

Work Instruction

Asbestos Related Work

1. Purpose

This Work Instruction provides the minimum safe standard for workers undertaking *Asbestos Related Work* to safely maintain building surfaces and fabric undertaken on behalf of West Moreton Health (WMH), Infrastructure and Assets that is suspected of or identified as containing *Asbestos Containing Material (ACM)*.

2. Scope

This document relates to all permanent, temporary or casual Infrastructure and Assets staff including contractors, involved in working with asbestos containing materials at WMH facilities. This task is trade specific and should only be undertaken by maintenance workers who have received training and instruction and have been inducted into the task.

This document describes the safe method for undertaking the following *Asbestos Related Work* to:

- drill
- replace cabling in asbestos cement conduits and boxes
- seal, paint, coat and clean
- work on electrical mounting boards (switchboards)
- maintenance or surface preparation of walls, roofing, ceilings or flooring
- installation of plumbing components
- replace cabling in asbestos cement conduits or boxes
- tiling and floor covering tasks
- removing asbestos cement sheets less than 10 m² in total area
- inspection of asbestos friction materials

All work involving asbestos must be performed in accordance with *Chapter 8* of the Work Health and Safety Regulation 2011 and the “*How to manage and control asbestos in the workplace*” code of practice 2011, and, where applicable, the “*How to safely remove asbestos*” code of practice 2011.

This work Instruction should be read in conjunction with the WMH procedure for Asbestos Incident Response, Work Area Access Permit process (WAAP), the WMH Asbestos Management Plan and the Queensland Health Guidance Note: Asbestos Health Risks.

Note: A “Quick Reference Guide” for WMH workers performing Asbestos Related Work on Asbestos Containing Material (ACM) is included in Appendix E.

Asbestos Related work

Asbestos-related work means work involving the maintenance of, or service work on, non-friable asbestos or ACM, fixed or installed before 31 December 2003.

Minor and routine work can be undertaken provided it can be done safely by conducting a risk assessment and following established safe work procedures that both reduce the likelihood of asbestos fibres becoming airborne and reduce the risk of any fibres being inhaled.

Asbestos-related work that is also high-risk construction work (i.e. construction work that involves the disturbance of asbestos) requires a documented safe work method statement.

Managers/supervisors should ensure that where *asbestos related work* is undertaken on ACM that;

- all ACM is identified prior to work occurring
- the risks associated with ACM are assessed
- control measures are introduced including; Safe Work Method Statements (SWMS), Risk Assessments and Work Instructions to prevent, as far as practicable, the generation of airborne asbestos fibres and to minimise exposure of workers to airborne asbestos fibres to below the Workplace Exposure Standard for Asbestos
- if there is uncertainty as to whether work is asbestos-related work, assume asbestos is present or arrange for an analysis of a sample to be undertaken to determine if asbestos or ACM is present
- information is provided to workers about the health risks and health effects associated with exposure to asbestos and the need for, and details of, health monitoring of a worker carrying out asbestos-related work.
- the asbestos-related work area is separated from other work areas at the workplace, signs are used to indicate where the asbestos-related work is being carried out and barricades are used to delineate the asbestos-related work area
- a competent person carries out air monitoring of the work area if there is uncertainty as to whether the exposure standard is likely to be exceeded
- appropriate decontamination facilities (including containers and labels labelled in accordance with the GHS) are available when asbestos-related work is being carried out
- asbestos waste is contained and labelled in accordance with the GHS before it is removed, and is disposed of as soon as practicable
- where personal protective equipment (PPE) is used and contaminated with asbestos, such PPE is sealed, decontaminated, labelled and disposed of in accordance with the WHS Regulations. If this is not reasonably practicable, the PPE is to be laundered in accordance with the Regulations. (PPE that is not clothing and cannot be disposed of must be decontaminated and kept in a sealed container until it is reused for the purposes of asbestos-related work).

Managing the risk of exposure from ACM

Risk Factors

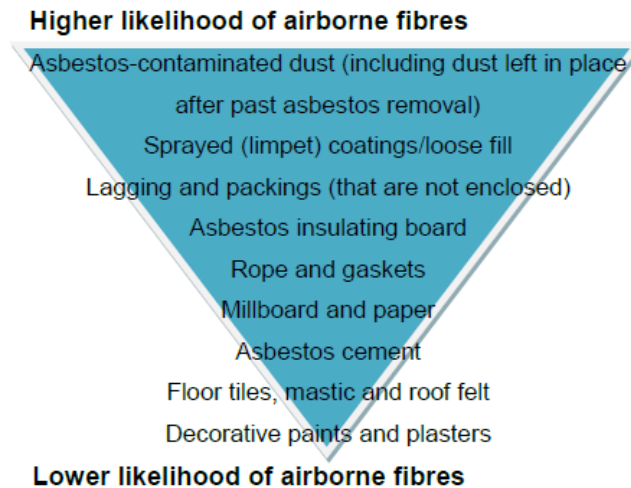
If ACM is in good condition and left undisturbed, it is unlikely that airborne asbestos fibres will be released into the air and into the breathing zone of the workers. In this circumstance the risk to health and safety is extremely low.

However, if the ACM has deteriorated, has been disturbed, or if asbestos-contaminated dust is present, there is a likelihood that airborne asbestos may be released into the air and the risk of coming into contact within the breathing zone of the worker is increased. The type of material that binds asbestos fibres will influence the potential for airborne asbestos to be released into the air from different forms of ACM. For

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example, a loosely bound sprayed (or limpet) coating is more likely to release fibres when disturbed than asbestos cement in which fibres are firmly bound. *Appendix C* outlines the requirements around health monitoring where there is, or suspected to be, significant exposure of workers to airborne asbestos.

The following table ranks different types of asbestos according to the likelihood that airborne asbestos can be released into the air if it has deteriorated or been disturbed.



Workplace Exposure Standard

Workers and others should not be exposed to respirable fibre at a level above 0.1 fibres/ml (TWA) (see Appendix A).

Prohibitions when managing or removing ACM

- Second-hand or used bonded ACM shall not be used, re-used, reattached or supplied by any person at the workplace.
- Power tools, brooms or other implements that cause the release of airborne asbestos are not to be used in any Asbestos Related Work on ACM except where a WMH Risk Assessment, Safe Work Method Statement or Work Instruction is approved and supervised (e.g. low-speed, battery-powered tools that are able to be used in conjunction with wet methods for dust control or manually operated non-powered hand tools).
- High-pressure water processes that are not designed to enclose, capture or suppress airborne asbestos fibres are not to be used in any asbestos related work or asbestos removal work to clean or otherwise work on any ACM.
- Compressed air or an air blower is not to be used to clean or otherwise work on any ACM.

Information Resources

- Appendix A provides information on the types of Asbestos Containing Material (ACM) and health risks.
- Appendix B provides information on the process for sampling ACM.
- Appendix C provides information about health monitoring.
- Appendix D provides information and examples of safe work practices that should be adopted when performing Asbestos Related Work.

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3. Instruction

3.1 Asbestos Register

Consult the asbestos register for the related building/ infrastructure before undertaking any work in areas where ACM is conformed or suspected to be within the building fabric.

The current Asbestos registers are saved under: <S:\Maintenance\Shared\Asbestos Registers\ 2020 REGISTER and working files>. A hard copy should be available at each site.

A Work Order issued under S4 HANNA will advise if there is asbestos in the location/facility/ infrastructure as shown in the example below:

 <p>Queensland Government Ipswich Hospital BEMS Department PO Box 4305 IPSWICH QLD 4305 07 3810 1263</p>	<p>Work Order 45115412 Preventive Maintenance Order Type YBA2 Activity Type YPM User WILLISKY Name Kylie Willis Telephone 07 3271 8757</p>
<p>Job Address: ESK HOSPITAL AND HEALTH SERVICE 30 HIGHLAND STREET ESK QLD 4312</p>	
<p>Contractors: Please ensure that the Work Order, Purchase Order number appears on all correspondence</p>	
<p>Description WMM WSZ13 1W WATER FLUSH NURSES QTRS EH Start date Oct 22, 2020 End date Oct 22, 2020 Priority 1-Very high Status REL PRT NMAT PRC SETC</p>	
<p>Funct. location H-3401-0301-EQB EH - ESK NURSE QRTS BLDG 30 HIGHLAND ST Equipment - Assembly - Location - Room S3 PM planner grp 343 The Park WM PM plant 3401 Main work centre BEMS 3403 Building Engineering Maintenance Service Maintenance plan 15746 Maint. plan item 3278 Revision number</p>	
<p>Permit ASBESTOS WARNING ACM present-issue WAAP Work Approval</p>	
<p>Operation 0010 WMM WSZ13 1W WATER FLUSH NURSES QUARTERS</p>	

3.2 Risk Assessment

A risk assessment must be undertaken before any maintenance or service work with ACM commences.

When deciding if there is a risk to health from exposure to asbestos fibres, consider whether the ACM is:

- in poor condition
- likely to be further damaged or to deteriorate
- likely to be disturbed due to work practices carried out in the workplace (for example, routine and maintenance activities and their frequency)
- in an area where workers are exposed to the material.

A visual inspection of the material, its location and an understanding of the work practices at the workplace will assist this decision. Asbestos-related work activities (including maintenance) plus unusual and infrequent activities (such as emergency activities) need to be considered. Also consider the location of the ACM to workers as this can affect the potential for exposure if asbestos fibres were likely to become airborne.

The following are examples of activities that could pose a risk to health:

- Forklifts/mobile plant driving adjacent to asbestos cement (AC) sheet walls may damage these sheets from accidental impacts during the course of work.
- Work performed in a cable pit drawing cable through conduits that are ACM where the work may disturb the interior surface and matrix of the conduit.
- Electricians wiring in a ceiling space may need to cut holes or disturb ACM to run cable.
- Carpenters repairing/replacing damaged wall sheeting or attaching fixtures/fitting to walls.
- Plumbers working on water mains, drainage systems, roofing fixtures.

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A work area access permit (WAAP) must be issued and approved by the Contractor Co-Ordinator or WMH authorised person. The WAAP is only valid for the work and persons that are designated on the permit. The conditions of the WAAP must always be adhered to.

The WAAP is required in any work situation where the work has the potential to disturb ACM. Typical situations include:

- construction and maintenance activities
- incident response (e.g. clean-up after a fire, natural disaster or vandalism)
- maintenance-related cleaning activities (e.g. external wash down of ACM walls)
- asbestos removal work
- demolition work
- asbestos sampling (e.g. taking small samples of dust or wall sheeting for testing)
- entering concealed cavities (e.g. ceiling space).

3.4 During the work

The WAAP must always be available on site. All work on site shall comply with the conditions of the WAAP, Safe Work Method Statements and Risk Assessment.

3.5 After the work is completed

The Part A on the second page of the WAAP is to be completed and signed.

If a third-party clearance is required attach this signed sheet to the WAAP. If Clearance by a Competent Person is agreed Part B of the WAAP should be completed.

When the work area is ready to be handed back to normal operation, the Part C of the WAAP should be signed and returned to the Contracts Co-ordinator.

All completed Risk Assessments, Safe Work Method Statements, hardcopy WAAP permits, air monitoring certificates, clearance certificates, transport and disposal documentation shall be stored with the site hard copy Asbestos Management Plan.

Copies of all documentation should also be supplied to the Infrastructure and Assets - trained officer for entry into the CMMS.

3.6 Undertaking Asbestos Related Work

Appendix D outlines the recommended safe working practices to demonstrate how control measures can be used when asbestos is present at the workplace:

- Safe work practice 1 – Drilling for asbestos-containing material
- Safe work practice 2 – Sealing, painting, coating and cleaning of asbestos-cement products
- Safe work practice 3 – Cleaning leaf litter from gutters of asbestos cement roofs
- Safe work practice 4 – Replace cabling in asbestos cement conduits or boxes
- Safe work practice 5 – Working on electrical mounting boards (switchboards) containing asbestos
- Safe work practice 6 – Inspection of asbestos friction materials

3.7 Preparing the Asbestos Related Work Location

- If the work is to be carried out at a height, appropriate precautions must be taken to prevent the risk of falls.
- If the work is to be carried out in a confined space, appropriate precautions must be taken to prevent the risk of asphyxiation.
- If the work is to be carried out involves electrical hazards, appropriate precautions must be taken to prevent the risk of electrocution.

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- Before starting any work, an assessment of the asbestos containing material should be undertaken to identify any damage.
- Ensure appropriately marked asbestos waste disposal bags are available.
- Carry out the work with as few people present as possible.
- Segregate the asbestos work area to ensure unauthorised personnel are restricted from entry (e.g. close door and/or use warning signs and/or barrier tape at all entry points). The distance for segregation should be determined by a Risk Assessment. If working at heights, segregate the area below as well. If access is available from the rear of the asbestos cement sheeting, segregate this area as well, as the above.
- Use plastic sheeting, secured with duct tape, to cover any surface within the asbestos work area that could be contaminated. This will help to contain any runoff from wet sanding methods. If working on conduits, place plastic sheeting below the conduits through which cable(s) are to be pulled, prior to pulling any cables.
- Ensure there is adequate lighting.
- Avoid working in windy environments where asbestos fibres can be redistributed.
- If using a bucket of water, do not resoak used rags in the bucket, as this will contaminate the water. Instead, either fold the rag so a clean surface is exposed or use another rag.
- Never use high-pressure water cleaning methods.
- Never prepare surfaces using dry sanding methods. Where sanding is required consideration should be given to removing the ACM and replacing it with a non-asbestos product.
- Wet sanding methods may be used to prepare the ACM, provided precautions are taken to ensure all the runoff is captured and filtered where possible.
- Wipe dusty surfaces with a damp cloth.

3.8 Decontaminating the Asbestos Work Area and Equipment

- Use damp rags to clean the equipment.
- Wet wipe around the end of the conduit, sections of exposed cables and the pulling eye at the completion of the cable pulling operation.
- If the rope or cable pass through any rollers, these must also be wet wiped after use.
- We wipe the external surface of excess cable pulling through the conduit/duct, as close as possible to the exit point from the conduit, before it is removed from the work site.
- Carefully roll or fold any plastic sheeting used to cover any surfaces within the asbestos work area, so as not to spill any dust or debris that has been collected.
- Where required, use damp rags and/or an asbestos vacuum cleaner to clean the asbestos work area to clean any remaining visibly contaminated sections of the work area. Noting: In areas where there is an electrical hazard, an asbestos vacuum cleaner should be used to remove any dust or debris from the mounting panel and other visibly contaminated sections of the work area. In areas where there is no electrical hazard, wiping with a damp rag can be used to remove minor amounts of dust or debris.
- Place all debris, used rags, plastic sheeting and other waste in the asbestos waste bags/container.
- Wet wipe the external surfaces of the asbestos waste bags/container to remove any adhering dust before they are removed from the work area.

3.9 Personal Decontamination

- Personal decontamination must be undertaken each time workers leave the asbestos work area and at the completion of the asbestos maintenance or service work. Personal decontamination should be done within the asbestos work area where re-contamination cannot occur.
- Asbestos-contaminated PPE should not be transported outside the asbestos work area except for disposal purposes.
- Before work clothes and footwear worn during asbestos work are removed from the asbestos work area for any reason, they should be thoroughly vacuumed with an asbestos vacuum cleaner to remove any asbestos fibres, and the footwear should also be wet wiped.

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- Respiratory protective equipment should be used until all contaminated disposable coveralls and clothing has been vacuum cleaned and/or removed and bagged for disposal, and personal washing has been completed.
- Any PPE used while carrying out asbestos work must not be taken home.
- Personal hygiene and careful washing are essential. Particular attention should be paid to the hands, fingernails, face and head.
- A competent person may decide, based on a risk assessment, that the following personal decontamination procedure can safely be used:
 - first, all visible asbestos dust/residue is removed from protective clothing, using an asbestos vacuum cleaner and/or wet wiping
 - second, the disposable coveralls are taken off (while still using a respirator), placed in an asbestos waste bag and disposed of as asbestos waste
 - third, clothing and footwear worn during the asbestos work should be vacuumed using an asbestos vacuum cleaner, and footwear should also be wet wiped
 - disposable respirators should then be discarded as asbestos waste. Non-disposable respirators should be removed and thoroughly cleaned
 - before removing the respirator, workers should wash their head, face, hands and forearms, paying particular attention to their fingernails.

3.10 Disposal of Waste

- Dispose of all waste as asbestos waste. Asbestos waste, including contaminated PPE and cleaning materials (e.g. cleaning rags and plastic sheeting used to cover surfaces in the asbestos work area), should always be removed and disposed of by a competent person.
- It may be collected and disposed of in asbestos waste bags and/or in a solid, sealable asbestos waste container, such as a bin or drum, if storage is required.
- Controlled wetting of asbestos waste should be used to reduce the possibility of dust emissions during the bagging or containment of the waste.

3.11 Clearance Process

- The need for clearance monitoring should be assessed as part of planning and undertaking any maintenance work involving ACM.
- Clearance to re-occupy an asbestos work area is determined by a thorough clearance inspection.
- The clearance inspection must be conducted by a competent person.
- All barriers and warning signs should remain in place until the clearance to re-occupy has been granted.
- Clearance air sampling is not normally required for Asbestos Related Work unless the risk assessment states otherwise.

4. Roles and Responsibilities

Role	Responsibility
Refer to role specific responsibilities as detailed in Asbestos Related Work above	

5. Definition/s

Term	Definition
Asbestos	The asbestiform varieties of mineral silicates belonging to the serpentine or amphibole groups of rock-forming minerals, including actinolite asbestos, grunerite (or amosite) asbestos (brown), anthophyllite asbestos, chrysotile asbestos (white), crocidolite asbestos (blue) and tremolite asbestos.

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Asbestos Containing Material (ACM)	Work <i>involving</i> asbestos (other than asbestos removal work) that is permitted under the exceptions set out in section 419(3), (4) and (5) of WHS Regulation 2011. (work <i>involves</i> asbestos if the work involves manufacturing, supplying, transporting, storing, removing, using, installing, handling, treating, disposing of or disturbing asbestos or ACM). It includes the maintenance of, or service work on, non-friable asbestos or ACM, fixed or installed before 31 December 2003.
Asbestos containing material (ACM)	Any material or thing that, as part of its design, contains asbestos and the term ACM includes; fibro, AC pipes 'Super 6' roofing, Energex and signal pits and other forms which are intact.)
Asbestos Register	Work involving ACM may be identified for the built environment through a register for the buildings or infrastructure.
Competent Person	A person who has acquired, through training, qualification or experience, the knowledge and skills to carry out the task.
Exposure standard	for asbestos is a respirable fibre level of 0.1 fibres/ml of air measured in a person's breathing zone and expressed as a time weighted average fibre concentration calculated over an eight-hour working day and measured over a minimum period of four hours in accordance with: <ul style="list-style-type: none"> • the Membrane Filter Method a method determined by the relevant regulator.
Friable asbestos	A material that is in a powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry, and contains asbestos.
Non-friable asbestos (i.e. bonded asbestos)	Material containing asbestos that is not friable, including material containing asbestos fibres reinforced with a bonding compound.
GHS	Globally Harmonised System of Classification and Labelling of Chemicals.
Respirable asbestos	An asbestos fibre that is less than 3 microns (μm) wide and more than 5 microns (μm) long and has a length to width ratio of more than 3:1.

6. Monitoring and Evaluation

Level of risk	Medium
What will be monitored	Asbestos containing materials
How (method)	1. Visual inspections annually. 2. External audit undertaken every three years.
Frequency	1. Annually 2. Three yearly
Responsible officer	Engineer – Infrastructure and Assets
Reporting to	Director Service Support

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7. Related West Moreton Documents

Policy and Procedure Documents <i>Located on the WMH Policies and Procedures A-Z Listing page</i>	<ul style="list-style-type: none"> WMHHS2015112 Infrastructure and Assets – Asbestos Containing Materials – Work Area Access Permit Process WMHHS2015111 Asbestos Incident Response
Clinical Guidelines/Pathways	<ul style="list-style-type: none"> Nil
Other	<ul style="list-style-type: none"> Nil

8. Compliance Requirements and Obligations

Legislation and other compliance requirements	<ul style="list-style-type: none"> Work Health and Safety Act 2011 (Qld) Work Health and Safety Regulation 2011 (Qld) How to manage-whs-risks-cop-2011.pdf How-to-safely-remove-asbestos-cop-2011.pdf How-to-manage-control-asbestos-in-workplace-cop-2011.pdf Queensland Government Asbestos Management Policy for its Assets: 2014 Queensland Government Asbestos Management Policy for its Assets, Implementation Standard: Minimum Requirements for Asbestos Management 2015 Queensland Health Asbestos Management and Control Policy (Policy QH-POL- 048:2012)
National Safety and Quality Health Service (NSQHS) Standards	 1. Clinical Governance
Other Standards	<ul style="list-style-type: none"> Qld Health Guidance Note - Asbestos Health Risks

9. References and Resources

Nil

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10. Development, Revision and Approval History

ID & Version No.	Approval Date	Effective Date	Review Date	Document Custodian / Author	Approving Authority
WMHHS2017052v1	20/11/2017		20/11/2020	Manager Infrastructure and Assets	Director Service Support
WMHHS2017052v2	26/01/2021		26/01/2024	Chief Engineer Infrastructure and Assets	Director Service Support
Summary of changes					
<input type="checkbox"/> New (include information/background as to why the document was developed e.g. new treatment for an identified risk) <input checked="" type="checkbox"/> Scheduled review, substantial changes including: appendices outlining health hazards, sampling process, health monitoring advice, sample safe work practices and a quick reference guide <input type="checkbox"/> Scheduled review, minor changes including: <input type="checkbox"/> Scheduled review, nil changes <input type="checkbox"/> Reviewed due to: (e.g. legislative change, recommendations from coronial inquiry/RCA, change in service delivery model, new equipment), changes include:					

11. Key Words

Asbestos, asbestos containing material; drilling; infrastructure; electrical; switchboard; cabling; maintenance; sealing; painting; coating; cleaning

12. Appendices

[Appendix A Types of Asbestos Containing Material \(ACM\), Health risks and Exposure Standards](#)

[Appendix B Sampling process](#)

[Appendix C Health Monitoring](#)

[Appendix D Safe work practices](#)

[Appendix E: Quick reference guide](#)

Appendix A: Types of Asbestos Containing Material (ACM), Health risks and Exposure Standards

Types of Asbestos Containing Material (ACM), Health risks and Exposure Standards

Asbestos is the name given to a group of naturally occurring minerals found in rock formations. Three types of asbestos were mined in Australia: white, blue and brown asbestos. Most of the asbestos (90%) used throughout the world, including Australia, was white asbestos. Australia banned the use or import of blue and brown asbestos or asbestos products in the mid-1980s and banned all manufacture or import of white asbestos products in December 2003.

Asbestos fibres are strong, heat resistant and have insulating properties. Clumps of mined asbestos can be broken down into loose fibres or fibre bundles, and can be mixed with other materials, such as cement, to produce a variety of building products. Up to 90% of the asbestos produced in or imported into Australia was used for the manufacture of building products, especially asbestos cement materials.

Asbestos fibres can be found in the air from the breakdown of natural asbestos deposits and manufactured asbestos products. Once airborne, small fibres may remain suspended in the air for some time and can be carried long distances by wind before settling down. Larger fibres and particles tend to settle more quickly. Asbestos fibres do not dissolve in water or move through soil. They are generally not broken down to other compounds and remain virtually unchanged over long periods. Asbestos-containing building products are classified as either 'friable' (soft, crumbly) or 'bonded' (solid, rigid, non-friable).

Identification of Asbestos Containing Material

It is often very difficult to identify the presence of asbestos by sight within a building product. While asbestos is no longer in use it was a component of thousands of different products and building materials used in the community and industry from the 1940s until the late 1980s. As a general rule, if a house or commercial 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

The only way to be certain is to have a sample of the material analysed. A sample of anything suspected of containing asbestos should be taken to an accredited laboratory for analysis by a competent person

Friable Asbestos

Friable is used to refer to asbestos-containing materials in a powder form or that can be crumbled, pulverised or reduced to powder by hand, when dry. Friable asbestos products usually contain high levels of asbestos which is loosely held in the product and can result in asbestos fibres being easily released into the air.

Friable asbestos products are dangerous because the asbestos fibres can be released into the air very easily if the product is disturbed and may be inhaled by people living or working in the vicinity.

These materials are more likely to release measurable levels of asbestos into the airborne environment when disturbed, and generally pose a greater risk to health if it is inhaled by people living or working in the vicinity

Examples of friable asbestos-containing materials include:

- sprayed asbestos fire retardants

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- thermal lagging i.e. pipe insulation

Non-friable asbestos (i.e. bonded ACM)

Non-friable asbestos products are made from a bonding compound (such as cement) mixed with a small proportion (usually less than 15%) of asbestos. Bonded asbestos products are solid, rigid and non-friable. The asbestos fibres are tightly bound in the product and are not normally released into the air.

Common products/trade names include fibro, asbestos cement' and 'AC sheeting' hardiplank, super six roof sheeting, millboard, asbestos insulating board, and asbestolux.

When in good condition, bonded asbestos products do not normally release any asbestos fibres into the air and are considered a very low risk for people who are in contact with them, provided appropriate safety precautions are used when they are disturbed.

However, when bonded asbestos products are damaged, abraded or badly weathered (including hail damage), the supporting matrix of the bonded material may break down and release fibres that can become friable.

Examples of bonded ACM include:

- Flat or corrugated sheeting (fibro cement or 'AC' sheeting and "Super Six Roofing")
- Water pipes
- Flue pipes
- Roof shingles
- Flexible building boards
- Plaster patching compounds
- Textured paint
- Vinyl floor tiles
- Backings of linoleum floor coverings

Health Risks Associated with Asbestos

Asbestos fibres enter the body when people breathe in or swallow airborne particles. These particles can then become embedded in the tissues of the respiratory or digestive systems.

Asbestos is now recognised as a human carcinogen, a substance that can cause cancer. It can cause:

- asbestosis (lung scarring)
- mesothelioma (a cancer of the lining of the chest cavity and abdomen)
- lung cancer.

Asbestos-related diseases take time to develop. They usually emerge at least 10 years after exposure, and sometimes up to 50 years later. Currently there are no cures for these diseases.

Asbestosis

- Asbestosis causes widespread interstitial fibrosis (scar tissue between the alveoli, spread over the lung).
- It is difficult to distinguish from other causes of interstitial fibrosis.
- Only confirmation of exposure to asbestos or detection of unusually high numbers of asbestos fibres in the lung is considered conclusive evidence of this disease.
- The rate of onset of asbestosis is not related to the level of exposure.
- However, the rate at which the disease progresses is related to the level of exposure.

Mesothelioma

- Mesothelioma is a tumour of the chest lining, abdominal lining and occasionally the heart lining.
- It is a very rare disease -- incidence is 1 in every 100,000 for males and 0.3 in every 100,000 for females.
- Mesothelioma is not related to smoking.
- Asbestos is not the only cause of this disease, but it is the most important cause in modern times.

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- Crocidolite is the most important asbestos-related factor, but amosite, chrysotile and tremolite are also linked.
- This disease takes 20-50 years to appear, with the highest risk around 30-35 years after exposure.
- It is typically dose-related, but in rare cases has been known to occur in patients with little known occupational exposure to asbestos.

Lung cancer

- Lung cancer is relatively common among the general public and is the cancer most frequently associated with asbestos.
- Tumours grow and eventually obstruct airways.
- No characteristics specify a lung cancer as being caused by asbestos -- we cannot distinguish a 'cigarette' lung cancer from an 'asbestos' lung cancer or 'another' lung cancer.
- Smoking multiplies by 10 the risk of death due to lung cancer for asbestos workers.

What is the risk

Asbestos is only a health risk when extremely fine particles (known as respirable fibres) become airborne and are inhaled. Respirable fibres are:

- less than 3 microns* in diameter and
- greater than 5 microns in length.

*A micron is a unit of measure in the metric system equal to 1 millionth of a meter in length (about 39 millionths of an inch). The average cross-section of a human hair is 50 microns. The human eye cannot see anything smaller than 40 microns in size.

- 50 microns – Diameter of a human hair
- 40 microns – Lower limit of visibility of a human eye
- 25 microns – White blood cells
- 8 microns – Red blood cells
- 2 microns – Bacteria

These small fibres cannot be seen with the naked eye. They can enter the deepest parts of the lungs where they may stay, causing disease. The presence of asbestos materials in a building does not necessarily create a health risk. While the materials are undisturbed and in sound condition, they will not generate airborne respirable fibres or create a health risk.

Risk factors

The likelihood of any particular person developing an asbestos-related illness depends on a number of factors, including:

- length of time a person is exposed to airborne asbestos fibres
- concentration or levels of asbestos in the air breathed
- individual susceptibility
- size and type of asbestos fibres
- influence of other factors, especially cigarette smoke. (Research has shown that smoking significantly increases the risk of lung cancer in people who have been exposed to asbestos.)

Asbestos materials should be repaired, cleaned up or removed if they are damaged or in poor condition, or could possibly be disturbed by building works. This will reduce the likelihood of asbestos fibres becoming airborne and creating a health risk.

Workplace Exposure standard

Workers and others should not be exposed to respirable fibre at a level above 0.1 fibres/ml (TWA) (see table 1 below).

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(1)	(2)	(3)		(4)		(5)	(6)	
Chemical name	CAS No.	TWA (ppm)	TWA (mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Advisory carcinogen category	Other advisory information	Notes
							-	
Asbestos	1332-21-4							(b)
Amosite	12172-73-5	0.1 f/mL	-	-	-	Carc. 1A	-	(b)
Chrysotile	12001-29-5	0.1 f/mL	-	-	-	Carc. 1A	-	(b)
Crocidolite	12001-28-4	0.1 f/mL	-	-	-	Carc. 1A	-	(b)
Other forms of asbestos		0.1 f/mL	-	-	-	Carc. 1A	-	(b)
Any mixture of these, or where the composition is unknown		0.1 f/mL	-	-	-	Carc. 1A	-	(b)

Table 1 - Extract from "Workplace exposure standards for airborne contaminants" (reference Safe Work Australia, ISBN 978-1-74361-055-8 Online PDF)

Carcinogenicity Category 1A – Known to have carcinogenic potential for humans. The classification of a chemical into this category is based largely on human evidence from studies that have established a causal relationship between human exposure and the development of cancer.

Appendix B: Sampling Process

Sampling Process

A competent person should take the following steps to carry out sampling:

Step 1 – Preparation

- Make sure no one else is in the vicinity when sampling is done.
- Shut down any heating or cooling systems to minimize the spread of any released fibres.
- Turn off any fans if you're inside. If outside, then sample on a non windy day.
- Do not disturb the material any more than is needed to take a small sample.
- Collect the equipment you will need for sampling, including:
 - pliers, resealable plastic bags, disposable coveralls, waterproof sealant, plastic drop sheet, water spray bottle
 - P2 respirator, rubber gloves.

Step 2 – Taking the sample

- Wear disposable gloves.
- Put on respiratory protective equipment (RPE).
- Wear a pair of disposable coveralls.
- Lay down a plastic drop sheet to catch any loose material that may fall off while sampling.
- Wet the material using a fine mist of water containing a few drops of detergent before taking the sample. The water/detergent mist will reduce the release of asbestos fibres.
- Carefully cut a thumb nail piece from the entire depth of the material using the pliers.
- For fibre cement sheeting, take the sample from a corner edge or along an existing hole or crack.
- Place the small piece into the resealable plastic bag.
- Double bag the sample, include the date and location and an asbestos caution warning.
- Tightly seal the container after the sample is in it.
- Carefully dispose of the plastic sheet.
- Use a damp paper towel or rag to clean up any material on the outside of the container or around the area sampled.
- Dispose of asbestos materials according to state or territory and local procedures.
- Patch the sampled area with the smallest possible piece of duct tape to prevent fibre release.
- Send the sample to a NATA-accredited laboratory or one that is either approved or operated by the relevant regulator.

Step 3 – Cleaning up

- Seal the edges with waterproof sealant where the sample was taken.
- Carefully wrap up the plastic drop sheet with tape and then put this into another plastic rubbish bag.
- Wipe down the tools and equipment with a dampened rag.
- Place disposable gloves and coveralls into a rubbish bag, along with the damp rag and drop sheet.
- Seal plastic bag.
- Wash hands.
- Keep RPE on until clean-up is completed.
- Follow a decontamination procedure (personal washing) upon completion of the task.

Appendix C: Health Monitoring

Health Monitoring

What is health monitoring

Health monitoring is used to identify changes in a person's health status because of exposure to certain substances i.e. ACM. Health monitoring can be useful following significant exposure to a substance and where there is an available valid health monitoring technique to detect adverse health effects from that exposure

Health monitoring is not an alternative to implementation and maintenance of risk control measures.

The primary aim of health monitoring is to identify workers who have an increased risk of developing an occupational disease. Health monitoring:

- contributes to the detection of hazards and assessment of risk
- detects and manages at an early stage any adverse health effects on workers
- assists in the evaluation, effectiveness and improvement of risk control measures
- identifies situations where removal of the worker from further exposure is necessary

Asbestos-related diseases and health monitoring

Failure to adequately control exposure to airborne asbestos fibres can result in effects on the human body such as pleural plaques, and diseases such as asbestosis, asbestos-related lung cancer and mesothelioma. The dose of asbestos fibres causing each of these effects is different, and risk of disease is related to the:

- duration and frequency of exposure
- type of asbestos fibre
- airborne concentration of asbestos fibres that are inhaled.

Repeated occupational exposures to airborne asbestos fibres may lead to a substantial cumulative exposure over time, which increases the risk of developing an asbestos-related disease in the future.

Health monitoring is only useful where a valid technique exists to detect a known health effect. As asbestos-related diseases develop over a long period of time, current health monitoring techniques have limitations in providing early warning of these diseases.

Health monitoring includes a medical examination to provide an initial baseline medical assessment and consists of a:

- consideration of the worker's demographic, medical and occupational history
- consideration of records of the worker's personal exposure
- physical examination of the worker with emphasis on the respiratory system, including standardised respiratory function tests unless another form of health monitoring is recommended by a registered medical practitioner.

Health monitoring would not ordinarily include a chest X-ray unless clinically recommended. There is little evidence to suggest that currently available radiology techniques are effective in pre-emptively identifying health effects from asbestos exposure.

Workers are to be informed of any health monitoring requirements before the worker carries out work that may expose them to asbestos

Workers carrying out ongoing asbestos-related work and non-licensed asbestos removal work

it is unlikely a worker carrying out non-licensed asbestos removal work or asbestos-related work from time to time would have a significant risk from exposure to airborne asbestos fibres and require health monitoring if they are following control measures outlined in the WHS Regulation, How to Manage and

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Control Asbestos in the Workplace Code of Practice 2011 and the How to Safely Remove Asbestos Code of Practice 2011,

Manager/supervisors in consultation with Council's Occupational health unit, will need to consider if workers who will be carrying out ongoing non-licensed asbestos removal work or asbestos-related work are at risk. This means considering if the likelihood or potential for exposure to airborne asbestos fibres warrants health monitoring.

This would include considering factors such as:

- the potential for exposure or likely level of exposure during work activities
- the types of processes used during the work and if they are likely to make asbestos fibres airborne
- the control measures in place to prevent asbestos fibres becoming airborne and breathed in by the worker
- the frequency of potential exposure
- the duration of the work being carried out.

9.4 Conducting health monitoring

The Work Safe and Wellbeing unit will consider the need for any particular worker to receive health monitored following referral from Infrastructure and Assets.

If this circumstance were to occur, the Work Safe and Wellbeing unit shall ensure that the monitoring is conducted by an approved medical officer.

The relevant work area is responsible for any costs associated with health monitoring required.

Managers should ensure that workers are advised and consulted about the need for health monitoring prior to it being conducted and are advised about results of health monitoring.

Records of health monitoring:

WMH is required to maintain the worker's health monitoring report as a confidential record and not provide it to anyone without the worker's written consent. These records will be held by the Work Safe and Wellbeing unit and are not available to managers or supervisors of work units. WMH must give a copy of the health monitoring report to the worker. WMH will retain health monitoring reports as a confidential record for at least 40 years after the record is made.

Appendix D: Safe Work Practices (1-6)

Asbestos Related Work (Safe Working Practices)

This appendix outlines examples of safe work practices of service and maintenance tasks that are likely to disturb asbestos and control measures that have been implemented to eliminate or minimise exposure to airborne asbestos.

Source: How to manage and control asbestos in the workplace – Code of practice 2011 (Page39, 51-61)

It is important that safe work practices are in place when carrying out asbestos work or asbestos-related work. Wherever possible, dry asbestos should not be worked on. Techniques that prevent or minimise the generation of airborne asbestos fibres include:

- the wetting of asbestos using surfactants or wetting agents, such as detergent water
- the use of thickened substances, pastes and gels, including hair gel and shaving cream, to cover the surfaces of asbestos being worked on (these substances should be compatible with the conditions of use, including the temperature, and should not pose a risk to health)
- the use of shadow vacuuming
- performing the task in a controlled environment (for instance, a ventilated enclosure).

When selecting the best technique, the work should first be assessed for any electrical hazards that might result from the use of water or other liquids. If an electrical hazard exists, primary consideration should be given to removing the asbestos, rather than relying on dry work methods.

If asbestos-related work or maintenance or service tasks are assessed by a competent person as involving similar levels of risk, they too may be performed only after the risks for that task have been assessed and appropriate control measures implemented

The use of high-speed abrasive power and pneumatic tools, including angle grinders, sanders and saws, and high-speed drills, is prohibited under the Regulations, except where used with dust suppression/extraction controls. These controls include local exhaust ventilation (LEV) dust control hoods that attach to the tool and isolate the area being worked on (drilled, sanded etc.) from the environment, ensuring that the dust is captured

As a first priority, planning for the maintenance of asbestos at the workplace should include consideration of the removal of the asbestos as the preferred control option where practicable. Removal of asbestos products must be done in accordance with the *Code of practice: How to safely remove asbestos*. However where it is not practicable to remove ACM a risk minimisation process should be adopted.

Below are some recommended safe working methods that demonstrate how control measures can be used when asbestos is present at the workplace:

- Safe work practice 1 – Drilling for asbestos-containing material
- Safe work practice 2 – Sealing, painting, coating and cleaning of asbestos-cement products
- Safe work practice 3 – Cleaning leaf litter from gutters of asbestos cement roofs
- Safe work practice 4 – Replace cabling in asbestos cement conduits or boxes
- Safe work practice 5 – Working on electrical mounting boards (switchboards) containing asbestos
- Safe work practice 6 – Inspection of asbestos friction materials



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Safe Work Practice 1 – Drilling of ACM

The drilling of asbestos cement sheeting can release asbestos fibres into the atmosphere, so precautions must be taken to protect the drill operator and other persons from exposure to these fibres. A hand drill is preferred to a battery-powered drill, because the quantity of fibres is drastically reduced if a hand drill is used

Equipment that may be required prior to starting work (in addition to what is needed for the task)	<ul style="list-style-type: none"> • A non-powered hand drill or a low-speed battery-powered drill or drilling equipment. Battery-powered drills should be fitted with a local exhaust ventilation (LEV) dust control hood wherever possible. If an LEV dust control hood cannot be attached and other dust control methods such as pastes and gels are unsuitable then shadow vacuuming techniques should be used • Disposable cleaning rags • A large bottle/container of water for pouring onto rags, and a misting spray bottle • Duct tape • Sealant (PVA glue) • Spare PPE • A thickened substance such as wallpaper paste, shaving cream • 200 µm plastic sheeting • A suitable asbestos waste container (e.g. 200 µm plastic bags or double wrap material with 200 µm plastic sheeting) • Warning signs and/or barrier tape • An asbestos vacuum cleaner (optional) • A sturdy paper, foam or thin metal cup, or similar (for work on overhead surfaces only).
PPE	<ul style="list-style-type: none"> • Protective clothing and RPE (see AS1715, AS 1716). It is likely that a class P1 or P2 half face respirator will be adequate for this task, provided the recommended safe work procedure is followed.
Preparing the asbestos work area	<ul style="list-style-type: none"> • If the work is to be carried out at a height, appropriate precautions must be taken to prevent falls. • Ensure sufficient appropriately marked asbestos waste disposal bags are available. Carry out the work with as few people present as possible. • Isolate the asbestos work area to ensure unauthorised personnel are restricted from entry (e.g. close door and/or use warning signs and/or barrier tape at all entry points). The distance for isolation should be determined by a risk assessment. • If drilling a roof from outside, isolate the area below. • If access is available to the rear of the asbestos cement, isolate this area as well as above. • If required, use plastic sheeting, secured with duct tape, to cover any surface within the asbestos work area that could become contaminated. • Ensure there is adequate lighting. • Avoid working in windy environments where asbestos fibres can be redistributed. • Use the bottle of water to periodically wet the rags as required. Do not resoak used rags in a bucket as this will contaminate the water. For continued use, either fold the rag so a clean surface is exposed to contain any contaminants or use another rag.
Drilling vertical surfaces	<ul style="list-style-type: none"> • Tape both the point to be drilled and the exit point, if accessible, with a strong adhesive tape such as duct tape to prevent the edges crumbling. • Cover the drill entry and exit points (if accessible) on the asbestos with a generous amount of thickened substance. (shaving cream) • Drill through the paste.

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	<ul style="list-style-type: none"> • Use damp rags to clean off the paste and debris from the wall and drill bit. • Dispose of the rags as asbestos waste as they will contain asbestos dust and fibres. • Seal the cut edges with sealant. • If a cable is to be passed through, insert a sleeve to protect the inner edge of the hole.
<p>Drilling overhead horizontal surfaces</p>	<ul style="list-style-type: none"> • Mark the point to be drilled. • Drill a hole through the bottom of the cup. • Fill or line the inside of the cup with shaving cream, gel or a similar thickened substance. • Put the drill bit through the hole in the cup so that the cup encloses the drill bit, and make sure the drill bit extends beyond the lip of the cup. • Align the drill bit with the marked point. • Ensure the cup is firmly held against the surface to be drilled. • Drill through the surface. • Remove the drill bit from the cup, ensuring that the cup remains firmly against the surface. • Remove the cup from the surface. • Use damp rags to clean off the paste and debris from the drill bit. • Dispose of the cup and rags as asbestos waste, as they will contain asbestos dust and fibres. • Seal the cut edges with sealant. • If a cable is to be passed through, insert a sleeve to protect the inner edge of the hole. <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div data-bbox="384 1133 772 1406" style="text-align: center;">  <p>Disposable cup with hole through bottom</p> </div> <div data-bbox="794 1133 1182 1406" style="text-align: center;">  <p>Residue dust captured in shaving cream inside cup</p> </div> </div>
<p>Decontaminating the asbestos work area and equipment</p>	<ul style="list-style-type: none"> • Use damp rags to clean the equipment. • Carefully roll or fold any plastic sheeting used to cover any surface within the asbestos work area, so as not to spill any dust or debris that has been collected. • If necessary, use damp rags and/or an asbestos vacuum cleaner to clean any remaining visibly contaminated sections of the asbestos work area. • Place debris, used rags, plastic sheeting and other waste in the asbestos waste bags/container. • Wet wipe the external surfaces of the asbestos waste bags/container to remove any adhering dust before they are removed from the asbestos work area.
<p>Personal decontamination should be carried out in a designated area</p>	<ul style="list-style-type: none"> • If disposable coveralls are worn, clean the coveralls while still wearing P2 mask using a damp rag or water spray. P2 mask can be cleaned with a wet cloth. • While still wearing the P2 mask, remove coveralls, turning them inside-out to entrap any remaining contamination and then place them into a labelled asbestos waste bag.

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	<ul style="list-style-type: none"> Remove the P2 mask. If non-disposable, clean it with a wet rag and store in a clean container. If disposable, cleaning is not required but the P2 mask should be placed in a labelled asbestos waste bag or container. Refer to the Code of Practice: How to Safely Remove Asbestos for more information.
Clearance procedure	<ul style="list-style-type: none"> Visually inspect the asbestos work area to make sure it has been properly cleaned. Clearance air monitoring is not normally required for this task. Dispose of all waste as asbestos waste. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>

Safe Work Practice 2 – Sealing, painting, coating and cleaning of asbestos-cement products

These tasks should only to be carried out on asbestos that are in good condition. For this reason, the ACM should be thoroughly inspected before starting the work. There is a risk to health if the surface of asbestos cement sheeting is disturbed (e.g. from hailstorms and cyclones) or if it has deteriorated as a result of aggressive environmental factors such as pollution. If it is so weathered that its surface is cracked or broken, the asbestos cement matrix may be eroded, increasing the likelihood that asbestos fibres will be released. If treatment is considered essential, a method that does not disturb the matrix should be used. **NB: Under no circumstances should asbestos cement products be water blasted or dry sanded in preparation for painting, coating or sealing.**

Equipment that may be required prior to starting the work (in addition to what is required for the task)	<p>Disposable cleaning rags</p> <ul style="list-style-type: none"> A bucket of water, or more as appropriate, and/or a misting spray bottle Sealant Spare PPE A suitable asbestos waste container Warning signs and/or barrier tape.
PPE	<p>Protective clothing and RPE (see AS1715, AS 1716). It is likely that a class P1 or P2 half face respirator will be adequate for this task, provided the recommended safe work procedure is followed. Where paint is to be applied, appropriate respiratory protection to control the paint vapours/mist must also be considered</p>
Preparing the asbestos work area	<p>If work is being carried out at heights, precautions must be taken to prevent falls.</p> <ul style="list-style-type: none"> Before starting, assess the asbestos cement for damage. Ensure appropriately marked asbestos waste disposal bags are available. Carry out the work with as few people present as possible. Segregate the asbestos work area to ensure unauthorised personnel are restricted from entry (e.g. close door and/or use warning signs and/or barrier tape at all entry points). The distance for segregation should be determined by a risk assessment. If working at a height, segregate the area below. If possible, use plastic sheeting secured with duct tape to cover any floor surface within the asbestos work area which could become contaminated. This will help to contain any runoff from wet sanding methods. Ensure there is adequate lighting. If using a bucket of water, do not resoak used rags in the bucket, as this will contaminate the water. Instead, either fold the rag so a clean surface is exposed or use another rag.

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	<ul style="list-style-type: none"> • Never use high-pressure water cleaning methods. • Never prepare surfaces using dry sanding methods. Where sanding is required, you should consider removing the asbestos and replacing it with a non-asbestos product. • Wet sanding methods may be used to prepare the asbestos, provided precautions are taken to ensure all the runoff is captured and disposed of appropriately. • Wipe dusty surfaces with a damp cloth.
Painting and sealing	<p>When using a spray brush, <i>never</i> use a high-pressure spray to apply the paint.</p> <ul style="list-style-type: none"> • When using a roller, use it lightly to avoid abrasion or other damage.
Decontaminate the asbestos work area and equipment	<p>Use damp rags to clean the equipment.</p> <ul style="list-style-type: none"> • If required, use damp rags and/or an asbestos vacuum cleaner to clean the asbestos work area. • Place debris, used rags, plastic sheeting and other waste in the asbestos waste bags/container. • Wet wipe the external surfaces of the asbestos waste bags/container to remove any adhering dust before they are removed from the asbestos work area.
Personal decontamination should be carried out in a designated area	<p>If disposable coveralls are worn, clean the coveralls while still wearing RPE using a HEPA vacuum, damp rag or fine-water spray. RPE can be cleaned with a wet rag or cloth.</p> <ul style="list-style-type: none"> • While still wearing RPE, remove coveralls, turning them inside-out to entrap any remaining contamination and then place them into a labelled asbestos waste bag. • Remove RPE. If non-disposable, inspect it to ensure it is free from contamination, clean it with a wet rag and store in a clean container. If disposable, cleaning is not required but RPE should be placed in a labelled asbestos waste bag or waste container. <p>Refer to the <i>Code of practice: How to safely remove asbestos</i> for more information.</p>
Clearance procedure	<p>Visually inspect the asbestos work area to make sure it has been properly cleaned.</p> <ul style="list-style-type: none"> • Clearance air monitoring is not normally required for this task. • Dispose of all waste as asbestos waste. <p>Refer to the <i>Code of practice: How to safely remove asbestos</i> for more information.</p>

Safe Work Practice 3 – Cleaning leaf litter from gutters of asbestos cement roofs

Equipment that may be required prior to starting work (in addition to what is needed for the task)	<ul style="list-style-type: none"> • A bucket of water, or more as appropriate, and detergent • A watering can or garden spray • A hand trowel or scoop • Disposable cleaning rags • A suitable asbestos waste container • Warning signs and/or barrier tape • An asbestos vacuum cleaner.
PPE	<ul style="list-style-type: none"> • Protective clothing and RPE (see AS1715, AS 1716). It is likely that a class P1 or P2 half face respirator will be adequate for this task, provided the recommended safe work procedure is followed.

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Preparing the asbestos work area	<ul style="list-style-type: none"> • Since the work is to be carried out at a height, appropriate precautions must be taken to prevent the risk of falls. • Ensure appropriately marked asbestos waste disposal containers are available. • Segregate the asbestos work area to ensure unauthorised personnel are restricted from entry (e.g. use warning signs and/or barrier tape at all entry points). The distance for segregation should be determined by a risk assessment. • Segregate the area below. • Avoid working in windy environments where asbestos fibres can be redistributed. • If using a bucket of water, do not resoak used rags in the bucket as this will contaminate the water. Instead, either fold the rag so a clean surface is exposed or use another rag.
Gutter cleaning	<ul style="list-style-type: none"> • Disconnect or re-route the downpipes to prevent any entry of contaminated water into the waste water system and ensure there is a suitable container to collect contaminated runoff. Contaminated water must be disposed of as asbestos waste. • Mix the water and detergent. • Using the watering can or garden spray, pour the water and detergent mixture into the gutter but avoid over-wetting as this will create a slurry. • Remove the debris using a scoop or trowel. Do not allow debris or slurry to enter the water system. • Wet the debris again if dry material is uncovered. • Place the removed debris straight into the asbestos waste container.
Decontaminating the asbestos work area and equipment	<ul style="list-style-type: none"> • Use damp rags to wipe down all equipment used. • Use damp rags to wipe down the guttering. • Where practicable, and if necessary, use an asbestos vacuum cleaner to vacuum the area below. • Place debris, used rags and other waste in the asbestos waste container. • Wet wipe the external surfaces of the asbestos waste container to remove any adhering dust before it is removed from the asbestos work area.
Personal decontamination should be carried out in a designated area	<ul style="list-style-type: none"> • If disposable coveralls are worn, clean the coveralls while still wearing RPE using a HEPA vacuum, damp rag or fine-water spray. RPE can be cleaned with a wet rag or cloth. • While still wearing RPE, remove coveralls, turning them inside-out to entrap any remaining contamination and then place them into a labelled asbestos waste bag. • Remove RPE. If non-disposable, inspect it to ensure it is free from contamination, clean it with a wet rag and store in a clean container. If disposable, cleaning is not required but RPE should be placed in a labelled asbestos waste bag or waste container. <p>Refer to the <i>Code of practice: How to safely remove asbestos</i> for more information.</p>

Safe Work Practice 4 – Replace cabling in asbestos cement conduits or boxes

Equipment that may be required prior to starting the work (in addition to what is required for the task)	<ul style="list-style-type: none"> • Disposable cleaning rags • A large bottle/container of water for pouring onto rags, and a misting spray bottle • 200 µm thick plastic sheeting (enough to double wrap waste) • Cable slipping compound • Appropriately marked asbestos waste disposal bags
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	<ul style="list-style-type: none"> • Spare PPE • Duct tape • Warning signs and/or barrier tape • An asbestos vacuum cleaner (optional).
PPE	<ul style="list-style-type: none"> • Protective clothing and RPE (see AS1715, AS 1716). It is likely that a class P1 or P2 dust mask will be adequate for this task, provided the recommended safe work procedure is followed.
Preparing the asbestos work area	<p>If the work will be carried out in a confined space, appropriate precautions must be taken to prevent risk of asphyxiation and for compliance with Confined Space Work Procedure.</p> <ul style="list-style-type: none"> • Ensure adequate supply of labelled asbestos waste disposal bags are available. • Carry out the work with as few people present as possible. • Isolate the asbestos work area to ensure unauthorised personnel are restricted from entry (e.g. use warning signs and/or barrier tape at all entry points). The distance for isolation should be determined by a risk assessment. • If required, use plastic sheeting secured with duct tape to cover any surface within the asbestos work area which could become contaminated. • Place plastic sheeting below any conduits before pulling any cables through. • Ensure there is adequate lighting. • Avoid working in windy environments where asbestos fibres can be redistributed. • Use the bottle of water to periodically wet the rags. Do not resoak used rags in a bucket as this will contaminate the water. For continued use, either fold the rag so a clean surface is exposed to contain any contaminants or use a clean rag.
Replacement or installation of cables	<ul style="list-style-type: none"> • Wet down the equipment and apply adequate cable slipping compound to the conduits/ducts throughout the process. • Clean all ropes, rods or snakes used to pull cables after use as above. Cleaning should be undertaken close to the point(s) where the cables exit from the conduits/ducts. • Ropes used for cable pulling should be disposed of after the work if cleaning is unsuitable. • Do not use compressed air darts to pull cables through asbestos cement conduits/ducts.
Decontaminate the asbestos work area and equipment	<p>Use damp rags to clean the equipment.</p> <ul style="list-style-type: none"> • Wet wipe around the end of the conduit, sections of exposed cable and the pulling eye at the completion of the cable pulling operation. • If the rope or cable passes through any rollers, try to wet wipe the rope/cable before it reaches the rollers or the rollers must also be wet wiped. • Wet wipe the external surface of excess cable pulled through the conduit/duct, as close as possible to the exit point from the conduit, before it is removed from the work site. • Carefully roll or fold any plastic sheeting used to cover any surface within the asbestos work area, so as not to spill any dust or debris that has been collected. • As required, use damp rags or an asbestos vacuum cleaner to clean any remaining visibly contaminated sections of the asbestos work area.

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	<ul style="list-style-type: none"> Place all debris, used rags, plastic sheeting and other waste in the asbestos waste bags or double wrap and seal in 200 µm thick plastic sheet and label as ACM waste . Wet wipe the external surfaces of the asbestos waste bags/container to remove any adhering dust before they are removed from the asbestos work area.
Personal decontamination should be carried out in a designated area	<ul style="list-style-type: none"> If disposable coveralls are worn, clean the coveralls while still wearing P2mask using a HEPA vacuum, damp rag or water spray. The P2mask can be cleaned with a wet cloth. While still wearing the P2mask, remove coveralls, turning them inside-out to entrap any remaining contamination and then place them into a labelled asbestos waste bag. Remove P2 mask. If non-disposable, inspect it to ensure it is free from contamination, clean it with a wet rag and store in a clean container. If disposable, cleaning is not required but the P2mask should be placed in a labelled asbestos waste bag or waste container. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>
Clearance procedure	<ul style="list-style-type: none"> Visually inspect the asbestos work area to make sure it has been properly cleaned. Clearance air monitoring is not normally required for this task. Dispose of all waste as asbestos waste. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>

Safe Work Practice 5 – Working on electrical mounting boards containing asbestos

If the asbestos-containing electrical mounting panel has to be removed for work behind the board, the procedures outlined in the *Code of practice: How to safely remove asbestos* must be followed. If drilling is required, the control process should be consistent with the measures in **Safe work practice 1**.

Equipment that may be required prior to starting the work (in addition to what is required for the task)	<p>A non-powered hand drill or a low-speed battery-powered drill or drilling equipment. Battery-powered drills should be fitted with a LEV dust control hood wherever possible. If a LEV dust control hood cannot be attached and other dust control methods, such as pastes and gels, are unsuitable then shadow vacuuming techniques should be used</p> <ul style="list-style-type: none"> Duct tape Warning signs and/or barrier tape Disposable cleaning rags A plastic bucket of water and/or a misting spray bottle Spare PPE A suitable asbestos waste container 200 mm plastic sheeting An asbestos vacuum cleaner.
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PPE	<ul style="list-style-type: none"> • Protective clothing and RPE (see AS1715, AS 1716. It is likely that a class P1 or P2 half face respirator will be adequate for this task, provided the recommended safe work procedure is followed
Preparing the asbestos work area	<ul style="list-style-type: none"> • As the work area will involve electrical hazards, precautions must be taken to prevent electrocution. • Ensure appropriately marked asbestos waste disposal bags are available. • Carry out the work with as few people present as possible. • Segregate the asbestos work area to ensure unauthorised personnel are restricted from entry (e.g. use warning signs and/or barrier tape at all entry points). The distance for segregation should be determined by a risk assessment. • Use plastic sheeting secured with duct tape to cover any surface within the asbestos work area which could become contaminated. • Ensure there is adequate lighting. • Avoid working in windy environments where asbestos fibres can be redistributed. • If using a bucket of water, do not resoak used rags in the bucket as this will contaminate the water. Instead, either fold the rag so a clean surface is exposed or use another rag.
Work on electrical mounting panels	<p>Providing the panel is not friable, maintenance and service work may include:</p> <ul style="list-style-type: none"> • replacing asbestos containing equipment on the electrical panel with non-asbestos equipment • operate main switches and individual circuit devices • pull/insert service and circuit fuses • bridge supplies at meter bases • use testing equipment • access the neutral link • install new components/equipment
Decontaminate the asbestos work area and equipment	<ul style="list-style-type: none"> • Use damp rags to clean the equipment. • Carefully roll or fold any plastic sheeting used to cover any surface within the asbestos work area so as not to spill any dust or debris that has been collected. • If there is an electrical hazard, use an asbestos vacuum cleaner to remove any dust from the mounting panel and other visibly contaminated sections of the asbestos work area. • If there is no electrical hazard, wet wipe with a damp rag to remove minor amounts of dust. • Place debris, used rags, plastic sheeting and other waste in the asbestos waste bags/container. • Wet wipe the external surfaces of the asbestos waste bags/container to remove any adhering dust before they are removed from the asbestos work area.

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Personal decontamination should be carried out in a designated area	<ul style="list-style-type: none"> • If disposable coveralls are worn, clean the coveralls while still wearing RPE using a HEPA vacuum, damp rag or fine-water spray. RPE can be cleaned with a wet rag or cloth. • While still wearing RPE, remove coveralls, turning them inside-out to entrap any remaining contamination and then place them into a labelled asbestos waste bag. • Remove RPE. If non-disposable, inspect it to ensure it is free from contamination, clean it with a wet rag and store in a clean container. If disposable, cleaning is not required but RPE should be placed in a labelled asbestos waste bag or waste container. <p>Refer to the <i>Code of practice: How to safely remove asbestos</i> for more information.</p>
Clearance procedure	<ul style="list-style-type: none"> • Visually inspect the asbestos work area to make sure it has been properly cleaned. • Clearance air monitoring is not normally required for this task. • Dispose of all waste as asbestos waste. <p>Refer to the <i>Code of practice: How to safely remove asbestos</i> for more information</p>

Safe Work Practice 6 – Inspection of asbestos friction materials

This guide may be used when friction ACM (e.g. brake assemblies or clutch housings) need to be inspected or housings need to be cleaned. Compressed air must not be used to clean dust from a brake assembly.

Equipment that may be required prior to starting the work (in addition to what is required for the task)	<ul style="list-style-type: none"> • A misting spray bottle • Duct tape • Warning signs and/or barrier tape • Disposable cleaning rags • A bucket of water and detergent • Spare PPE • A suitable asbestos waste container • A catch tray or similar container • An asbestos vacuum cleaner.
PPE	<ul style="list-style-type: none"> • Protective clothing and RPE (see AS1715, AS 1716). It is likely that a class P1 or P2 half face respirator will be adequate for this task, provided the recommended safe work procedure is followed.
Preparing the asbestos work area	<ul style="list-style-type: none"> • Ensure appropriately marked asbestos waste disposal bags are available. • Carry out the work with as few people present as possible. • Determine whether to segregate the asbestos work area • Ensure unauthorised personnel are restricted from entry by using barrier tape and/or warning signs. • Use a suitable collection device below where the work will be carried out to collect any debris/ runoff. • Ensure there is adequate lighting.

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	<ul style="list-style-type: none"> • Avoid working in windy environments where asbestos fibres can be redistributed. • If using a bucket of water, do not resoak used rags in the bucket as this will contaminate the water. Instead, either fold the rag so a clean surface is exposed or use another rag.
Inspection of asbestos friction materials	<ul style="list-style-type: none"> • A misting spray bottle should be used to wet down any dust. If spray equipment disturbs asbestos, use alternative wetting agents e.g. a water-miscible degreaser or a water/detergent mixture. • Use the wet method, but if this is not possible the dry method may then be used. <p>Wet method</p> <ul style="list-style-type: none"> • Use the misting spray bottle to wet down any visible dust. • Use a damp rag to wipe down the wheel or automobile part before removal. Ensure the dust is kept wet to prevent atmospheric contamination. • Use hand tools rather than power tools to reduce the generation of airborne fibres. • Partially open the housing and softly spray the inside with water using the misting spray bottle. Any spillage of dust, debris or water must be controlled (e.g. capturing any runoff in a container) and either filtered or disposed of as asbestos waste. • Open the housing and clean all asbestos parts using a damp rag, ensuring all runoff water is caught in an asbestos waste container. <p>Dry method</p> <ul style="list-style-type: none"> • Place a tray under the components to catch dust or debris spilling from the housing or components during the inspection and dispose of any material as asbestos waste. • Use an asbestos vacuum cleaner to remove asbestos from the brakes and rims or other materials before carrying out the inspection.

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Appendix E: Quick Reference Guide

This Quick Reference Guide provides general information for WMH workers performing Asbestos Related Work on Asbestos Containing Material (ACM).

What you need to know

What is asbestos	<ul style="list-style-type: none"> Asbestos is a naturally occurring mineral found in the ground. Due to its excellent durability, fire resistance and insulating properties, it was manufactured into many different materials used widely in the construction industry. Asbestos fibres are not visible to the naked eye. They are very light, remain airborne for a long time, and can be carried by wind and air currents over large distances. Asbestos can be classified as either friable or non-friable. <ul style="list-style-type: none"> Friable asbestos (soft and crumbly) Examples include lagging and loose insulation fibres. Friable asbestos products are dangerous because the asbestos fibres can get into the air very easily and may be inhaled. Non-friable asbestos (bonded material) Examples include fibre cement board, roofing, linoleum tiles and electrical panels. Bonded asbestos products do not normally release any asbestos fibres into the air and are considered a very low risk for people who are in contact with them, provided it is treated safely. Bonded asbestos products may become friable if they are damaged. 								
What is Asbestos Containing Material (ACM)	<ul style="list-style-type: none"> Asbestos Containing Material (ACM) refers to any material or thing that contains asbestos as part of its design, or any dust or debris that has settled within a workplace and is, or is assumed to be, contaminated with asbestos. 								
What is Asbestos-Related Work	<ul style="list-style-type: none"> Asbestos-related work means work involving the maintenance of, or service work on, non-friable asbestos or ACM, fixed or installed before 31 December 2003. Minor and routine work can be undertaken provided it can be done safely by conducting a risk assessment and following established safe work procedures that both reduce the likelihood of asbestos fibres becoming airborne and reduce the risk of any fibres being inhaled. Asbestos-related work that is also high-risk construction work (i.e. construction work that involves the disturbance of asbestos) requires a documented safe work method statement. 								
Legislation	<ul style="list-style-type: none"> Phasing out of ACM in construction began in the mid-1980s. The use of asbestos in new products has been banned nationally since 31 December 2003. In situ ACM (installed prior to this date) does not need to be removed but must be managed appropriately. 								
How do I identify asbestos	<ul style="list-style-type: none"> It is very difficult to identify, by sight, the presence of asbestos within a building product. As a rule: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th style="background-color: #92d050;">If a house was built...</th> <th style="background-color: #92d050;">then..</th> </tr> </thead> <tbody> <tr> <td>Before the mid-1980s</td> <td>it is highly likely that it would have some materials containing asbestos.</td> </tr> <tr> <td>Between mid-1980s and 1990</td> <td>it is likely that it would have some materials containing asbestos</td> </tr> <tr> <td>After 1990</td> <td>it is highly unlikely it would have materials containing asbestos.</td> </tr> </tbody> </table> 	If a house was built...	then..	Before the mid-1980s	it is highly likely that it would have some materials containing asbestos.	Between mid-1980s and 1990	it is likely that it would have some materials containing asbestos	After 1990	it is highly unlikely it would have materials containing asbestos.
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	<ul style="list-style-type: none"> If the ACM is aged, the reverse side will have a dimply appearance. This is typical for a 1950s product. The only way to be certain is to have a sample of the material analysed.
Is asbestos dangerous	<ul style="list-style-type: none"> Asbestos is a health risk when extremely fine particles (known as respirable fibres) become airborne and are inhaled. Most fibres are removed by your body's natural defences, however, some fibres can remain in the lungs, causing asbestos-related disease. The risk of developing an asbestos-related disease is associated with: <ul style="list-style-type: none"> the level and duration of exposure, and the fibre type. If ACM is in good condition (i.e. undamaged and undisturbed) it is unlikely to present a risk to health and safety.
What are the possible health effects	<ul style="list-style-type: none"> The possible health effects of asbestos are: <ul style="list-style-type: none"> 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').
What should I do if I think I have been exposed to asbestos	<ul style="list-style-type: none"> If you are concerned that you may have been exposed to asbestos, notify your Trade Co-ordinator or Supervisor. They will liaise with the Work, Safe and Wellbeing Unit to consider the need for health monitoring.
How do I identify the risks	<ul style="list-style-type: none"> A risk assessment must be done if you are working with asbestos. Based on the risk assessment, several controls will be implemented. When deciding if there is a risk to health from exposure to asbestos fibres, consider whether the asbestos containing material is: <ul style="list-style-type: none"> in poor condition likely to be further damaged or to deteriorate likely to be disturbed due to work practices carried out in the workplace (for example, routine and maintenance activities and their frequency) in an area where workers are exposed to the material.
How do I work safely with ACM	<ul style="list-style-type: none"> Follow all policies, procedures, SWMS and work instructions provided by your Trade Co-ordinator / Supervisor. Consult the asbestos register to identify ACM Obtain a Work Area Access Permit (WAAP) before commencing the work Wear appropriate PPE, including: <ul style="list-style-type: none"> Disposable coveralls and gloves P2 disposable respirator Safety footwear Disposable overshoes (preferably with an anti-slip sole) Undertake appropriate training and demonstrate competencies relevant to the work being undertaken. Separate asbestos-related work from other work areas Erect signs alerting others workers and public to the presence of asbestos Erects barricade to delineate the asbestos-related work area. All plant, workers and the work area must be decontaminated upon completion of the work. Items that cannot be decontaminated shall be sealed and labelled before removal from the work area.