance dust' masks will not provide the protection that you and your workers need.
- Make sure masks fit properly. Facial hair and stubble make it almost impossible to get a good seal between the face and the mask.

Never re-use disposable masks.

FIGURE 5:
Wear a suitable mask

WEAR COVERALLS

We recommend wearing disposable coveralls. These will stop asbestos fibres getting onto your clothes.

- Wear coveralls that are a bit loose so that they won't rip at the seams. We recommend wearing coveralls that are at least one size larger than you would normally wear.

- Make sure the legs of the coveralls are put over the top of footwear – don't tuck them in as this lets in dust.
- Mask straps should be *under* the hood of the coveralls.
- Never re-use disposable coveralls.

Footwear should be non-laced safety gumboots, or footwear that completely covers each foot.

Personal decontamination procedures

You and your workers should take personal decontamination seriously. Always wear respiratory protective equipment (RPE) until decontamination has been completed.

1. If disposable coveralls are worn, keep RPE on while cleaning the coveralls by using either a Class H vacuum cleaner with a suitable HEPA filter, a damp rag, or fine water spray.
2. Clean footwear and RPE with a wet rag or cloth.
3. While still wearing RPE, remove footwear, then coveralls, turning the coveralls inside out to trap any remaining contamination. Then place the coveralls into a labelled asbestos waste bag.
4. Remove RPE.
   - If the RPE is reusable, inspect it to make sure it is not contaminated, clean it with a wet rag and store it in a clean container.
   - If the RPE is disposable, place it in a labelled asbestos waste bag or waste container.

Note: Don't take coveralls home, or wear them in vehicles. This will prevent other people (such as family members) being exposed to asbestos fibres.

REUSABLE COVERALLS

Washing asbestos-contaminated protective clothing is not recommended – decontamination cannot be guaranteed and the person washing the clothing can be exposed to asbestos.

However, if reusable coveralls are used and it is not reasonably practicable to dispose of them, they must be cleaned at a specialist laundry that is set up to clean asbestos-contaminated clothing.

Our *Management and Removal of Asbestos* ACOP has more information. See Section 14.9 – Coveralls.

Clean work areas and tools properly

Clean as you go to stop waste building up.

- **Use a damp cloth** to wipe down tools and surfaces to remove asbestos fibres.
  - Do not re-use the cloth.
  - It must be disposed of as asbestos waste.
- Use a Class H vacuum cleaner with a suitable HEPA filter, as described in Section 13.5 of our *Management and Removal of Asbestos* ACOP.
  - **Never use domestic vacuum cleaners** to clean up asbestos dust.
  - **Don't use a broom** to sweep up waste – this will spread asbestos fibres into the air.
- Look closely at the work area before leaving the site – has it been cleaned thoroughly? No dust should be visible.

4.0 Getting rid of asbestos waste

Find an authorised disposal site

Dispose of any asbestos waste at an authorised disposal site.

Ask your local council where to find a tip (rubbish dump) that accepts asbestos waste and complies with the Resource Management Act. We recommend calling several days ahead to let the tip know asbestos waste will be arriving, so that they can prepare for its disposal.

Our *Management and Removal of Asbestos* ACOP has more information. See Section 18 – Waste Containment and Disposal.

Double-bag all waste

All waste, including disposable (single-use) masks and coveralls, cloths and plastic sheets should be double-bagged in heavy-duty plastic bags. Twist the top of the bags tightly, fold the necks over (a 'gooseneck twist') and seal with adhesive tape so that the contents are fully enclosed. Clearly mark the outer bag as asbestos waste.

FIGURE 6:
Double-bag waste

5.0
Suspect asbestos?

What to do if you or your workers uncover or damage materials that may contain asbestos

- Stop work immediately.
- Keep people away.
- Minimise the risk of spreading of contamination to other areas.
- Get advice from an expert such as an asbestos assessor or a suitably qualified health and safety consultant.

Removing asbestos

- All **friable** asbestos removal work must be carried out by a licensed asbestos removalist. This includes work on asbestos lagging, asbestos insulation and damaged asbestos board.
- If more than 10 m^2 of **non-friable** asbestos has to be removed during a project, it must be removed by a licensed asbestos removalist.
- See Asbestos Licensing FAQs on our website to find out how to apply the 10 m^2 rule to an object that is not flat, such as asbestos piping. Use the external surface area of the pipe. You can work this out by multiplying the outside circumference of the pipe by its length. This equals the surface area in square metres.

Licence Holder Register

See the Licence Holder Register on our website for a list of current asbestos removal licence holders and asbestos assessors.

6.0 Workers' rights and responsibilities

Workers' rights and responsibilities at work

The Health and Safety at Work Act (HSWA) gives workers a number of rights and responsibilities. See Workers' Rights and Obligations for information and links to fact sheets in English, Māori, Chinese, Hindi, Samoan and Tongan.

Workers have a responsibility to:

- take reasonable care of their own health and safety
- take reasonable care that what they do, or don't do, does not negatively affect the health and safety of other people
- cooperate with any reasonable workplace health and safety policy or procedure that their business has
- comply with any reasonable instructions given by the business they work for.

Your workers have the right to stop work, or refuse to carry out work, if they believe that doing the work would expose them, or anyone else, to a serious health or safety risk.

If workers have stopped work, they need to let you know as soon as possible.

Workers must be able to have a say on any health and safety matters that could affect them, and their suggestions on how to improve health and safety at work must be considered.

Resolving workplace health and safety issues

Sometimes there are different opinions about a workplace health and safety issue – such as risks or potential risks, or what should happen in a particular situation.

When a work health and safety issue is raised (for example, by a worker or a worker's representative), you must attempt to resolve the issue (for example, by involving workers, workers' representatives, a Health and Safety Committee).

Where attempts have been made but have failed to resolve a work health and safety issue, you, a worker's representative, or a worker can request WorkSafe to appoint an inspector to assist with the resolution of the issue. However, there must be evidence that reasonable efforts have been made to resolve the issue before contacting us. See Resolving Workplace Health and Safety Issues for details.

7.0
More information

WorkSafe resources

We have a lot of information available on asbestos. Here are some of our resources.

Working with asbestos

The following sections in our *Management and Removal of Asbestos* guidance:

- Safe Work Practice Five: Removing gaskets and rope seals
- Safe Work Practice Six: Removing pipe lagging using a glove bag (small section)
- Safe Work Practice Seven: Fire-retardant material

We have other information too. For example:

Introduction to the Health and Safety at Work Act – Special Guide

Health and Safety at Work – Quick Reference Guide

Legislation

Health and Safety at Work Act 2015 (HSWA)

Health and Safety at Work (Asbestos) Regulations 2016

Notes

Disclaimer

This publication provides general guidance. It is not possible for WorkSafe to address every situation that could occur in every workplace. This means that you will need to think about this guidance and how to apply it to your particular circumstances.

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