

# GUIDE TO IDENTIFYING AND HANDLING LOW DENSITY ASBESTOS FIBRE BOARD

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This Guide provides information about identifying, managing and handling low density asbestos fibre board (LDB) in workplaces.

This Guide should be read with the:

- Code of Practice: *How to manage and control asbestos in the workplace*—which provides information on managing health and safety risks of asbestos in the workplace, and
- Code of Practice: *How to safely remove asbestos*—which provides information on safely removing asbestos containing material.



## What is low density asbestos fibre board?

LDB is a lightly compressed board containing asbestos fibres in a calcium silicate plaster. It is sometimes referred to as asbestos insulating board. LDB can contain up to 70 per cent asbestos fibres by volume. Asbestos cement sheeting typically contains between five to 20 per cent asbestos.

LDB was manufactured from the 1950s to the 1970s as a flat sheet, or perforated sheeting product typically used for acoustic ceiling applications.



## Where is low density asbestos fibre board typically found?

LDB was typically used for internal wall and ceiling panels and as acoustic insulation.



## What is the risk of exposure from low density asbestos fibre board?

If LDB is in good condition and left undisturbed it presents a low risk to building occupants. If LDB is broken, removed or disturbed without precautions and controls in place, the potential for asbestos fibres to be released is high. This is because of high asbestos content and the ease with which LDB becomes damaged.

More needs to be done to minimise risks when managing, maintaining or removing LDB than would normally be used for asbestos cement sheeting.



## Identifying low density asbestos fibre board

LDB looks similar to plaster board and asbestos cement sheeting commonly known as fibro. When in good condition and in place, it is difficult to visually distinguish between LDB and other types of asbestos containing sheeting.

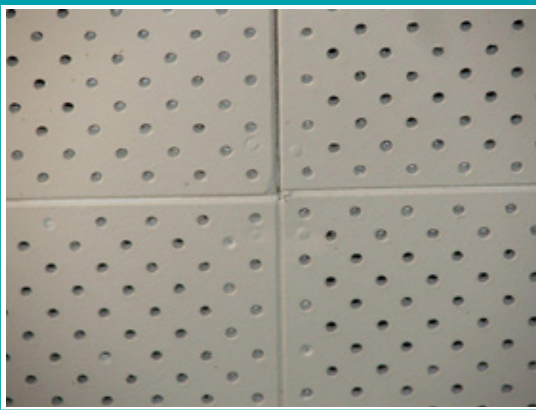
**Label:** LDB can be identified by looking at the rear side of the sheeting for the trade name Asbestolux or Duralux, as shown in Figure 1. The absence of a label does not mean the material is asbestos free.

**Ceiling sheets/tiles:** LDB was often used as ceiling tiles/sheets and for acoustic purposes. LDB ceiling tiles were commonly perforated. Different patterns of perforated ceiling tiles were used with the difference being the number of holes per sheet as shown in Figure 2.

**Figure 1** Rear side of LDB ceiling sheet showing trade name



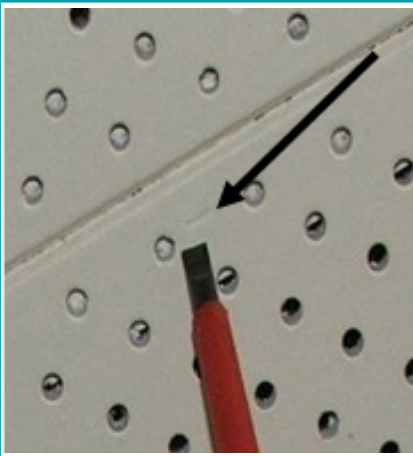
**Figure 2** Front side of perforated LDB



**Hardness:** LDB is softer than asbestos cement sheeting because calcium silicate plaster was used to bond the asbestos fibres instead of cement. When tapped, for example with a car key, LDB will produce a dead or dull sound, indicating a soft or low density product. Using hand pressure, the head of a screwdriver will easily dent the surface as shown in Figure 3.

Asbestos cement sheeting or fibro will produce a sharp or clicking sound when tapped by a car key indicating a very hard and brittle, high-density product. Using hand pressure, the head of a screwdriver will not penetrate the surface and will usually just scratch paint off.

**Figure 3** Hand pressure from a screwdriver will dent the surface



**Strength:** LDB tends to bend or flex when pressure is first applied and will then tear rather than snap once the breaking point is reached. It is difficult to remove nails and other fasteners without LDB tearing and breaking into very small pieces.

When broken the edges of LDB appear ragged or torn with no sharp edges as shown in Figure 4. You can see a high percentage of asbestos fibres—the entire surface of the broken sheeting looks furry or fibrous.

**Figure 4** Ragged or torn edges of broken LDB



Asbestos cement sheeting breaks more cleanly as shown in Figure 5.

**Figure 5** Examples of sharply broken edges on asbestos cement sheeting



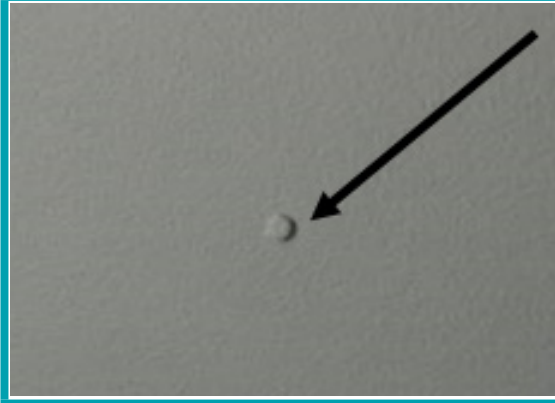
**Finding fasteners:** The heads of fasteners, nails and clouts are often embedded or partially embedded or recessed into the surface of LDB sheeting due to the softness of the sheeting as seen in Figure 6.

**Figure 6** Recessed fastener heads in LDB



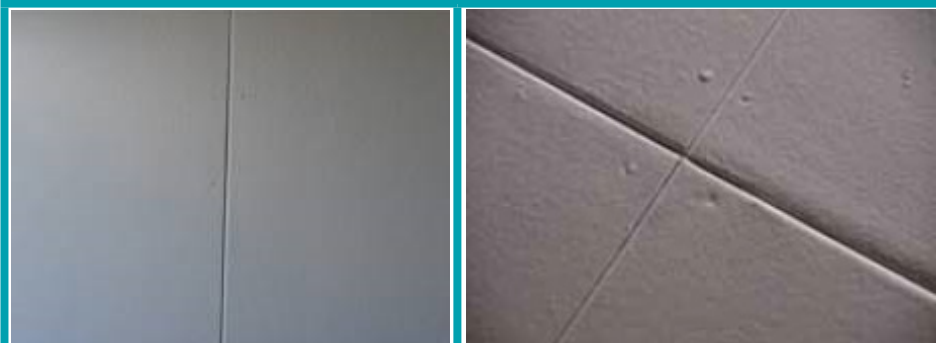
In contrast, the heads of the fasteners in asbestos cement sheeting do not sit level with the surface as seen in Figure 7.

**Figure 7** Fastener in asbestos cement sheeting does not sit level with the surface



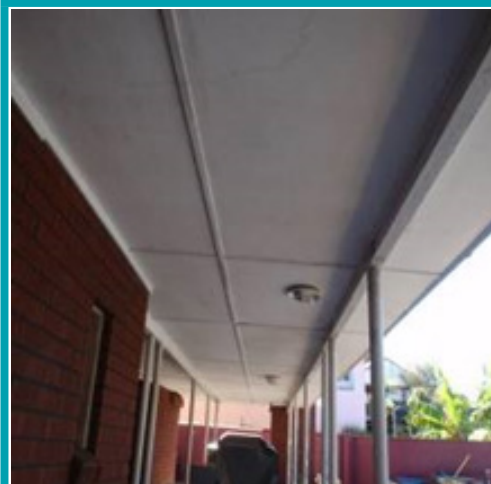
**Joins between sheets:** The edges of LDB products were often bevelled or slanted and hand planed so when fixed together with another sheet, a V-joint finish would be produced as shown in Figure 8.

**Figure 8** Examples where fasteners are fixed into the LDB sheeting and the edges are bevelled or slanted



Joins of asbestos cement sheeting are usually covered over with flat or moulded timber cover strips. The sheets are sometimes joined with timber cover strips as shown in Figure 9.

**Figure 9** Asbestos cement sheets joined with timber cover strips





## Management of low density asbestos fibre board

LDB may be managed in place if it is in good condition and the risk of damage or disturbance is low. Otherwise it should be prioritised for removal as its disturbance can release asbestos fibres.



## Removal of or maintenance work on low density asbestos fibre board

Removal of LDB and maintenance work on LDB must be done in accordance with the model work health and safety (WHS) Regulations. More information is provided in the Code of Practice: How to manage and control asbestos in the workplace, and the Code of Practice: How to safely remove asbestos.

An asbestos removal licence is required to remove more than 10 square metres of non-friable asbestos and any amount of friable asbestos. Contact your state, territory or Commonwealth WHS regulator to check any licensing or notification requirements before starting work.

### BEFORE STARTING WORK

If planning to remove LDB you should make sure the following steps are followed:

- Identifying whether the material contains asbestos:
  - Consult the workplace asbestos register, if available.
  - Have a sample analysed or assume the material contains asbestos.
- Assess whether the material is in a friable or non-friable state or is likely to become friable when removed.
- Consider sealing LDB with a sealant e.g. polyvinyl acetate (PVA) to minimise dust and debris.
- Follow the asbestos removal control plan. This should account for the soft nature of LDB and its tendency to release higher concentrations of asbestos fibres compared to asbestos cement sheeting. It should also provide for:
  - Enclosure of the asbestos removal work area if large amounts of LDB or damaged LDB are going to be removed.
  - Removal using the wet method e.g. water sprays and misters.
  - Facilities and equipment to decontaminate workers, equipment and the work area like showers and an H class industrial asbestos vacuum cleaners that comply with AS/NZS 60335.2.69 - *Household and Similar Electrical Appliances - Safety - Particular requirements for wet and dry vacuum cleaners, including power brush, for industrial and commercial use*, fitted with a HEPA filter compliant with AS 4260-1997: *High efficiency particulate air (HEPA) filters - Classification, construction and performance*.
  - Personal protective equipment (PPE) – at a minimum: P3 full-face respirator, coveralls with hood and boot covers or lace-less boots.
- Consider the presence of other hazards and risks in the work area including electricity, falls from heights, manual handling and heat stress when working in full PPE, especially when working in roof spaces.

Maintenance work must be carried out in a way that minimises the risk of fibres becoming released into the air and inhaled.

**EXAMPLE WORK METHOD FOR REMOVING LOW DENSITY ASBESTOS FIBRE BOARD  
CEILING TILES:**

- Use at a minimum: P3 full-face respirator, coveralls with hood and boot covers or lace-less boots. Before carrying out the work, all loose furniture should be removed from the room and any plant or equipment which cannot be removed should be covered with two layers of 200 micrometres ( $\mu\text{m}$ ) thick plastic sheeting and sealed with duct tape to prevent dust contamination.
- Set up a decontamination area, making sure there is only one entry and exit through the decontamination area. Close up all other exits and windows and tape up with one layer of 200  $\mu\text{m}$  clear plastic sheeting. This will allow natural light into the work area.
- De-energise all electrical equipment in the work area. If the ceiling cavity is to be accessed, isolate power in the roof space.
- Isolate air conditioning vents and return air vents by turning off the plant and covering vents with one layer of 200  $\mu\text{m}$  clear plastic sheeting.
- Use the wet method constantly when removing LDB.
- If removing ceiling or wall sheeting—duct tape a layer of 200  $\mu\text{m}$  clear/black plastic sheeting to the floor to make the decontamination process easier.
- If possible, identify the battens or studs and then punch the nail heads through the sheeting allowing the sheet to be removed intact. Keep the sheet supported and wet throughout this process to prevent it from breaking.
- If fixings cannot be identified e.g. it appears the fixings and the joints have been plastered over, the following removal process is recommended:
  - A worker entering the ceiling cavity should use a crowbar, pinch bar, pry bar or similar tool to lever the sheet slightly away from the ceiling batten. This will help expose the nail heads or fixings.
  - Workers positioned underneath where the sheeting is fixed will need to support it to prevent it from breaking apart.
  - The worker in the ceiling cavity should continue to lever the sheeting away from the battens until the sheeting has parted.
  - Both the upper and lower surface of the LDB ceiling sheets will need to be coated in a PVA/water solution before removal and disturbance.

**DISPOSAL**

Wrap the removed LDB sheet with a double layer of 200 Qm plastic sheeting and then fully seal with duct tape before disposal in accordance with the WHS Regulations. It must then be disposed of as soon as is reasonably practicable, at a site authorised to accept asbestos waste.