

Safe removal and disposal of asbestos

Code ASBSAF02

Workplace Health and Safety Queensland (WHSQ) requires the prescribed activity of friable asbestos removal work in Queensland to be supervised by a competent person. One element recognised by WHSQ as contributing toward competency as a supervisor involves achieving a qualification covering knowledge of the National Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002 (2005)] (Asbestos removal code). Learning and assessment is conducted in the Vocational Education and Training (VET) sector in which units of competency set out the knowledge and skills needed to demonstrate competent performance in this activity.

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ASBSAF02

Safe Removal and Disposal of Asbestos

Unit Descriptor:

This unit specifies the knowledge required of the National Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002 (2005)] for the purposes of licensing the prescribed activity of asbestos removal work within the state of Queensland and for the development of the associated asbestos register.

Employability Skills

The following employability skills are addressed within this unit of competency:

Communication, teamwork, problem solving, initiative and enterprise, planning and organising, self management, learning and technology.

Application of the Unit

This unit supports the attainment of skills and knowledge required for demolition workers tasked with the responsibility of supervising demolition work or preparing work method statements in accordance with *Queensland Workplace Health and Safety Legislation*.

Elements and Performance Criteria:

Element of Competency	Performance Criteria
1. Plan & Prepare for work	1.1 Stakeholders are identified and consulted
	1.2 The Workplace register of Asbestos Containing Materials is identified and the contents reviewed
	1.3 The Asbestos management plan is developed in accordance with industry requirements
	1.4 The Job specifications are established in accordance with NOHSC:2002 (2005)
	1.5 Legislative requirements, standards & codes of practice are identified
2. Assign responsibilities	2.1 Licensing details and requirements are provided to the client and made available at the removal site
	2.2 Personnel are identified and instructed on work activity
	2.3 The Communication plan between the supervisor and all stakeholders is established
	2.4 The Competencies of the personnel are identified and specific tasks are assigned to the relevant people
	2.5 Training plan for the work activity is prepared and records maintained
	2.6 Health surveillance programs are established
3. Prepare asbestos removal control plan	3.1 The Locations containing ACM are identified and assessed
	3.2 An Asbestos removal control plan is developed in accordance with NOHSC:2002 (2005)
	3.3 Emergency plans are prepared and reviewed

	3.4	Decontamination requirements are specified
	3.5	The Risks associated with the conduct of the removal and disposal of the ACM are assessed
4. Carry out removal and disposal of the ACM	4.1	Work is carried out in accordance with the General requirements for the removal of ACM, the Additional requirements for the removal of friable ACM and with the OHS procedures of NOHSC 2002 (2005)
	4.2	Site clean up is completed in accordance with the General requirements for the removal of ACM and the Additional requirements for the removal of friable ACM

Underpinning Skills and Knowledge

Underpinning skills and knowledge includes

- A knowledge of
- asbestos containing materials
 - asbestos identification procedures
 - asbestos hazard management
 - control methods
 - general construction terminology
 - handling requirements of differing types of asbestos materials
 - hazards associated with the inspection and removal processes
 - health surveillance requirements
 - health hazards and effects
 - knowledge of current asbestos legislation and codes of practice
 - materials handling, storage and environmentally friendly hazardous waste management
 - other hazardous substances
 - personal protective equipment
 - plans, drawings and specifications
 - quality requirements
 - risk assessment processes and contingency planning
 - techniques associated with the material safety data sheets inspection, assessment and removal of asbestos sample(s)
 - types, characteristics, uses and limitations of tools, plant and equipment involved in the inspection, assessment and removal of asbestos sample(s)
 - workplace and equipment safety requirements

Underpinning skills and knowledge includes:

- Language & communications skills that:
 - Communicates proposed ideas and strategies
 - Clarifies details & schedules
- Literacy skills
 - Use a range of communication styles e.g. forms, diagrams, charts, formulae
 - Document investigations
 - Write procedures
 - Write demolition work plan

Underpinning skills and knowledge includes:

- Research skills
 - Access information
 - Explore options & concepts
 - Identify critical and influential factors
- Analytical Skills
 - Interpret plans & specifications
 - Deduce potential outcomes

Communicating ideas and information

- Cognitive skills
 - Generate relevant ideas/solutions
 - Review and evaluate ideas
 - Determine range of solutions
- Communicating ideas and information to relevant personnel in order to confirm process and procedures
- Listens and responds to questions of others

**Collecting, analysing and organising information
Planning & organising activities**

- Establishes specific work based objectives
- Analyses information and documentation to determine activities and processes
- Co-ordinate and manages the demolition process
- Ensures work activity is according to procedures
- Establishes and maintains work priorities according to plan

Working with others and in teams

- Defines the purpose and objectives for the work activity for others.
- Accounts for the different skills of workers
- Provides supervision of work activity to ensure work is carried according to legal and procedural requirements

Uses mathematical ideas & techniques

- Extracts data from site plans
- Checks mathematical calculations of others
- Applies a variety of formulae to calculate weight and volume.

Solving Problems

- Able to determine the major factors affecting processes and outcomes to demolition activities
- Anticipates potential problems by understanding the conditions, which they can arise.
- Is able to judge the effectiveness of solutions/ideas

Uses Technology

- Enters and retrieves data
- Conducts and reviews literature search

Range Statement

This range statement adds definition to the unit by elaborating criteria or significant aspects of the performance requirements of the unit. The range statement establishes indicative meanings or applications of these requirements in different contexts and conditions. The specific aspects, which require elaboration, are indicated by the use of *italics* in the performance criteria.

Stakeholders *include but are not limited to:*

- employees
- client,
- contractors
- sub contractors
- regulators
- persons in adjoining properties
- local community
- workplace health and safety officer/representatives

Workplace register of Asbestos Containing Materials include but are not limited to:

- The client should provide a copy of the ACM register to the asbestos removalist before any removal work commences.
- **Identification of ACM**
 - dates of inspections
 - locations of ACM identified
 - types of ACM (friable or non-friable)
 - form (blue, brown or white)
 - condition (damaged or intact)
 - details of materials presumed to contain asbestos
 - inaccessible areas presumed to contain ACM
 - analysis results
- **Risk assessment**
 - dates of risk assessments and details of the competent person that performed them
 - findings and conclusions of risk assessments
 - results of any air monitoring for airborne asbestos fibres
- **Control measures**
 - the control measures resulting from a risk assessment
 - details of any maintenance work or service on ACM
 - The register is to be made available 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
 - any other person who might be exposed

Asbestos containing materials include but are not limited to:

Asbestos containing material (ACM) means any material object or debris that contains asbestos. ACM may be friable or non-friable and may be sprayed, compacted, woven, wound, bonded or embedded.

Friable ACM means - when dry is or may become crumbled, pulverised or reduced to powder by hand pressure.

Non-friable ACM means –containing a bonding compound reinforced with asbestos.

Asbestos and ACM may be found *in situ* in workplaces, including

- buildings and structures
- plant and equipment
- friction materials

- debris from ACM

Asbestos containing materials may take the form of:

- asbestos boards e.g. AC sheeting
- asbestos coatings e.g. decorative paints and plasters
- asbestos-based lagging materials
- bonded asbestos e.g. vinyl tiles containing asbestos
- Asbestos-based floor tiles e.g. asbestos backed vinyl

Asbestos management plan include but are not limited to:

Includes but is not limited to the steps required to help persons with control of premises to comply with the asbestos prohibition and prevent exposure to airborne asbestos fibres while ACM remains in the workplace.

The AMP should contain the following principles:-

- A plan to consider the removal of ACM at the time of renovation, refurbishment and or maintenance
- Steps required to label all identified ACM
- An ACM register detailing the location of identified ACM and any inaccessible areas likely to contain ACM
- A risk assessment (conducted by competent persons) for all identified or presumed ACM
- Control measures that prevent exposure to airborne asbestos fibres
- A record of all consultation and information sharing activities that engages all stakeholders, including workers and contractors

Job specifications include but are not limited to:

The client must ensure that a risk assessment is conducted by a competent person prior to the asbestos removal and that the asbestos removalist takes this risk assessment into account when developing the asbestos removal control plan.

Job specifications that the client should provide include:

1. Specific requirements
 - details on the type (friable or non-friable) and condition (damaged or intact) of the ACM to be removed
 - details of the quantity of ACM to be removed and any special or unusual materials, including residual dust or debris
 - details of ACM to be left *in situ*
 - areas that require cleaning and decontamination on completion of the asbestos removal work
 - areas to be protected from airborne asbestos fibres
 - storage and disposal of asbestos waste
 - equipment and temporary building requirements
 - arrangements for clearance inspections and air monitoring
2. Locations
 - nature of the location of materials to be removed - indoors, outdoors, exposed to weather, enclosed in ducts (e.g. air-conditioning heater boxes) or trenches below ground level
 - areas that are difficult to access, such as ceiling and wall cavities
 - details of areas that have not been assessed but could contain asbestos
 - difficult or unusual site conditions and access (such as working at heights)
3. Hazards
 - location of electrical cables, switches and panels which need to be isolated or protected

- brittle roofs or working from heights
- details of residual heat in pipe work, boilers, turbines or refinery equipment, normal working temperature for each portion of plant and ambient temperature in the asbestos work area
- Restricted access requirements and emergency communication and evacuation plans

Legislative requirements, standards and codes of practice include but are not limited to:

- Workplace Health & Safety Act QLD 1995
- Workplace Health & Safety Regulation QLD 1997
- Code of Practice for the Safe Removal of Asbestos 2nd Edition. [NOHSC:2002 (2005)]
- Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018 (2005)]
- Relevant Australian and Australian / New Zealand Standards.
 - AS/NZS 1715:1994 Selection, use and maintenance of respiratory protective devices
 - AS/NZ 1716:2003 Respiratory protective devices
 - AS/NZS 3012 :2003 Electrical installations – Construction and demolition sites
 - AS/NZS 3000:2007 Wiring Rules
 - AS 3544:1988 Industrial vacuum cleaners for particulates hazardous to health
 - AS 4260-1997 High efficiency particulate air (HEPA) filters – Classification, construction and performance
 - NOHSC Model Regulations for the Control of Workplace Hazardous Substances [NOHSC: 7039 (1994)]
 - Environmental Protection Regulation 1998
 - Environmental Protection (Waste Management) Regulation 2000

Licensing include but are not limited to:

- Includes A Class and B Class certificates issued by Workplace Health and Safety Queensland (WHSQ) in addition to the Supervisory record of attainment issued by the RTO

Personnel include but are not limited to:

- Includes workers, contractors, workplace health and safety officer, workplace health and safety representatives, workplace health and safety committee members who are given detailed knowledge of the work activities

Communication plan include but are not limited to:

- Includes but not limited to the process that ensures all stakeholders receive timely and sufficient information in respect to the conduct of the activities to remove and dispose of the ACM, including the results of air monitoring conducted and the notification to regulatory bodies for the transportation and waste tracking of regulated waste

Competencies of the personnel include but are not limited to:

- The competence required for all personnel including the holding of certificates and qualifications relevant to the performance of the work activities

Training plan include but are not limited to:

- A plan that ensures all personnel are current with the work activities and this may include formal and informal training sessions, tool box talks
- Training plan includes providing information on:
 - the health risks associated with exposure to asbestos
 - the need for and details of health surveillance
 - details of legislation for the control and safe removal of asbestos

- the correct method of using respirators, the importance of facial fit and requirements for cleaning, inspection and maintenance of respirators

Health surveillance programs include but are not limited to:

- It also includes maintaining a record of all training provided. Health surveillance is the monitoring of a person to identify any changes to their health as a result of exposure to a hazardous substance, including asbestos.
- Health surveillance must be carried out in accordance with the requirements of the NOHSC Model Regulations for the Control of Workplace Hazardous Substances [NOHSC: 7039 (1994)]

The **Locations containing ACM** include but are not limited to:

It is unlikely that domestic premises will have an ACM register. Therefore before any work is carried out precautions should be made to identify the likelihood that ACM are present.

Common asbestos materials and locations

Location	Materials
Bathroom, toilet, laundry	- AC sheeting in walls, ceilings and floors - Hot water pipes set in masonry walls - Lagging on hot water pipes
Living areas	- Insulation in wood heaters - AC sheeting beneath wood
heater	hearths
Kitchen	- Vinyl floor tiles - Backing to cushion vinyl flooring
Exterior	- Flat, patterned and corrugated wall and roof sheeting - Imitation brick cladding - Lining under eaves
Backyard	- Garden sheds - Garages and carports
Commercial and industrial buildings	- Coating sprayed on beams for fireproofing
Other	- Electrical meter boards

Source: ACT Government, 2005. *Managing Asbestos: A Guide for Householders*. Publishing Services, Canberra; Gyles, R.G., 1992 *Royal Commission into the Productivity in the Building Industry in NSW*, NSW Government, Sydney.

Asbestos removal control plan include but are not limited to:

The asbestos removalist to develop site-specific asbestos removal control plan before commencing any asbestos removal work

The risk assessment conducted by a competent person prior to the asbestos removal to be taken into account in developing the asbestos removal control plan.

Emergency plans include but are not limited to:

Includes responses in the event of:

- personal injury
- medical emergency
- fire
- equipment / plant failure
- contamination
- flooding
- public 'nuisance' and vandalism

Emergency plans to include provisions for:

Decontamination requirements

include but are not

- emergency and fire evacuation
- exit arrangements
- communications/alarms
- first aid facilities and personnel
- provision and location of fire fighting equipment

Includes process to ensure the risks for contamination are adequately controlled including

- personal decontamination
- personal protective equipment
- plant and equipment, non-movable items
- electrical equipment, including asbestos vacuum cleaners
- scaffolding
- decontamination unit
- asbestos work area
- soil
- surrounding areas

Risks include but are not limited to:

Includes but not limited to

- working with dangerous/hazardous materials
- working in confined spaces
- surrounding structures
- falling objects
- plant movement
- restricted access barriers
- traffic movement
- working at heights
- working in proximity to others
- worksite visitors and the public
- slips trips and falls
- noise
- heat
- electrical

General requirements for the removal of ACM include but are not limited to:

- determining the asbestos removal boundaries
- security, signs and barriers
- electrical and lighting installations
- preparation activities, including:
 - minimising the number of people present
 - using the correct tools
- decontamination materials
- methods for removing ACM, which include:
 - wet spray method (most preferred)
 - dry removal method (least preferred)
- asbestos removal equipment, tools, spray equipment and asbestos vacuum cleaners
- inspection of equipment
- personal protective equipment (PPE)
 - respiratory protective equipment (RPE)
 - protective clothing and footwear
 - RPE in accordance with Australian and Australian / New Zealand Standards.
 - level of RPE determined by a competent person
 - disposable coveralls
 - protective gloves
 - safety footwear – steel capped rubber-soled or gumboots (lace less)
- air monitoring

- air monitoring requirements to be determined by a competent person who is independent from the person doing the removal work
- workplace decontamination
 - wet decontamination or wet wiping; or if not suitable
 - dry decontamination by rolling up or folding sealing plastic sheeting and/or vacuuming the asbestos work area with an asbestos vacuum cleaner
- decontamination of equipment and tools
- decontamination of soil
- personal decontamination
 - before leaving the work area
- asbestos waste management
 - waste bags – heavy duty 200 µm (minimum thickness) polyethylene bags that are no more than 1200 mm long and 900 mm wide, labelled with an appropriate warning and filled to the halfway level only.
 - waste drums or bin – well fitting lids, lined with 200 µm plastic and labelled
 - skip - double lined with heavy duty 200 µm (minimum thickness) polyethylene plastic. The ACM must be kept damp and, when full, the contents should be completely sealed with the plastic sheeting.
 - All asbestos waste should be double bagged and stored in an exclusion zone prior to removal from the site.
- asbestos waste disposal
 - clearance inspection by a competent person before re-occupation of the asbestos work area

Additional requirements for removal of friable ACM include but are not limited to:

- ventilation and air-conditioning management
- negative pressure exhaust units
- enclosures for large-scale asbestos removal work
- testing the effectiveness of the enclosure
- air monitoring regime (if an enclosure is used)
- decontamination unit
- dirty decontamination area
- clean decontamination area
- clean changing area
- airlock or buffer zones
- asbestos removal area
- asbestos waste storage area
- emergency exit
- remote decontamination units
- entering the asbestos work area
- safe techniques for removing friable ACM
- packaging and removing contaminated plant, tools and equipment
- decontamination procedures for workers leaving the asbestos work area
- responsibilities of person outside the enclosure
- sealing enclosure and decontamination unit at completion of the asbestos removal work
- mini-enclosures
- glove bag removal method
- wrap and cut removal method for redundant plant and equipment

OHS procedures include but are not limited to:

- clearance inspection
- clearance monitoring
- OHS requirements are to be in accordance with legislation/regulations/codes of practice, organisational safety policies and procedures and project safety plan. This may include protective clothing and equipment, air monitoring equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of fire fighting equipment, organisational First Aid, hazard control and hazardous materials and substances
- Personal protective equipment is to include that prescribed under legislation/regulation/codes of practice and workplace policies and practices
- Emergency procedures related to equipment operation are to include but may not be limited to organisational First Aid requirements and evacuation, emergency shutdown and stopping

Evidence Guide

Critical aspects of evidence

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Course.

Overview of Assessment

To demonstrate competency in the unit, candidates must be able to show evidence that they can apply the National Code of Practice for the Safe Removal of Asbestos 2nd Edition. [NOHSC: 2002 (2005)]. This requires the candidate to demonstrate competency in an examination and a simulated asbestos removal activity (see Appendix 2 for realistic simulated assessment criteria) as well as satisfactorily develop a document required under Queensland's workplace health and safety legislation that relates to the removal of asbestos.

Evidence Requirements

Critical aspects of evidence

- Location, interpretation and application of relevant information standards and specifications
- Compliance with National Code of Practice for the Safe Removal of Asbestos 2nd Edition. [NOHSC:2002 (2005)] in respect to asbestos removal activities
- Communicating and working effectively with others
- Performing a simulated asbestos removal activity in accordance with requirements of National Code of Practice for the Safe Removal of Asbestos 2nd Edition. [NOHSC:2002 (2005)]
- Developing and submitting a document that conforms to National Code of Practice for the Safe Removal of Asbestos 2nd Edition. [NOHSC:2002 (2005)] covering a specific asbestos removal scenario
- Completing a theoretical examination which demonstrates competency

Methods of assessment

- Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessments are to be applied under project related conditions and require evidence of process
- Assessment must confirm a reasonable inference that competency can be satisfied under a particular circumstance and can also be transferred to other circumstances

- Assessment methods should reflect workplace demands, such as literacy, and the needs of particular groups, such as:
 - a. people with disabilities
 - b. people from culturally and linguistically diverse backgrounds
 - c. Aboriginal and Torres Strait Islander people
 - d. women
 - e. young people
 - f. older people
 - g. people in rural and remote locations.

Realistic simulation required for demonstrating competence in performing an asbestos removal activity must replicate a workplace activity routinely seen within the asbestos removal industry. For the purposes of this realistic simulation, the building of an enclosure is to be the minimum simulated activity undertaken for this assessment. It is essential that the designer of the realistic simulation has a thorough knowledge of the unit content and has enough experience to ensure validity and authenticity of the simulated experience.

In deciding the realistic simulation design, adequacy must be achieved by:

- Demonstrating the dimensions of competency
- Addressing and demonstrating the range of skills identified within the units
- Effectively transferring the required knowledge to practical applications
- Incorporating the need for collaboration
- Meeting specific assessment requirements
- Reflecting the complexity of the work requirements
- Demonstrating inclusive practices
- Finding, discussing and testing solutions
- Demonstrating the range and language & literacy within the unit
- Fully exploring health & safety issues

The following assessment methods are required:

Performance of an asbestos removal activity in a realistic simulated environment

Written examination comprising both multiple choice and short answer questions

Completion of a workplace document produced as part of routine work activities

Context of assessment

Evidence for assessment must be gathered over time in a range of contexts to ensure the person can achieve the unit outcome and apply the competency in different situations or environments:

- The application of competency is to be assessed from examinations and 'real work' documents
- Assessment of essential underpinning knowledge, may not be conducted in an off site context
- Assessment is to comply with the relevant regulatory requirements

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Resource implications for assessment

Candidate has access to:

- Relevant Act, Regulations, Codes of Practice, National Code of Practice for the Safe Removal of Asbestos 2nd Edition. [NOHSC:2002 (2005)]
- Libraries

- Regulatory Authorities
- Word processing facilities

Access & Equity

An individual's access to the assessment process should not be adversely affected by restrictions placed on the location or context of assessment beyond the requirements specified in this Training Course.

Reasonable adjustments can be made to ensure equity in assessment for people with disabilities. Adjustments include any changes to the assessment process or context that meet the individual needs of the person with a disability, *but do not change competency outcomes*. Such adjustments are considered 'reasonable' if they do not impose an unjustifiable hardship on a training provider or employer. When assessing people with disabilities, assessors are encouraged to apply good practice assessment methods with sensitivity and flexibility.