



Tanglewood Winery

RADIAL INSTALLATION GUIDE

NATURAL EDGE WEATHERBOARDS

MARCH 2024



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Architect: Zen Architects
Builder: R&B Kahle
Photography: Emma Cross

Radial Timber Natural Edge Weatherboards are a sustainable option providing a unique rustic barn style look which perfectly blends into the natural surroundings. Supplied unseasoned and transported to site in log form with the ends uncut, this radially sawn product is produced to provide stability with minimal waste. Natural Edge Weatherboards have been used as a feature on houses, commercial landscaping projects, visitor centres, communal playgrounds, holiday homes and sheds.

Natural Edge Weatherboard logs are visually graded and sawn from selected naturally durable regrowth or plantation grown Australian hardwoods all of which have a Class 1 or 2 durability rating, which meets the required durability standard for external applications. We generally stock a select few hardwood timber species with a BAL rating of BAL 29 which is in the highest rating for natural hardwood timber and is recommended for use in high rated bushfire prone areas.

The Natural Edge Weatherboards are supplied unseasoned, cut fresh from logs with relatively high moisture content. All unseasoned timber shrinks to some extent as it dries, therefore it's extremely important that the fixing and spacing recommendations are strictly followed.



Timber
The Ultimate
Renewable

1.1 SUSTAINABILITY

1.2 WHERE DOES OUR TIMBER COME FROM?

Radial Timber is committed to the sustainable management of our timber resources. All Radial timber products are currently supplied through sustainable regrowth or plantation timber partners, unless specified otherwise.

Our vision is to become totally self sufficient by managing our own saw log plantations of durable hardwood in Gippsland. In 2004 we put in place a plan to establish at least 2000 hectares of native hardwood plantations, since then we have been planting and managing these plantations every year. We also acknowledge that we must work together with industries and government bodies to carefully manage our native regrowth timber resources to ensure a sustainable future for all. We truly believe you can love both timber and trees, if we work together to do so sustainably.

1.3 RADIAL SAWING METHOD

Radial Sawing was specifically designed to maximise the recovery of sawn timber from smaller logs. As such, Radial Sawing has a range of both environmental and technical benefits. Where conventional sawing methods require large diameter logs Radial Sawing technology helps make native hardwood plantations logs more viable by maximising the yield of high value timber products from much smaller logs.



Radial sawing works by quarter sawing a log into wedges (like a pizza) from these wedges the log is then back sawn into varying sizes of bevelled edge boards. These bevelled edged, rough sawn boards can be used unseasoned (green) for products such as Board & Batten or Screening. Alternatively the boards can be racked out for air drying, to then be kiln dried and moulded into high quality profiles such as Shiplap Cladding or Decking.

Other Radial Timber environmental endeavours include our new Bioenergy and LVL peeling plant both due to be commissioned in 2024/25.



Liz Filmer Landscaping

2.0 PRE-PLANNING

2.1 PROPER STORAGE OF TIMBER ON A CONSTRUCTION SITE

Timber should be stored up off the ground on bearers and preferably under cover or protected with an additional heavy-duty tarp to prevent rain and sun damage. It is recommended to leave boards in the log form and not cut off the ends until you are ready for installation.

2.2 TIMING OF INSTALLATION

As these boards are unseasoned its important to avoid installation on inclement days of weather and protect both the timber and cavities from water exposure at all times, this will ensure the preformance and longevity of the cladding. Installation on extreme weather days may increase the risk of boards cupping or distorting due to rapid moisture loss. It is advisable to have boards pre oiled before installation to regulate the moisture and help the boards acclimatise.

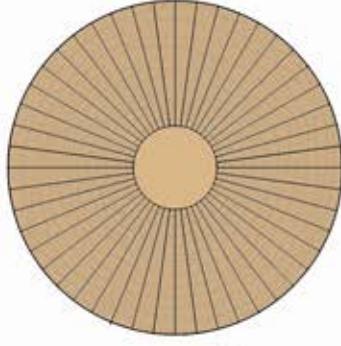
All unseasoned timber shrinks to some extent as it dries, resulting in a direct loss in volume therefore it's extremely important that the fixing and spacing/overlap recommendations are strictly followed.

3.0 PROFILE



Tanglewood Winery

3.1 NATURAL EDGE WEATHERBOARD PROFILE

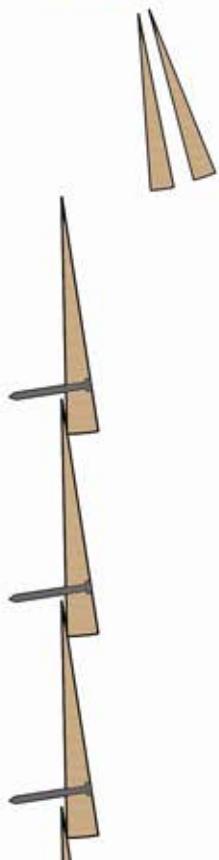


Natural Edge Weatherboards are cut to a nominal size and can vary depending on the diameter and taper of the log. Cover size of the boards will vary between 100-170mm. The approximate thickness of each wedge-shaped board is approx 25mm thick at the outer natural edge which tapers into a point at the other end. Boards will vary due to the natural shape of the log which is apart of the aesthetic.

Natural Edge Weatherboard logs are supplied in random lengths ranging from 3.0m to around 5.4m. Log diameters typically range from 380mm to 550mm and an average log contains between 15m² to 25m² of weatherboards. The weight of one log is approximately 750 Kg.

Whole logs are transported to site with the last 35cm of each end left uncut, which holds the unseasoned cut weatherboards together in situ.

Weatherboards can be screwed or gun nailed but care should be taken close to ends to avoid splitting. Typically, 50-65mm long screws or twisted/ring shank galvanised or stainless steel fixings should be used. It may be necessary to use 65mm screws/nails if boards are thicker than 25mm.



4.0 INSTALLATION

4.1 SARKING

Good quality vapour permeable fabric wall wraps or sarking are additional layers of protection that shield the timber frame from water-related weather damage such as condensation, mould or rot. It also allows moisture to escape from the inside of the structure. Selecting the right wall wrap is an important decision.

4.2 LAYOUT

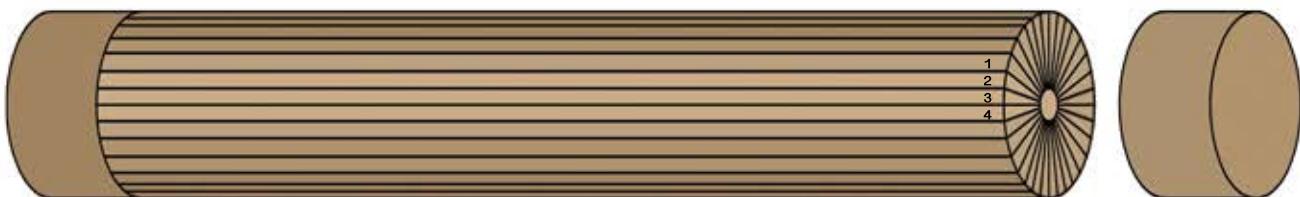
The weatherboard logs are supplied to site still in their log form. Number the boards around the log and then cut in from the ends 350-400mm with a chainsaw.

Boards are generally installed to a stud wall in sequence by using the numbered boards in order and following the natural profile of the log. Before fixing the first board at the base of the structure, the outer edge (thick edge) will have to be cut square in order to remove the natural curvature.

Remaining boards can then be fixed by eye, ignoring minor variations in cover.

A minimum board overlap of 30mm is required to allow for average shrinkage of up to 7% with the boards being fixed at 450mm-600mm MAX centres.

Logs come in a range of lengths from 3.0m - 5.4m so consideration of the length of wall is necessary. A square edge 75x50mm sawn stop can be provided to break up longer runs into sections or it can be used as an internal or external stop.



4.3 FIXING

Weatherboards can be screwed or gun nailed but care should be taken close to ends to avoid splitting. Typically, 50-65mm long screws or twisted/ring shank galvanised or stainless steel fixings should be used.

It may be necessary to use 65mm fixings if boards are thicker than 25mm.

For boards up to 100mm cover we recommend using one fixing per stud, however, if boards are over 100mm cover, two fixings per stud is recommended. Studs should be set out at 450mm-600mm MAX centres.

Minimum 30mm Overlap

Sarking

Fixings

Stud frame

MOST IMPORTANT: When fixing the Natural Edge Weatherboards a minimum 30mm overlap is required to allow for natural shrinkage.

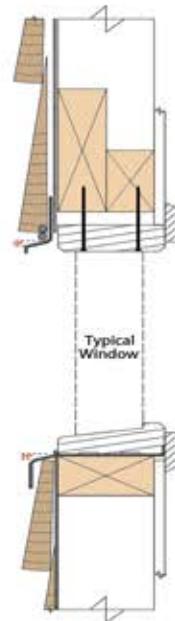
4.4 WEATHERPROOFING AND FLASHING

Weatherboards exposed to the sun and rain (north/northwest elevation) will shrink more than semi protected boards. Recommended overlaps are critical on these exposed elevations as is eliminating any butt joins and where possible provide some weather protection with eaves, veranda or similar. Do not allow rain or water to get behind boards during installation and days of extreme heat due to rapid moisture loss.

Wall cavities should be protected at all times. It's important that the flashing around windows or other openings is adequately installed to standard to allow for proper drainage away from the timber.

The bottom end of board should not come into ground contact and left with at least a 100 -150mm gap. This will provide both a ventilation entry for the cavity and avoid boards decaying and staining from ground moisture.

It is advised the bottom of the boards be undercut to form a drip edge and a suitable angled flashing or vented cavity closer is installed.



4.5 JOINS



Logs come in a range of lengths from 3.0m - 5.4m so consideration of the length of wall is necessary. It's recommended that a 75x50mm sawn stop is used to break up longer runs into shorter sections or alternatively you can route a groove and lap join the boards.



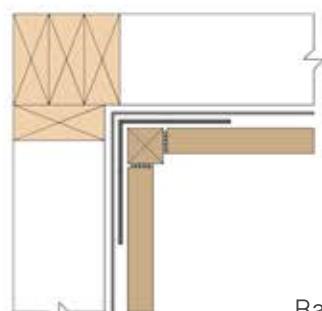
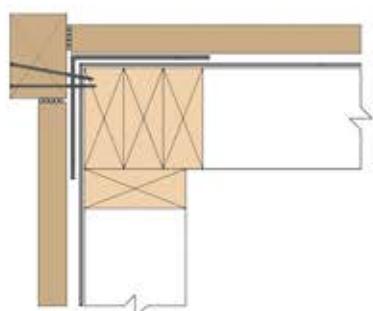
4.6 CORNER DETAILS

There are a number of ways to finish off internal and external corners with timber stops being the most common. Some important factors are to ensure no moisture can get in the joins, use a suitable flexible sealant and flashing behind the boards.

For more information visit our website construction drawings.



Typical External/Internal Corner Details



5.0 FINISHING & COATING

5.1 TIMBER OILING AND STAINING

When selecting external finishes for cladding, decking or vertical screening, it's important to strike a balance between aesthetics and durability. Hardwood timbers are best provided with some weather protection while acclimatising to local conditions and to repel and control moisture. This will minimise splitting, cracking and checking that naturally occurs in timber.

There are a variety of timber treatments, stains and coatings available and these should usually be applied on all sides of the board prior to fixing into position especially in the case of interlocking or overlapping boards such as shiplap, board and batten or weatherboards.

Radial Timber recommends the application of a high quality oil or water based penetrating sealer which is equipped to handle the Australian elements and movement of timber caused by moisture variations. We don't recommend a film coating as this will generally not breathe adequately and be susceptible to peeling down the track.

Some points to consider:

- Care must be taken to well coat any end grain to minimise water absorption or loss.
- Narrower boards reduce the amount of stress placed on the coating system.
- Coatings on timber exposed to the north and west will deteriorate more rapidly than on south facing surfaces or in shaded areas.
- Darker stains may cause more movement due to heat.
- Timber must be sufficiently dry when coated.
- Timber partially sheltered by overhanging eaves will weather at a different rate to more exposed timber.

Radial Timber can offer a cost-effective in-house tinted oil, clear sealer or various waterbased coloured options prior to despatch.



6.0 TIMBER CARE & ADVICE

6.1 MAINTENANCE OF FINISHES

The long-term performance of a timber finish is dependent on regular and effective maintenance. The frequency of maintenance will depend on the type of finish and the degree of exposure to the weather. Recoating and any further preparations should be carried out in accordance with the coating manufacturer's specifications.

6.2 SEASONING AND WEATHERING

Some minor surface checking may occur when the timber is exposed to the weather but these non-structural cracks are typical in most Australian hardwoods (NOTE: unprotected west facing walls may be subject to extreme temperature changes and therefore, timber is more likely to check or move). On these walls it's best to try and avoid any joins on the random length boards or consider another product

All exposed, externally fixed cladding will tend to fade to a silver-grey colour if left uncoated. The degree of greying will vary depending on the amount of exposure to sun, wind and rain.

6.3 TANNIN LEACHING FROM TIMBER

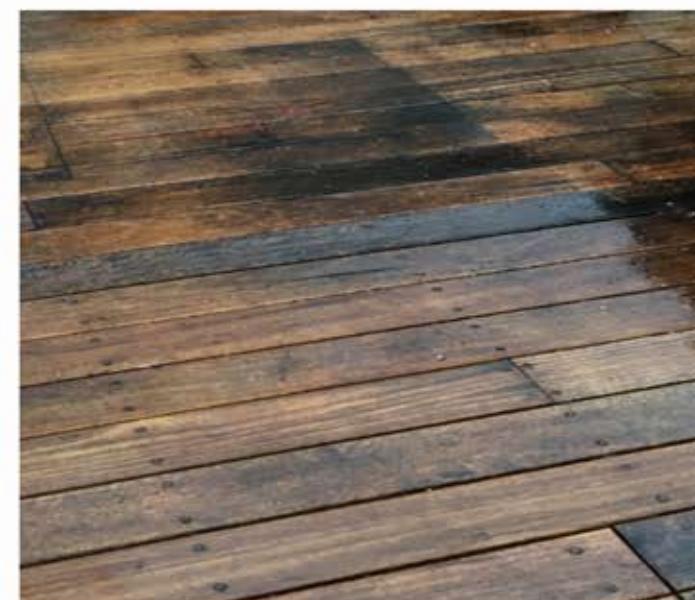
It is normal for hardwoods to leach red/brown tannins during heavy rain periods.

Tannins tend to be less prominent in lighter species but it is advisable to cover or protect walls and paving until all tannins have fully leached (can vary depending on rainfall but will generally continue for up to 6 months). If tannin staining occurs on other surfaces it can generally be cleaned back with a diluted bleach/water mix or mild oxalic acid wash.



6.4 IRON STAINING AND CLEANING

Iron stain, is an unsightly blue, black or grey discolouration and can occur on nearly all woods. The discolouration is caused by a chemical reaction between tannins in the wood and iron in steel products. Problems have been associated with traces of iron left on wood from cutting or slicing, or more commonly iron dust from metalworking. This often occurs after rain or dew, when water enables the tannins and iron to meet and react. It's very important that no metal work or grinding happens near timber as the filings will cause this contamination. The majority of this staining can be cleaned off by washing with a 5% solution of oxalic acid. This should revert the timber back to its near original clean timber appearance. (Radial Timber can supply oxalic acid).





7.0 ADDITIONAL INFORMATION

7.1 ADDITIONAL INFORMATION

Additional information such as specs, blogs, videos and full construction drawings can be found on our website at www.radialtimbers.com.au. You can also call the office on **(03) 9768 2100** or email sales@radialtimbers.com.au anytime to discuss any installation queries.