



## **MODULE G**

### **Module G is about:**

- (a) Identification of asbestos
- (b) Health implications
- (c) Legal responsibilities
- (d) Employer responsibilities
- (e) Work Safe's role

### **Module G includes:**

- (a) Content Overview
- (b) Multiple Choice Quiz
- (c) Short Answer Quiz
- (d) Practice activity
- (e) 'What you should know' Checklist

### **Word List**

- (a) Collective
- (b) Fibrous
- (c) Silicate
- (d) Mineral
- (e) Serpentine
- (f) Amphibole
- (g) Thermal

- (h) Insulation
- (i) Decontamination
- (j) Miscellaneous
- (k) Exemptions
- (l) Infringement

## **CONTENT OVERVIEW**

### **What Is Asbestos?**

Asbestos is the collective term given to two groups of naturally occurring fibrous varieties of a silicate mineral. These two groups are serpentine and amphibole:

#### ***Serpentine***

- Chrysotile: (white)- usually white or off white, with long wavy fibres and which accounts for approximately 90% of the world production of asbestos;

#### ***Amphibole***

- Amosite: (brown)– usually brown, with much straighter fibres than chrysotile;
- Crocidolite: (blue)– blue fibres that are long and straight, like Amosite.

### **Properties of Asbestos**

- Thermal stability and resistance
- Chemical resistance
- High tensile strength (higher than steel)
- Abrasion resistance
- Low electrical conductivity
- Low thermal conductivity
- Low biodegradability
- Good sound absorption qualities

### **Asbestos Containing Materials**

- Asbestos containing materials (ACM) were used extensively in Australian buildings and structures, plant and equipment and in ships, trains and motor vehicles during the 1950s, 1960s, and 1970s. In some uses, including some friction materials and gaskets, were only discontinued on 31 December 2003.
- Some ACM's include:
  - (a) Thermal insulation (eg. pipe and boiler insulation)
  - (b) Fire-proofing materials (eg. sprayed insulation, fire door insulation)
  - (c) Asbestos cement/fibrocement products (eg. roof and wall claddings)

- (d) Decorative and acoustic applications
- (e) Electrical switchboards, insulators and fittings
- (f) Vinyl floor coverings
- (g) Asbestos felts and paper-like products
- (h) Friction materials (eg. brake linings)
- (i) Paints, coatings, sealants and adhesives
- (j) Packing and gaskets
- (k) Textiles (eg. woven cloths, blankets)
- (l) Pipes
- (m) Miscellaneous and unusual products (eg. phone boxes, aprons, cinema screens)

- All ACM's can be broadly divided into two groups; "friable" and "non-friable"
- *Friability relates to the potential for the material to release asbestos fibres:*
  1. **Friable** – “any ACM that can be crumbled, pulverised or reduced to powder by hand pressure when dry”
  2. **Non-friable** – “any ACM difficult to damage by hand” (Bonded)

### **What is bonded asbestos?**

- Asbestos fibres that are bonded in a base material. Typically this is a cement type material or a plastic membrane.

### **Issues With Removal of Asbestos**

The various issues with the removal of asbestos include:

- No or inadequate signage warning public and other workers of asbestos danger
- No or inadequate barricading
- Too smaller buffer zones
- Inappropriate working hours
- No or inadequate PPE
- No or inadequate dust suppression methods
- Breaking or sliding sheets
- No wetting down or spraying with PVA
- No or inadequate decontamination
- Illegal or inappropriate dumping

### **Where Australia Stands**

- Australia ranks top when it comes to the use of asbestos for construction purposes. The highest rates of mesothelioma (per head of pop) are also seen in

Australia, because workers have been exposed to asbestos. At least 766 deaths of mesothelioma, 3,017 Asbestos Related Lung Cancer, 140 Asbestos Related Ovarian Cancers, 48 Laryngeal Cancers, 77 Asbestosis.

- The true burden of asbestos related disease is over 4,000 Australian lives every year. It is estimated that by the end of 2020, at least 45,000 Australians will have died of mesothelioma as the epidemic comes to a peak. The man most credited for this prediction is Wittenoom's Mining town DR. Jim McNulty. Wittenoom closed in 1966 due to his findings.

## **Asbestos Related Diseases**

### **Asbestosis**

- Asbestosis is not a cancer. If asbestos fibre accumulates in the lungs, the body then covers the fibre with scar tissue. The scar tissue is not elastic, and it continues to grow in the lung even if no further asbestos is inhaled. The lungs become inefficient and cannot handle the volume of air necessary to produce the amount of oxygen the body needs. People with asbestosis often experience shortness of breath. Latency period generally 15-25 years.

### **Pleural Plaques**

- Pleural plaques are patches of thickening of the lining of the lungs. Pleural plaques are an indication of asbestos exposure, but not an indication of cancer.

### **Lung Cancer**

- The growth of tumours in the bronchial tubes and lungs. Smokers who have been exposed to asbestos are at far greater risk. The majority of people who die from asbestos-related lung cancer were also smokers. Latency period generally 20- 30 years.

### **Mesothelioma**

- A cancer of the lining of either the lung or the intestines. Not related to smoking. Death usually occurs nine to twelve months after diagnosis. In some cases, the asbestos dose has been very low and the duration of the exposure has been short. Latency period generally 30-50 years.

## **Legal Responsibilities**

All asbestos management and removal must comply with the following legislation/regulations/practices:

- Workplace Health and Safety ACT 2012
- Workplace Health and Safety Regulations 2012
- Code of Practices:
  - How to Safely Remove Asbestos (Oct 2018)

- Maintenance of Asbestos in the Worksite (Oct 2018)

### **Duty of Care**

- All employers, workers, contractors, designers, subcontractors etc have a responsibility to take care of the well-being of all of the above.
- If any of the above fail in their Duty of Care large fines apply.

### **Employer Responsibilities**

According to the Tasmanian WHS Regulations 2012:

- 419 (1) - A person conducting a business or undertaking must not carry out, or direct or allow a worker to carry out, work involving asbestos.
- 419 (3) - Exemptions include: research, sampling, maintenance, removal, transport, management, mining, education.
- Workers MUST be trained for work undertaken. If removing non-exempt amounts of asbestos an accredited VET course must be completed.
- 420 (1) - A person conducting a business or workplace must ensure that:
  - (a) exposure of a person at a workplace to airborne asbestos is eliminated so far as reasonably practical.
  - (b) national exposure levels are not exceeded (0.1fibres per ML of air)
- 422 - Asbestos is to be identified or assumed
- Must be identified by competent person.
- 423 - Sampling must be conducted to determine the presence of asbestos. (tested under microscope)
- 424 - Presence of asbestos should be recorded, and labelled where possible.
- 425 - Commercial buildings constructed before 31 December 2003 must have a register in place. This is responsibility of person managing building.
- 426 - Register upgraded when changes identified
- 427 - Register made available to stakeholders.
- 428 - Existing manager of building has responsibility to inform new manager of presence of asbestos etc.
- 429 - Management plan must be in place indicating how asbestos will be dealt with. (often tied to register)
- Managed according to risks
- 430 - Management plan must be reviewed if:
  1. Register is reviewed
  2. Asbestos removed or disturbed
  3. Plan deemed not adequate
  4. Safety rep requests it
  5. At least every 5 years

### Health Monitoring

- 435-437 - Workers undertaking asbestos removal work are to undergo health monitoring before during and after they undertake work as asbestos removalists. Monitoring for workers for all licenced work or ongoing non-licenced work.
- 438 - Employer to cover costs
- 444 - Employer to maintain records
- 445 - Duty of employer to provide training to workers engaged in ANY asbestos related work

### Licensing Requirements

According to the Tasmanian WHS Regulations 2012 there are different licences to removing asbestos:

- Class A licence holder- can remove any quantity of friable or non-friable asbestos
- Class B licence holder- can remove any quantity of non-friable asbestos, *but no friable asbestos*
- Exempt removals- No licence is required for a *SINGLE JOB SITE* where less than 10 square meters of non-friable asbestos is removed.

### Workplace Standards Tasmania

Workplace Standards Tasmania has some key points on monitoring and educating people on asbestos:

- Monitor all work related Health & Safety (OH&S)
- Educate employers on their OHS responsibilities
- Issue infringement notices (fines) when breaches to OH&S are discovered
- Take legal action to enforce requirements according to the ACT, Regulations and COPS
- Work with employers/removalists to ensure the most appropriate methods are used for removal
- Issue and monitor licences for the removal of asbestos
- Monitor removal process to ensure removals are done in accordance with Regulations and Code of Practices
- Monitor documentation of licenced removal jobs
- AR1- Asbestos Removal Start Work Notification
- Asbestos Removal Control Plan ( this documents process of planning, removal, clean-up and disposal- *must be kept on site at all times for licenced work*)
- Acknowledgment of Notification of Asbestos Removal Work- sent by WST
- Clearance form- like control plan must be kept for:
  - (a) ALL LICENCED & NON-LICENCED REMOVAL WORK MUST COMPLY WITH:
  - (b) THE 'TAS 2012 WHS REGULATION' &
  - (c) CODE OF PRACTICE FOR 'HOW TO SAFELY REMOVE ASBESTOS' 2018

**MULTIPLE CHOICE QUIZ**

1. Asbestosis is a cancer.

(a) True

(b) False

2. There are four groups of naturally occurring fibrous varieties of a silicate mineral.

(a) True

(b) False

3. What are the two types of Amphibole fibres?

(a) Aamalite and Crocodile

(b) Amosite and Crocidolite

(c) Amanalite and Crocdilite

4. How many pieces of legislation/regulations/practices does asbestos management and removal have?

(a) 4

(b) 8

(c) 5

**SHORT ANSWER QUIZ**

Please briefly answer the following questions:

Who has a duty of care /responsibility in the workplace?

---

---

---

List 5 key points that Workplace Standards Tasmania has on monitoring and educating people on asbestos.

---

---

---

---

What are the different asbestos related diseases?

---

---

---

### **PRACTICE ACTIVITY**

1. In pairs, discuss how can I calculate the amount the amount of asbestos that can be removed without a license?
  
2. In pairs, discuss:
  - (a) Employer responsibilities and
  - (b) Workplace Standard requirements
  
3. In pairs, discuss issues with removal of asbestos, and give examples, if possible.

**'What you should know' Checklist**

**By Module G:**

1. You should know what legislation and regulation covers WHS
2. You should know what regulating authority covers work safety in Tasmania
3. You should know what is the role of codes of practice and guidelines
4. You should know why the WHS laws were introduced
5. You should know how to search of codes of practice
6. You should know what a hazard is
7. You should know how to make a risk assessment
8. You should know how to use the risk matrix diagram
9. You should know the hazard categories
10. You should know common workplace hazards
11. You should know what a hazard is
12. You should know hazard control procedures
13. You should know selection of controls

14. You should know the different types of PPE and clothing
15. You should know how to identify hazards
16. You should know why safety signs are placed in the workplace
17. You should know the three sign standards provided by Standards Australia
18. You should know the three main types of signs
19. You should know about safety and accident prevention tags
20. You should know about placement of safety signs
21. You should know about assessing and controlling hazardous materials
22. You should know the first aid response
23. You should know about WHS documents
24. You should know the different fire safety equipment
25. You should know the different types of fire
26. You should know about identifying asbestos
27. You should know about the health implications of asbestos
28. You should know legal responsibilities associated with asbestos
29. You should know about employer responsibilities and Work Safe's role with asbestos
30. You should know about with asbestos related diseases
31. You should know about licensing requirements and issues around asbestos removal