

## Internal Lining Boards

### SCOPE

Timber linings boards are used for both wall and ceiling applications. A wide variety of appearances can be achieved using the natural timber features in combination with an applied finish. This application guide includes: lining profiles, available species, board grades, fixing details and moisture management for a range of installations.

Popular timber species for lining boards include: Blackbutt, Cypress, Spotted Gum and a mixture of species generally termed 'mixed hardwoods'. Specific options vary according to location and availability.

### PROFILES

Profiles for solid timber boards include smooth, square dressed and moulded sections. Cover widths are typically 90mm and 135mm. Thicknesses are typically 12mm and 19mm.

Profile design influences both appearances and fixing requirements. Shiplap allows 'secret nailing' to hide nail holes, while other profiles require 'face nailing' i.e. where nails heads are either purposely expressed, or punched and filled to minimise visual impact.

### BOARD GRADES

Board grades are influenced by appearance characteristics. Hardwood species involve two appearance grades: 'select' and 'medium feature'. 'Select grade' has minimal natural characteristics. 'Medium feature grade' has extra features such as tight and loose gum veins, and a limited number of gum pockets<sup>①</sup>. Medium feature grade will be supplied unless otherwise specified. Cypress operates under a different standard including two grades<sup>②</sup>: grades 'one' and grade 'two'. These specify similar features to those of hardwood. Grade two will be supplied unless otherwise specified.

### BOARD FIXINGS

Board fixings are required at each framing support (e.g. ceiling joists or wall studs). Table 1 specifies maximum spacings and nail sizes to suit different board thicknesses.

It is only necessary to use one nail at each support where boards are less than 90mm wide and can be restrained along an edge by a tongue and groove (or rebate). Boards that are 90 to 135mm wide require the addition of adhesive or an additional fastener. Boards that are wider than 135mm require extra nails. In

Figure 1: Popular lining board profiles

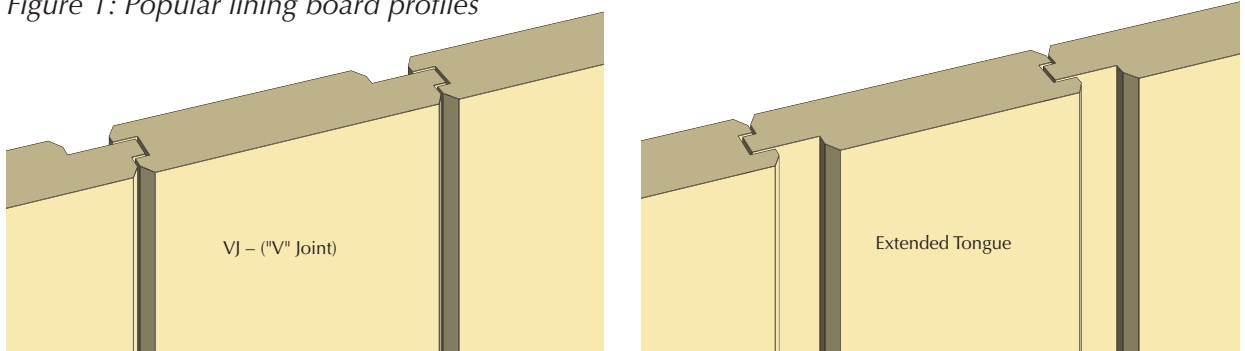


Table 1: Maximum spacing of supports and minimum nail size

Application	Lining Board Thickness (mm)	Maximum Span (mm)		Minimum Nail Size (mm)
		Perpendicular to lining boards	45° to lining boards	
Wall	12	900	600	40mm x 1.6mm
	19	1350	1000	50mm x 1.8mm
Ceiling	12	600	450	40mm x 1.6mm
	19	1200	900	50mm x 1.8mm

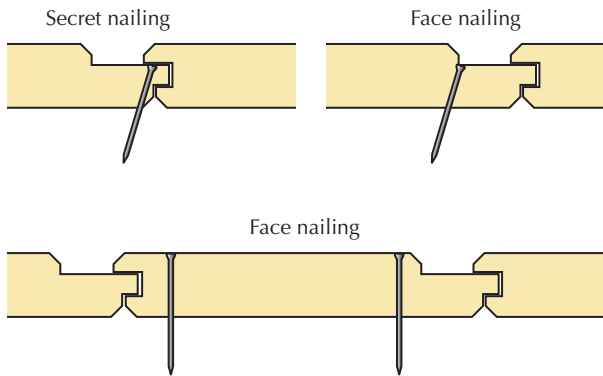
① For details refer to AS2796.2 Timber Hardwood – Sawn and milled Products, Standards Australia.

② For details refer to AS1810 Timber – Seasoned cypress pine – Milled products, Standards Australia.

such instances 'secret nailing' is unrealistic and care should be taken when matching timber fillers with timber colours as the timber typically darkens with exposure to ultra violet light.

Figure 2:

### Secret nailing and face nailing options



Where the installation is over masonry construction, or where a wall or ceiling needs levelling, the best option is to first fix timber battens to the wall or ceiling. Battens should be spaced to suit the requirements in Table 1. Batten size is generally 50 x 25mm or 70 x 25mm, and these should be mechanically fixed to the substrate with masonry anchors. Care should be taken with ceiling battens as they require higher pull-out loads and should therefore be checked for firm anchorage. Battens also need to be located to provide fixing points around openings, penetrations, and at butt joints in boards.

## MOISTURE CONTROL

Moisture in timber lining boards must be managed in order to ensure stability in service. Boards are usually supplied at an average moisture content of not more than 14 percent or less than 9 percent. They must be protected from rain and condensation by installing a vapour permeable sarking or equivalent.

For areas such as bathrooms and laundries, requirements also include:

- extra ventilation,
- a water repellent preservative applied to all board faces – back, ends, side and front,
- at least one coat of finish applied to all surfaces, plus additional coats on an 'as needs' basis,
- avoid use in areas that receive frequent wetting such as baths, showers or sink splash backs.

## SPECIFYING LININGS

When specifying lining boards the following information should be included:

- Species,
- Grade e.g. 'select' or 'medium feature', or 'grade 1 or 2' depending on species,
- Profile description,
- Length, width and thickness.

## RELATED PUBLICATIONS

### (From this Series of Timber Development Association Publications)

- Fire Requirements for Non-Domestic Fit-Out (including information on BCA requirements for fire and other issues).
- Technical & Detailing Guide for Hardwood and Cypress (including information on moisture management, durability, appearance and structural issues).

## ACKNOWLEDGMENTS

- Timber Manual, National Association of Forest Industries Ltd., Canberra.
- Timber panelling, Timber Research and Development Advisory Council, Brisbane.



For additional assistance please contact the Timber Advisory Service

**1800 044 529**

or visit the following websites:

[www.timber.net.au](http://www.timber.net.au)

[www.australianhardwood.net](http://www.australianhardwood.net)



Timber Development  
Association (NSW) Ltd



Department of  
**Infrastructure, Planning and Natural Resources**



Australian Government  
Department of Agriculture,  
Fisheries and Forestry

