

National Asbestos Management Plan for the Electrical and Communications Contracting Industry



national electrical and communications association



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Asbestos Management Plan

Purpose of an Asbestos Management Plan

The purpose of the Asbestos Management Plan is to help electrical contactors, their employees and persons with control of premises to comply with the asbestos prohibition and prevent exposure to airborne asbestos fibres while Asbestos Containing Materials (ACM) remain in the workplace.

While the ultimate goal is for all workplaces to be free of ACM it is generally impracticable due to the nature of the electrical contracting industry, especially the domestic sector. In saying this, consideration should be given to the removal of ACM during refurbishment and/or maintenance, where practicable, in preference to other control measures such as enclosure, encapsulation or sealing.

Steps must be taken to label all identified ACM and, where ACM are identified or presumed, the locations must be recorded in a register of ACM. Control measures must be established to prevent exposure to airborne asbestos fibres and should take into account the results of risk assessments conducted for the identified or presumed ACM.

Some State and Territory OHS authorities require a clearance certificate to be obtained to certify that ACM is not present, regardless of the age of the building, structure, plant or equipment. The relevant State or Territory OHS authority should be consulted about this requirement.

If ACM are identified or presumed, there must be full consultation, involvement and information sharing during each step of the development of the Asbestos Management Plan including identification, risk assessment and establishment of control measures.

All workers and contractors on premises where ACM are present or presumed to be present, and all other persons who may be exposed to ACM as a result of being on the premises, must be provided with full information on the occupational health and safety consequences of exposure to asbestos and appropriate control measures. The provision of this information should be recorded.

The objective of these measures is to prevent workplace exposure to airborne asbestos fibres and thereby reduce the incidence of asbestos-related diseases such as mesothelioma, asbestosis and lung cancer.

Types of Asbestos

Asbestos is the generic term for a number of fibrous silicate minerals. There are two major groups of asbestos:

The *serpentine* group contains chrysotile, commonly known as white asbestos.

The *amphibole* group contains amosite (brown asbestos), crocidolite (blue asbestos), as well as some less common types, which are tremolite, actinolite and anthophyllite.

Serpentine Group

Chrysotile asbestos has been used in the manufacture of:

- asbestos cloth, tapes, rope and gaskets for packing and in thermal and chemical insulation
- asbestos cement sheets and pipes for construction, casing for water electrical/telecommunication services, electrical metering panels
- rubber, plastics, thermosetting resins, adhesives, paints, coatings, caulking compounds and sealants for thermal, electrical and insulation applications
- fire-rated doors, equipment and structural beams of buildings
- fillers and filters.

Amphibole Group

Amosite (brown asbestos) and crocidolite (blue asbestos) were used in many products until the early 1980s and the use of all asbestos in the amphibole group was also banned in the mid 1980s in some states and territories. These products were mainly:

- asbestos cement sheets and pipes for construction, casing for water electrical/telecommunication services
- thermal and chemical insulation like fire-rated doors, limpet spray, lagging and gaskets.

Bonded Asbestos Material

Bonded asbestos material is any material that contains asbestos in a bonded form. It may consist of Portland cement or various resin/binders and cannot be crushed by hand when dry. Asbestos cement (AC) products and electrical metering boards in good condition are examples of bonded asbestos materials.

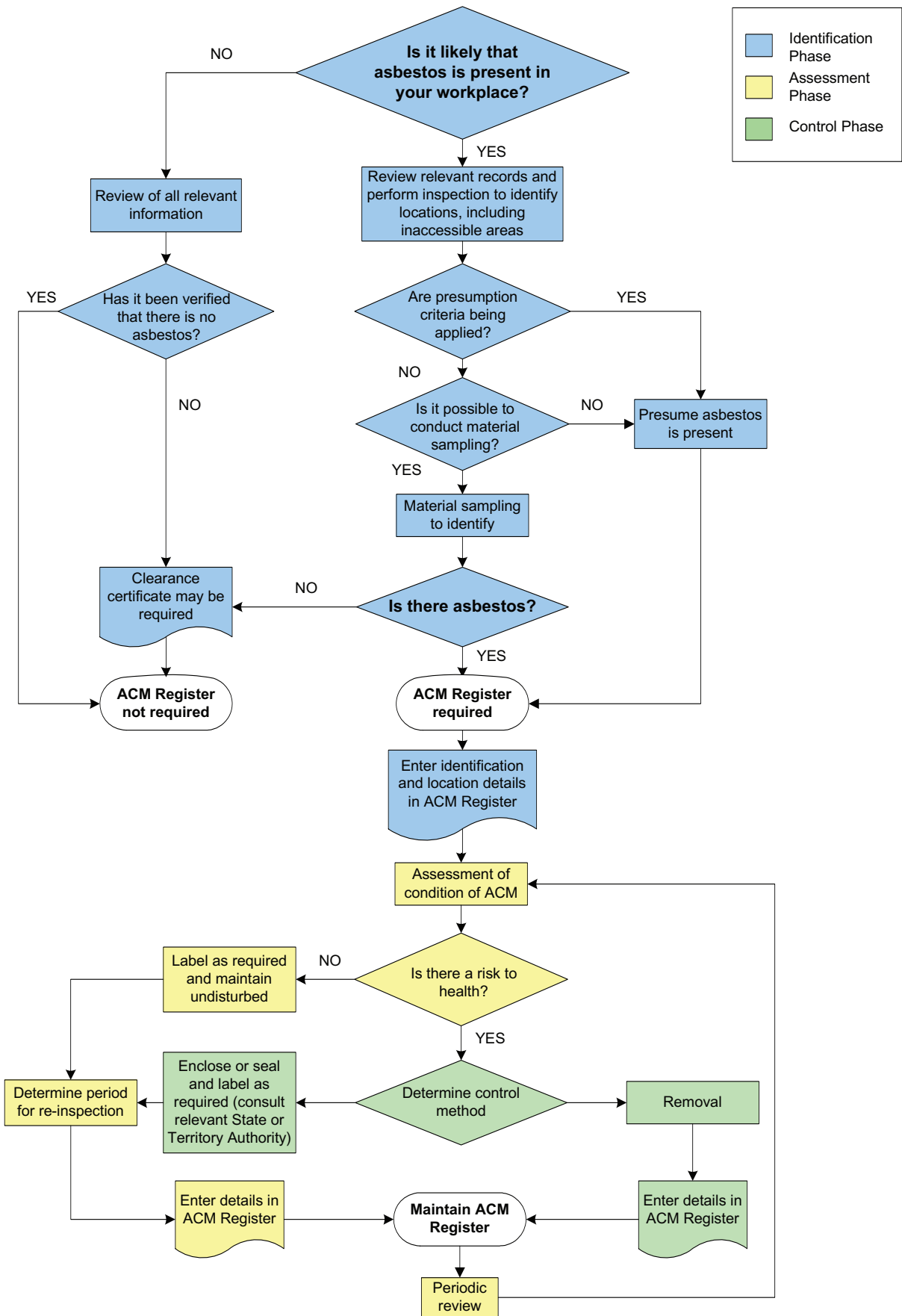
A number of products made from asbestos cement in buildings include:

- flat fibro, corrugated or compressed asbestos cement sheeting, electrical metering panels
- asbestos cement pipes such as electrical, water, drainage and flue pipes.

Friable Asbestos Material

Friable asbestos material is any material that contains asbestos and is in the form of a powder or can be crumbled, pulverised or reduced to powder by hand pressure when dry. Sprayed limpet, millboard, pipe and boiler lagging are examples of friable asbestos.

General Principles for an Asbestos Management Plan



Contents of the Asbestos Management Plan

The Asbestos Management Plan should be broad-ranging and include the following information components:

- the workplace's register of ACM
- details of any maintenance or service work on the ACM including:
 - the company who is performing, or performed, the work
 - the date/s the maintenance or service work was undertaken
 - the scope of work undertaken and
 - any clearance certificates
- mechanisms for providing all relevant people with information about the location, type and condition of the ACM, the risks they pose and the control measures adopted to eliminate or minimise these risks
- decisions about management options (ie to maintain the ACM or replace them with non-asbestos alternatives), including the reasons for these decisions
- a timetable for action, including priorities and date/s for reviewing the risk assessment/s and specific circumstances and activities that may impact on timings (ie plant shut-down periods)
- monitoring arrangements
- the responsibilities of all persons involved and the sections of the plan for which they are responsible
- training arrangements for workers and contractors
- a procedure for reviewing and updating the management plan and the register of ACM including a timetable and
- safe work procedures (SWP)/safe work method statements (SWMS).

The Asbestos Management Plan should be clear and unambiguous. It should set out the aims of the plan, what is going to be done, when it is going to be done and how it is going to be done. There should be clear lines of responsibility, with each person involved understanding their roles and responsibilities.

Relevant Australian Government, State or Territory OHS legislation should be checked for further information on individual obligations relevant to the Asbestos Management Plan.

Review of the Asbestos Management Plan

The Asbestos Management Plan should be reviewed whenever the register of ACM is reviewed. These reviews should critically reassess all asbestos management processes and their effectiveness in:

- preventing exposure to airborne asbestos fibres
- controlling maintenance workers and contractors
- highlighting the need for action to maintain or remove ACM
- raising awareness among all workers and
- maintaining the accuracy of the register of ACM.

Presuming that Materials Contain Asbestos

Rather than taking samples to determine whether a material contains asbestos, the person with control may simply presume the material contains asbestos.

In regard to the electrical contracting industry an asbestos panel identification procedure is required. Lebah, Zelemite and Ausbestos panels have been confirmed as containing chrysotile (white asbestos). Electrical panels installed prior to 1988 would be considered to contain chrysotile unless proven otherwise through analysis sampling.

Once such a presumption has been made, the material must be treated as an ACM, with work practices and disposal criteria as required for the presence of asbestos, until the material is removed or testing has confirmed that it does not, in fact, contain asbestos.

If there are inaccessible areas that are likely to contain ACM the person with control should presume that asbestos is present in these areas. For example, it may be reasonable to presume that wall cavities or ceiling spaces contain ACM such as asbestos insulation.

It may also be more cost-effective in other circumstances to apply the presumption instead of sampling and analysing suspected ACM, as would otherwise be required to rule out the presence of asbestos.

The workplace's register of ACM must state all the presumptions made about materials in the workplace.

Presumption Statement

A presumption statement is a simple, generic statement relating to all occurrences of a specific type of product or situation. For example, a generic presumption statement in the register might read, 'All wall cavities are presumed to contain asbestos' or 'All underground conduits are presumed to contain asbestos.'

Register of Asbestos Containing Materials

Persons with control of premises must keep an accurate register of ACM on the premises. The register should contain the following information:

Identification:

- the date/s on which the inspection/identification was made and details on the competent person/s who carried out the inspection/identification
- details on the locations, types (ie friable or non-friable) and condition (ie damaged or intact) of any ACM identified on the premises including ACM in items of plant and equipment and the type of asbestos involved (ie blue, brown or white)
- details on any material presumed to contain asbestos
- any inaccessible areas that are likely to contain ACM and
- the result of any analysis that has confirmed a material in the workplace is or is not an ACM.

Risk Assessment:

- the date when the risk assessment was made, and details on the competent person/s who carried out the assessment
- the findings and conclusions of the risk assessment including any reviews or revisions of the risk assessment and
- the results of any air monitoring for airborne asbestos fibres and an assessment of these results.

Control Measures

- the control measures recommended and decided upon as a result of the risk assessment.
- any maintenance or service work on an ACM, including the company or persons involved, the date and scope of the work undertaken and details on clearance certificates.

The person with control should ensure workers at the workplace are informed about the register of ACM. Before any work that may expose persons to airborne asbestos fibres is performed the register should be made readily accessible to:

- workers and their representatives
- any other employers within the premises
- any person removing ACM
- any person engaged to perform work that may disturb ACM, including presumed ACM and
- any other person who might be exposed.

Reviewing the Register of Asbestos Containing Materials

The register of ACM, including any risk assessments, will be reviewed every 12 months (where applicable) or earlier where:

- a risk assessment indicates the need for reassessment or
- any ACM has been disturbed or removed.

A visual inspection of identified ACM should be undertaken as part of any review.

Identifying Asbestos Containing Materials at Domestic Premises

All electrical contracting businesses that perform work that may involve exposure to asbestos, including work at domestic premises, should establish an Asbestos Management Plan for the work they are contracted to carry out including installation of light fittings and fixtures or the drilling of switchboards when adding additional circuits.

Although many domestic premises contain ACM, they are unlikely to have a register of ACM for reference.

Accordingly, before commencing any work in domestic premises precautions should be taken to identify the likelihood that ACM are present. Although particular caution needs to be taken when working on buildings built prior to 1990, recycled materials in later buildings may also contain asbestos.

Work at domestic premises that may involve exposure to ACM includes:

- demolition and renovation
- electrical maintenance or installation, including work on electrical meter boards
- the maintenance or installation of walls, roofing, ceilings or flooring and
- plumbing maintenance or installation.

If there are any known or suspected ACM on the premises the owner, occupier and/or resident should be informed. Before work continues, the presence of asbestos should either be confirmed or ruled out through sampling and analysis or presumed.

For confirmed or presumed ACM the work should then proceed only in accordance with the risk assessment and control measures outlined in the safe working procedures (SWP) attached to this plan. The NOHSC Code of Practice for the *Safe Removal of Asbestos* [NOHSC: 2002 (2005)] should also be referred to if removal is identified as the best control measure.

The owner, occupier and/or resident of the premises should be informed of the nature of any work to be undertaken and the reasons for the precautions.

If ACM is to remain in situ, the owner of the premises should be provided with a report outlining the location of the ACM and any work carried out on the ACM.

Warning Signs and Labels

All warning signs and labels should comply with Australian Standard 1319 *Safety Signs for the Occupational Environment*.

Labels

All identified or presumed ACM or their enclosures, if the ACM are inaccessible, should be clearly labeled. In conjunction with warning signs and the register of ACM, these labels should warn people of the presence of ACM.

A competent person should determine the number and positions of the labels required. The location of labels should be consistent with the location of the ACM as outlined by information in the register of ACM.

Labels used for this purpose must identify the material as containing asbestos.

If a risk assessment suggests an ACM might be disturbed or persons might be exposed and it is not practical to label the ACM such as lagging, a prominent warning sign, specifying the ACM, should be posted in its immediate vicinity.

Examples of Warning Signs and Labels



Note: The examples of warning signs and labels above only provide an indication of the words that may be used to alert persons to the presence of ACM and asbestos hazards. The wording is not mandatory. Other warning signs and labels may be used, provided they meet the requirements of AS1319-1994 *Safety Signs for the Occupational Environment*.

Risk Assessment

If ACM are identified in a workplace, the person with control must ensure the associated risks are assessed, in consultation with workers and/or their representatives.

Where the risk assessment relates to repetitive work practices in the one location, such as the installation of multiple circuits, the risk assessment should relate to the overall work practice, taking account of the repetitive nature of the task.

The purpose of this risk assessment is to allow informed decisions to be made about control measures, induction and training, air monitoring and health surveillance requirements.

Only competent persons (persons who have completed the Asbestos Awareness Course or equivalent) should perform risk assessments or any subsequent reviews or revisions of risk assessments.

Decisions about control measures to protect workers will depend on the assessed risks to health. The risk assessment should take account of the identification information in the register of ACM including:

- the condition of the ACM (eg whether they are friable or bonded and stable, and whether they are liable to damage or deterioration)
- the likelihood of exposure
- whether the nature or location of any work to be carried out is likely to disturb the ACM.

The results from air monitoring by a competent person may assist in assessing the risks. The need for air monitoring will depend on the particular circumstances. For further information on air monitoring procedures, refer to the NOHSC *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003 (2005)].

The results of the risk assessment should be documented in the register of ACM that will be included in the Asbestos Management Plan.

Reviewing Risk Assessments

Risk Assessments should be reviewed regularly in accordance with Australian Government, State and Territory legislative requirements.

More specifically, the person with control, in consultation with workers and/or their representatives, should review the risk assessment and any measures adopted to control the risks whenever:

- there is evidence that the risk assessment is no longer valid
- there is evidence that any control measures are not effective
- a significant change is proposed for the workplace or for work practices or procedures relevant to the risk assessment
- there is a change in the condition of the ACM or
- the ACM have been removed, enclosed or sealed.

Control Measures

Implementing the Asbestos Management Plan

Notwithstanding the ultimate goal of a workplace free of ACM, priorities should be set for effective control of the risks in the short term.

Control measures should be implemented in accordance with the hierarchy of controls with elimination of the ACM being the first choice and PPE the least preferred approach.

The NOHSC *Code of Practice for the Safe Removal of Asbestos* [NOHSC: 2002 (2005)] should be referred to whenever removal is identified as the best control measure.

The control measures required for identified and presumed ACM should be determined from the risk assessment and should follow the following principles:

- If the ACM are friable and not in a stable condition, and there is a risk to health from exposure, they should be removed by an appropriately trained asbestos removalist as soon as practicable
- If the ACM are friable but are in a stable condition and are accessible, serious consideration should be given to their removal. If removal is not immediately practicable, short-term control measures such as sealing and enclosure may be able to be used until removal is possible, although some State and Territory OHS authorities do not permit the sealing or encapsulation of ACM
- If the ACM are not friable and are in a good, stable condition, minimising disturbance and encapsulation may be appropriate controls. Again, however, some State and Territory authorities do not permit sealing or encapsulation, so the relevant authority should be consulted before these measures are considered
- Any remaining ACM should be clearly labeled, where possible, and where practicable, regularly inspected to ensure they are not deteriorating or otherwise contributing to an unacceptable health risk
- ACM need to be removed before demolition, partial demolition, renovation or refurbishment if they are likely to be disturbed by those works, in accordance with the NOHSC *Code of Practice for the Safe Removal of Asbestos* [NOHSC: 2002 (2005)].

If a material is proven or presumed to contain asbestos, it is essential to determine whether maintenance or service work can be done without disturbing the ACM.

For example, rather than drilling a hole through an AC sheeting wall to install electrical wiring, the wiring might be able to be routed over the wall. Similarly, if a ventilation flue or pipe has to be installed in an AC ceiling or roof, an alternative might be to run the flue or pipe through a non-asbestos wall.

Some State and Territories do not allow certain maintenance and service tasks to be carried out if identified or presumed ACM are present. The relevant State and Territory legislation should be checked to ensure that any proposed tasks are not prohibited.

Maintenance Work

The person with control should develop a system to control any maintenance work within a workplace that contains ACM.

Particular attention should be paid to controlling work activities that affect inaccessible areas listed in the register of ACM, such as wall cavities and ceiling spaces. The control system may take one of several forms, depending on the size and complexity of the organisation.

For example:

- smaller organisations may prefer in-house controls, with one person being nominated to control all work carried out by maintenance workers and all contractors and
- formal, written safe systems of work, incorporating permits-to-work, may be used to control both maintenance workers and contractors.

Whatever the method used, it should be effective in making all maintenance workers and contractors aware of the presence of ACM and preventing any work activity that might expose them, or others nearby, to airborne asbestos fibres.

There should be full consultation concerning any maintenance and service work that might disturb ACM. All people performing the work should receive all necessary training, and the work should be supervised (where practicable) and documented.

The asbestos work area must be isolated and access restricted to essential workers only. Barriers and warning signs may be required.

Personal protective equipment (PPE) needs to be selected to prevent the contamination of clothing and provide adequate respiratory protection. The level of respiratory protection required will depend on the risk assessment. Respirators should be selected, used and maintained according to the relevant Australian Standard.

Thorough decontamination of PPE, equipment and the asbestos work area should be carried out at the completion of the tasks.

Under the asbestos prohibition, wherever an asbestos component requires replacement the replacement product must be non-asbestos. It is illegal to reinstall or reuse any ACM.

All ACM must be disposed of correctly, in accordance with State and Territory laws. PPE used during maintenance and service work must also be disposed of in this way.

Types of Maintenance and Service Work likely to disturb Asbestos Containing Materials

While the ultimate goal is for all workplaces to be free of ACM, in some limited circumstances control measures other than removal may be necessary.

As already indicated, some State and Territories do not allow certain maintenance and service tasks to be carried out if ACM are present. The relevant State and Territory legislation should be checked to ensure that any proposed tasks are not prohibited.

The following typical maintenance and service tasks are likely to disturb ACM and may be performed only after a risk assessment has been conducted and only after control measures have been implemented to prevent exposure to airborne asbestos fibres:

- drilling asbestos cement products
- replacing cabling in asbestos cement conduits or boxes
- working on electrical mounting boards (metering, switchboards) containing asbestos.

If other maintenance or service tasks are assessed by a competent person (persons who have completed the Asbestos Awareness Course or equivalent), 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.

Preparation for Maintenance and Service Work

This is an important part of any task potentially disturbing ACM. It is essential to have all persons involved in the work appropriately trained (persons who have completed the Asbestos Awareness Course or equivalent), the correct tools, personal protective equipment, decontamination materials, barricades, warning signs etc ready at the workplace before any work commences, and to minimise the number of people in the area.

Establishing Barriers

The asbestos work area should be clearly defined to ensure that non-essential people do not enter and warn persons that asbestos work is being carried out (eg through the placement of barriers and signs or other warning devices).

All barriers and warning signs should remain in place until a clearance to re-occupy has been granted.

Potential entry points to the asbestos work area should be signposted or labeled in accordance with AS1319-1994 *Safety Signs for the Occupational Environment*.

These signs should be weatherproof, constructed of lightweight material and adequately secured. Tape can be used as a barrier to define an asbestos work area for some types of asbestos work of short duration. If a sign is not feasible, tape with the words 'asbestos hazard' along its length can be used instead to communicate the hazard.

In determining the distance between barriers and the asbestos work area the risk assessment should take account of:

- whether the ACM are friable or non-friable
- activity around the asbestos work area (other workers, visitors, the public etc)
- the work methods used
- any existing barriers (walls, doors etc)
- the amount of work to be done and
- the type of barrier used (eg boarding or tape).

Waste removal and disposal

Issues to consider are:

- waste containment
- the location for waste storage on-site
- the transport of wastes within the site and off-site
- the location of the waste disposal site
- approvals needed from the relevant local disposal authority
- any local disposal authority requirements that may apply to the amount and dimensions of asbestos waste and
- any State or Territory requirements that may apply to the amount and dimensions of asbestos waste.

Loose asbestos waste should not be allowed to accumulate within the asbestos work area.

Asbestos waste, including contaminated PPE and cleaning materials (eg 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. For further information on the use of bins, drums and skips refer to the NOHSC Code of Practice for the Safe Removal of Asbestos [NOHSC: 2002 (2005)] and relevant State and Territory legislation.

Controlled wetting of asbestos waste should be used to reduce the possibility of dust emissions during the bagging or containment of the waste.

Waste bags

Asbestos waste should be collected in heavy-duty 200 µm (minimum thickness) polythene bags that are no more than 1,200mm long and 900mm wide.

The bags should be labelled with an appropriate warning, clearly stating that they contain asbestos and that dust creation and inhalation should be avoided.

An example of a warning statement which might be used is:

CAUTION - ASBESTOS
DO NOT DAMAGE OR OPEN BAG
DO NOT INHALE DUST
CANCER AND LUNG DISEASE HAZARD

Controlled wetting of the waste should be employed to reduce asbestos dust emissions during bag sealing or any subsequent rupture of a bag.

Only unused bags should be used, and bags marked for asbestos waste should not be used for any other purpose.

Hard and sharp asbestos waste requires preliminary sealing or a protective covering before it is placed in the waste bags, to minimise the risk of damage to the bags.

In order to further minimise the risk of a bag's tearing or splitting, and also to assist in manual handling, asbestos waste bags should not be filled more than half full and excess air should be gently evacuated from the waste bag, in a manner that does not cause the release of dust.

The bags should then be twisted tightly, folded over and the neck secured in the folded position with adhesive tape or any other effective method.

The external surface of each bag should be cleaned to remove any adhering dust before the bag is removed from the asbestos work area.

All asbestos waste should be double bagged outside the work area immediately following the decontamination process.

If asbestos waste cannot be disposed of immediately (eg because of volume requirements for disposal, or if several tasks are to be completed on consecutive days), the asbestos waste bags should be stored in a solid waste drum or bin, which should be secured upon the completion of each day's work so that unauthorised access is prevented.

Disposal

All asbestos waste should be removed from the workplace by a competent person and transported and disposed of in accordance with all relevant State or Territory legislation and guidelines for the transport and disposal of asbestos waste.

In some States and Territories a licence from environmental and/or waste disposal authorities is required for the transport and disposal of asbestos waste.

Further information on the transport and disposal of asbestos waste, including licensing requirements and designated asbestos waste dumps, may be obtained from local Councils or the relevant environmental protection authority or waste disposal authority.

Examples of Asbestos Containing Materials

Air-conditioning ducts: exterior or interior acoustic and thermal insulation
Asbestos-based plastics products such as electrical insulates
Asbestos ceiling tiles
Asbestos cement conduit
Asbestos cement electrical switchboards eg (zelemite, ausbestos, lebah) and millboard
Asbestos cement external roofs and walls
Asbestos cement moulded products such as gutters, ridge capping, gas meter covers, cable troughs and covers
Asbestos cement pieces for packing spaces between floor joists and piers
Asbestos cement (underground) pits as used for traffic control wiring, telecommunications cabling etc
Asbestos cement render, plaster, mortar and coursework
Asbestos cement sheet
Asbestos cement sheet behind ceramic tiles
Asbestos cement sheet internal over exhaust canopies such as ovens, fume cupboards etc
Asbestos cement sheet internal walls and ceilings
Asbestos cement sheet underlays for vinyl
Asbestos-containing pegboard
Asbestos felts
Asbestos roof tiles
Asbestos textile gussets in air-conditioning ducting systems
Asbestos yarn
Bitumen-based water proofing such as malthoid, typically on roofs and floors but also in brickwork
Bituminous adhesives and sealants
Cable penetration insulation bags
Caulking compounds, sealant and adhesives
Cement render
Compressed asbestos cement panels for flooring, typically verandas, bathrooms and steps for demountable buildings
Electric light fittings, high wattage, insulation around fitting (and bituminised)
Fuse blankets and ceramic fuses in switchboards
Insulation blocks
Insulation in electric reheat units for air-conditioner systems
Limpet asbestos spray insulation
Penetrations through concrete slabs in high rise buildings
Plaster and plaster cornice adhesives
Sealant between floor slab and wall, usually in risers
Sealants and mastics in air-conditioning ducting joints
Stoves - old domestic type; wall insulation
Tape and rope - lagging and jointing
Woven asbestos cable sheath

Selection and use of Personal Protective Equipment (PPE)

Personal protective equipment may need to be used, in combination with other effective control measures, when working with asbestos-containing materials.

The selection and use of PPE should be based on risk assessments and determined by a competent person.

The ease of decontamination should be one of the factors considered when choosing PPE. Where possible, disposable equipment should be used. All disposable PPE should be disposed of as asbestos waste.

If work with asbestos requires the use of other chemicals that are themselves hazardous substances, a further risk assessment must be performed. The relevant Material Safety Data Sheets (MSDS) must be referred to for information on the PPE to be used and any other precautions to be taken when using the chemicals (the manufacturer can supply the MSDS).

Coveralls

Protective clothing should be made from material capable of providing adequate protection against fibre penetration.

When selecting protective clothing, factors such as the possibilities of heat stress, fire and electrical hazards should also be considered.

Disposable coveralls with fitted hoods and cuffs should be worn. Coveralls with open pockets and/or Velcro fastenings should not be used, because these features can be easily contaminated and are difficult to decontaminate. Fitted hoods should always be worn over the straps of respirators, and loose cuffs should be sealed with tape.

Asbestos fibres should be prevented from being transported outside the workplace by thoroughly vacuuming asbestos fibres from work clothes using an asbestos vacuum cleaner. Disposable coveralls should be disposed of as asbestos waste at the completion of the task.

Footwear and Gloves

Laced boots should be avoided, as they can be difficult to clean and asbestos dust can gather in the laces and eyelets. Laceless boots, such as gumboots, are preferred where practicable, and boot covers should be worn where necessary.

Safety footwear must be decontaminated before leaving the asbestos work area for any reason, or sealed in double bags for use only on the next asbestos maintenance task. Alternatively, work boots that cannot be effectively decontaminated must be disposed of as asbestos waste at the end of the job.

The use of protective gloves should be determined by a risk assessment. If significant amounts of asbestos fibres may be present, disposable gloves should be worn. Protective gloves can be unsuitable if dexterity is required. Workers must clean their hands and fingernails thoroughly after work, and any gloves used must be disposed of as asbestos waste.

Respirators

Selection of suitable respiratory protection equipment depends on the nature of the asbestos work, the probable maximum concentrations of asbestos fibres that would be encountered in this work and any personal characteristics of the wearer that may affect the facial fit of the respirator (eg facial hair and glasses).

A competent person should determine the most efficient respirator for the task.

Respirators should comply with AS/NZS 1716-2003 *Respiratory Protective Devices* and be selected, used and maintained in accordance with AS/NZS 1715-1994 *Selection, Use and Maintenance of Respiratory Protective Devices*. They should always be worn under fitted hoods. Face pieces should be cleaned and disinfected according to the manufacturer's instructions.

Some State and Territory legislation imposes minimum requirements for respiratory equipment, and relevant laws should be checked before selecting an appropriate respirator.

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. Respirators should be properly stored when not in use.

Reference Materials

All NOHSC publications are free and are available from the NOHSC Website at <http://www.nohsc.gov.au>

National Exposure Standards for hazardous substances can be found utilising the NOHSC Hazardous Substances Information System (HSIS) at <http://www.nohsc.gov.au/applications/hsis/>

The following documents provide additional information on asbestos management and control: National Occupational Health and Safety Commission (NOHSC) (2005), *Code of Practice Management and Control of Asbestos in Workplaces* [NOHSC: 2018(2005)], NOHSC, Canberra, Australia.

National Occupational Health and Safety Commission (NOHSC) (2005), *Code of Practice for the Safe Removal of Asbestos* [NOHSC: 2002(2005)], NOHSC, Canberra, Australia.

National Occupational Health and Safety Commission (NOHSC) (2005), *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], NOHSC, Canberra, Australia.

Victorian Asbestos Removal Industry Consultative Committee (VARICC), *Standard Specification for Asbestos Removal from Buildings, Structures, Ships, Plants and Workplaces*, Australia.

Australian/New Zealand Standards

The following standards are referenced in this plan:

Australian Standard 1319: 1994 *Safety Signs for the Occupational Environment*

Australia/New Zealand Standard 1715: 1994 *Selection Use and Maintenance of Respiratory Protective Devices*

Australia/New Zealand Standard 1716: 2003 *Respiratory Protective Devices*

Australian Standard 3544: 1988 *Industrial Vacuum Cleaners for Particulates Hazardous to Health*

Australian Standard 4260: 1997 *High Efficiency Particulate Air (HEPA) Filters - Classification, Construction and Performance*

Electrical Panel Identification Procedure for Asbestos Containing Material

A risk assessment should be undertaken before any work with electrical mounting panels containing asbestos commences and only competent persons should carry out the work.

Lebah, Zelemite and **Ausbestos** are trade names of panels manufactured from an asbestos/resin composite and used in electrical applications. Meter/electrical panels includes industrial, commercial and residential meter/electrical panels.

The inspection is required to make a qualitative assessment of the electrical mounting board and the lining and insulation materials inside the metering/electrical cabinet for the possible presence of asbestos containing materials.

The following factors will assist with the assessment process for the possible presence of asbestos materials:

Age

The age of the installation (mounting boards, millboard and cement sheet products in pre-1988 installations are assumed to contain asbestos)

Labeling

Any boards which are marked on the rear face with 'Zelemite, Lebah, Ausbestos etc' or with any signage indicating the presence of asbestos, are assumed to contain asbestos

Colour and odour

Any older black mounting boards with a smell of bitumen or coal tar are assumed to contain asbestos (asbestos has no odour but the composite binder smells of coal tar)

Other materials

In addition to asbestos-based electrical backing boards, other asbestos containing materials may be encountered in electrical metering installations. Typically, these materials include asbestos millboard and asbestos cement (AC) sheet. Any cement sheet (commonly known as 'Fibro') products encountered will be assumed to contain asbestos. Any millboard materials (soft cardboard-like material) will be assumed to contain asbestos. Care should be taken to avoid disturbance of these materials.

If any of the above factors are found to be present or are unable to be proven or disproved then the presence of asbestos containing materials should be presumed. Any dust encountered inside the cabinets of pre-1988 installations is assumed to be contaminated with asbestos (asbestos boards may have been removed).

Appropriate procedures and 'Asbestos Awareness Training' should be provided to employees for the Assessment of Commercial and Residential Metering/ Electrical Installations for Potential Asbestos Containing Materials.

Risk Assessment Form for Asbestos Containing Materials

PURPOSE AND SCOPE:

This form provides a framework for the identification of asbestos containing materials (ACM) and the hazards associated with them on a job site, in particular, but not exclusively, for small sites including domestic sites and service work.

RESPONSIBILITIES:

Only competent persons (persons who have completed the Asbestos Awareness Course or equivalent) should perform risk assessments for ACM including any subsequent reviews or revisions and ensure that the completed forms are kept on file.

Note: Risks identified must be eliminated or effectively controlled before work commences in consultation with all employees and others that may be affected by the work. Record the actions taken for control of risks on page 2 of this form.

Customer: _____

Address: _____

Date: _____	Job No: _____	Meter Numbers _____
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Job description:

Potential Asbestos Materials:	Yes	No		Yes	No
Asbestos ceiling tiles			Asbestos sealant in risers		
Asbestos cement conduits			Asbestos fuse blankets		
Asbestos switchboards			Asbestos ceramic fuses		
Asbestos roofs and walls			Asbestos insulation blocks		
Asbestos cable trough & covers			Asbestos lagging		
Asbestos communication cable			Asbestos woven cable sheath		
Asbestos cement sheet			Other ACM		

Asbestos Safety Equipment:

Low-speed battery drill with LEV			Sealant		
Disposable coveralls			Thickened compound ie paste		
Disposable gloves			Asbestos waste container		
Half faced respirator P1 or P2			Asbestos plastic sheeting		
Asbestos vacuum cleaner HEPA			Asbestos warning signs		
Disposable cleaning rags			Barricades or barrier tape		
Duct tape			Sturdy container (overhead work)		

Is the asbestos containing material friable or licensed work? Yes Stop work immediately! No

Safe Work Procedure

Is there an appropriate Safe Work Procedure (SWP) to undertake the task? Yes SWP No _____ No

If no, a SWP applicable to the task to be undertaken should be produced.

RISK ASSESSMENT and CONTROL RECORDS

Possible Hazards	Risk Level	Control Measures

*** To determine the risk levels, the use of “Hazpak” as set out below is strongly recommended. ***

1. How severely could it hurt someone or how ill could it make someone?	2. How likely is it to be that bad?				Supervisor	Signature
	very likely Could happen anytime	likely Could happen sometime	unlikely Could happen but very rarely	very unlikely Could happen but probably never will	Employee	Discussed and signed
Kill or cause permanent disability or ill health	1	1	2	3		
Long term illness or serious injury	1	2	3	4		
Medical attention and several days off work	2	3	4	5		
First aid needed	3	4	5	6		

Source: WorkCover NSW Hazpak Publication

The numbers show you how important it is to do something. The LOWER the number, the HIGHER the priority, ie - 1 top priority: do something immediately 6 low priority: do something when possible

Safe Working Procedures (SWP)

Drilling of Asbestos Containing Materials

A risk assessment should be undertaken before any maintenance or service work with ACM is commenced, and only competent persons should carry out work with 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

In addition to any equipment required to complete the particular task, the following equipment may be required on-site prior to commencing the work:

- 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 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
- disposable cleaning rags
- a bucket of water, or more, as appropriate and/or a misting spray bottle
- duct tape
- sealant
- spare personal protective equipment (PPE)
- a thickened substance such as wallpaper paste, shaving cream or hair gel
- a suitable asbestos waste container (eg 200 µm plastic bags or a drum, bin or skip lined with 200 µm plastic sheeting)
- 200 µm plastic sheeting
- warning signs and/or barrier tape
- an asbestos vacuum cleaner with High Efficiency Particulate Air (HEPA) Filters and
- a sturdy paper, foam or thin metal cup or similar (for work on overhead surfaces only).

Personal Protective Equipment

- Protective clothing.
- Respirator: 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.

Asbestos Work Area Preparation

- If 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 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 (eg 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 drilling a roof from outside, segregate the area below.
- If access is available to the rear of the asbestos cement, segregate this area as well, as above.
- If possible, 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.
- 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.

Drilling Vertical Surfaces

- 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 ACM with a generous amount of thickened substance.
- Drill through the paste.
- 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.

Drilling Overhead Horizontal Surfaces

- 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 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.

Decontaminating the Asbestos Work Area and Equipment

- 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.

Clearance Procedure

- Visually inspect the asbestos work area to make sure it has been properly cleaned.
- Clearance air sampling is not normally required for this task.

Personal Decontamination

- Remove all visible asbestos dust/residue from protective clothing using an asbestos vacuum cleaner and/or wet wiping.
- Remove disposable coveralls (while still using a respirator), and place in an asbestos waste bag and dispose of as asbestos waste.
- Clothing and footwear worn during the asbestos work should be vacuumed using an asbestos vacuum cleaner, and the footwear should also be wet wiped.
- Disposable respirators should then be discarded as asbestos waste. Non-disposable respirators should be removed and thoroughly cleaned.
- After removing the respirator, workers should wash their head, face and hands, paying particular attention to their fingernails.

Dispose of all waste as asbestos waste. Refer to the NOHSC *Code of Practice for the Safe Removal of Asbestos* [NOHSC: 2002 (2005)] and relevant State and Territory legislation.

Replacing Cabling in Asbestos Cement Conduits or Boxes

Equipment Requirement

In addition to any equipment required to complete the particular task, the following equipment may also be required on-site prior to commencing the work:

- disposable cleaning rags
- a bucket of water, or more as appropriate, and/or a misting spray bottle
- 200 µm thick plastic sheeting
- cable slipping compound
- appropriately marked asbestos waste disposal bags
- spare Personal Protective Equipment (PPE)
- duct tape
- warning signs and/or barrier tape
- and an asbestos vacuum cleaner with High Efficiency Particulate Air (HEPA) Filters.

Personal Protective Equipment

- Protective clothing:
- Respirator: 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.

Asbestos Work Area Preparation

- If 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 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 (eg 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 drilling a roof from outside, segregate the area below.
- If access is available to the rear of the asbestos cement, segregate this area as well, as above.
- If possible, 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.
- 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.

Replacement or Installation of Cables

- 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. Cleaning should be undertaken close to the point/s where the cables exit from the conduits/ducts.
- Ropes used for cable pulling should have a smooth surface that can easily be cleaned.
- Do not use metal stockings when pulling cables through asbestos cement conduits.
- Do not use compressed air darts for pulling cables through asbestos cement conduits/ducts.

Decontaminating the Asbestos Work Area and Equipment

- 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.

Clearance Procedure

- Visually inspect the asbestos work area to make sure it has been properly cleaned.
- Clearance air sampling is not normally required for this task.

Personal Decontamination

- Remove all visible asbestos dust/residue from protective clothing, using an asbestos vacuum cleaner and/or wet wiping.
- Remove disposable coveralls (while still using a respirator), and place in an asbestos waste bag and dispose of as asbestos waste.
- Clothing and footwear worn during the asbestos work should be vacuumed using an asbestos vacuum cleaner, and the footwear should also be wet wiped.
- Disposable respirators should then be discarded as asbestos waste. Non-disposable respirators should be removed and thoroughly cleaned.
- After removing the respirator, workers should wash their head, face and hands, paying particular attention to their fingernails.

Dispose of all waste as asbestos waste. Refer to the NOHSC *Code of Practice for the Safe Removal of Asbestos* [NOHSC: 2002 (2005)] and relevant State and Territory legislation.

Working on Electrical Mounting Boards (Switchboards) Containing Asbestos

A risk assessment should be undertaken before any work with electrical mounting panels containing asbestos is commenced and only competent persons should carry out the work.

The drilling of electrical mounting panels containing asbestos 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.

Where a risk assessment identifies the need, electrical mounting panels containing asbestos in poor condition (ie friable), or those requiring major works, should be removed in accordance with the NOHSC *Code of Practice for the Safe Removal of Asbestos* [NOHSC: 2002(2005)] and replaced with non-asbestos panels.

Equipment

In addition to any equipment required to complete the particular task, the following equipment may be required onsite prior to commencing the work:

- 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 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
- disposable cleaning rags
- a bucket of water or more, as appropriate, and/or a misting spray bottle
- duct tape
- sealant
- spare Personal Protective Equipment (PPE)
- a thickened substance such as wallpaper paste, shaving cream or hair gel
- a suitable asbestos waste container (eg 200 µm plastic bags or a drum, bin or skip lined with 200 µm plastic sheeting)
- 200 µm plastic sheeting
- warning signs and/or barrier tape
- an asbestos vacuum cleaner with High Efficiency Particulate Air (HEPA) Filters and
- a sturdy paper, foam or thin metal cup, or similar (for work on overhead surfaces only).

Asbestos Work Area Preparation

- If 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 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 (eg 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 drilling a roof from outside, segregate the area below.
- If access is available to the rear of the asbestos cement, segregate this area as well, as above.
- If possible, 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.
- 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

Providing the panel is not friable, maintenance and service work may include:

- the replacement of asbestos-containing equipment on the electrical panel with non-asbestos equipment
- the operation of main switches and individual circuit devices
- pulling/inserting service and circuit fuses
- bridging supplies at meter bases
- using testing equipment; accessing the neutral link
- and the installation of new components/equipment.

If the asbestos-containing electrical mounting panel has to be removed for work behind the board, the procedures for removing electrical meter boards outlined in the NOHSC *Code of Practice for the Safe Removal of Asbestos* [NOHSC: 2002 (2005)] should be followed.

Decontaminating the Asbestos Work Area and Equipment

- 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.

Clearance Procedure

- Visually inspect the asbestos work area to make sure it has been properly cleaned.
- Clearance air sampling is not normally required for this task.

Personal Decontamination

- Remove all visible asbestos dust/residue from protective clothing, using an asbestos vacuum cleaner and/or wet wiping.
- Remove disposable coveralls (while still using a respirator), and place in an asbestos waste bag and dispose of as asbestos waste.
- Clothing and footwear worn during the asbestos work should be vacuumed using an asbestos vacuum cleaner, and the footwear should also be wet wiped.
- Disposable respirators should then be discarded as asbestos waste. Non-disposable respirators should be removed and thoroughly cleaned.
- After removing the respirator, workers should wash their head, face and hands, paying particular attention to their fingernails.

Dispose of all waste as asbestos waste. Refer to the NOHSC *Code of Practice for the Safe Removal of Asbestos* [NOHSC: 2002 (2005)] and relevant State and Territory legislation.



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