



# TECHNICAL SPECIFICATION

## THERMOWOOD **BOARDS**

### Overview

Silva ThermoWood® is an attractive, sustainable solid wood material produced from Finnish grown European Redwood (Nordic Pine) using a chemical-free natural process involving heat and steam. This thermal modification process makes it durable, dimensionally stable, resin-free, and even changes its colour to a pleasing warm brown.

There is a vast range of end uses for Silva ThermoWood boards. Combine the different board widths to create board and batten (board-on-board) style cladding, which adds a sense of depth and texture to any façade. Silva ThermoWood boards are used for open jointed cladding, fascia, bargeboards, door and window reveals, corner trim, fences, horizontal slatted screens, and many more applications.



### Wood species

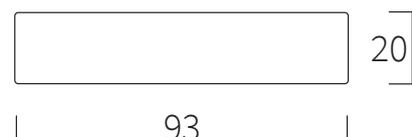
Thermally modified, Nordic Pine (*Pinus sylvestris*).

### Profile, sizes, and lengths

**Profile:** Board.

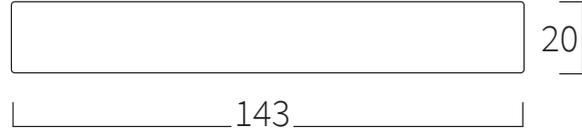
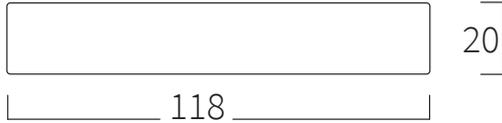
**Lengths:** 1.8m to 6.0m.

Sizes <sup>1</sup> :	Profile codes:
20 x 93mm	ST030113
20 x 118mm	ST030114
20 x 143mm	ST030115



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All measurements displayed in millimetres.

## Product specification

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<b>Name</b>	ThermoWood® Boards.
<b>Classification</b>	Thermo-D (internal and external use) and is CE marked and approved.
<b>Grade</b>	Live knotted A/B grade European Redwood.
<b>Surface texture</b>	Smooth face.
<b>Durability</b>	Decay resistance of durability Class 2 (durable) according to the EN 113 standard.
<b>Serviceable life</b>	30+ years can be achieved or 60+ years if a surface coating is applied at the outset and detailed and maintained periodically.
<b>Moisture content</b>	4-7% (50% RH) when packed at the production site, increasing to 8-10% (50% RH) when moved into storage and 10-12% (50% RH) at arrival on site. The wood must then acclimatise before installation.
<b>Dimensional change</b>	Expected dimensional change is dependant on board size, profile and wood species. Example based on 118mm wide ThermoWood board with an expected dimensional change of 1mm when 50%RH <sup>2</sup> .
<b>Density</b>	350 – 480kg/m <sup>3</sup> when its moisture content is 6% (typical for RH = 65%, t=20° conditions). Natural variation will occur between individual boards.
<b>Fire</b>	Class D in accordance with the SBI (single burning item). It is possible to treat ThermoWood with commercially available fire retardant in order to achieve Euro Class B under EN 13501, or UK fire rating Class 1, Class ‘O’ Spread of Flame as defined under BS476 Part 7.
<b>Thermal Properties</b>	0.099 W/(m K).
<b>Sustainability</b>	Sourced Finnish forests, PEFC certified, ensuring the raw material is sourced from sustainable managed forests.
<b>Uses</b>	Open jointed cladding, board-on-board cladding, fascia, bargeboards, window and door reveals, corner trim etc.

## Factory coating

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Silva ThermoWood cladding can be factory coated enabling it to be installed at any time of year regardless of the weather or temperature. The application of a coating is necessary to protect the wood from the damaging effects of moisture and UV, to help prevent the wood from turning grey and to curb the growth of fungi that produce mould or blue stains.

## Recommended coating systems

Silva's factory coated cladding range is available with a choice of two high-performance coating systems.



### Sansin SDF™

SDF's specially formulated oils and resins penetrate into the wood, providing outstanding weather and UV protection. High-quality nano pigments create vibrant colours that last. Available in a wide range of natural, semi-transparent and solid colours.

Trend Series Natural: Three specially formulated natural tones to complement and enhance the natural colours of ThermoWood.



Light

Medium

Dark

Trend Series Opaque: Five of our most popular low maintenance solid colours.



Black

Anthracite

Cashmere

Rich Cedar

Coniston Grey

Full Sansin Colour Range: A choice of over 100 colours from five exterior colour tone categories: Natural, Translucent, Saturated, Ultra-saturated, Solid Hide.

Special Colours: Custom colours and RAL colour matching available.

### Sansin Wood Sealer™

A low-VOC water-borne penetrating treatment. Virtually invisible once applied, it is designed to reduce moisture absorption and minimise surface growth and discolouration. Over time, the wood will weather uniformly to a beautiful silver-grey tone.



Wood sealer four years after installation

## Maintenance

Sansin SDF and Wood Sealer penetrate the surface of the wood, so unlike film-forming finishes, they will not crack, peel, or blister.

Easy maintenance - no sanding or stripping necessary.

Clean and apply a single coat to refresh appearance as required.

## Important design considerations

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**Required fixings** 60mm stainless steel annular ring shank nails – flat head, grade 304.

Use marine grade 316 for exposed areas such as tall elevations and coastal locations for ultimate corrosion resistance.

**Fixing instructions** Install horizontally or vertically.

Use a suitable breathable waterproof membrane except on already watertight walls e.g. masonry.

Ensure there is an adequate cavity between the cladding and the external walls to provide drainage and ventilation.

Ensure that there are suitable flashings at the boundaries of the cladding at junctions with other components, and around openings in order to direct water clear of the cladding.

Minimum recommended gap of 2mm between the joint of adjoining boards.

Nail fixing should be, where possible, at least 30mm from the end of each board and 30mm from the edges.

For hidden fixings, pre-drill nail holes to minimise splitting.

Leave a 15mm gap between bottom of vertical boards and flashings. Horizontal boards stop short of any vertical members by 8 – 10mm to allow ventilation to the end grain of the boards.

Stop the cladding 200 – 250mm above ground level, or abutting roofs, to prevent indirect wetting as a result of splashback off the ground or other horizontal surfaces.

Apply end sealer or a good coating of touch up stain to any cut ends.

**Batten instructions** Horizontal cladding is fixed to vertical battens.

Vertical cladding is fixed to horizontal battens on top of vertical counter battens to provide adequate airflow.

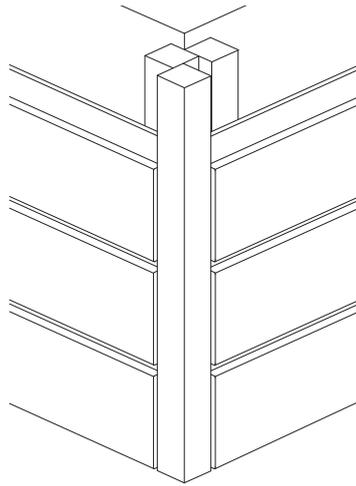
Battens should be configured so as not to restrict drainage and the vertical circulation of air.

Horizontal battens should be a minimum thickness of 38mm treated softwood or 43mm in ThermoWood.

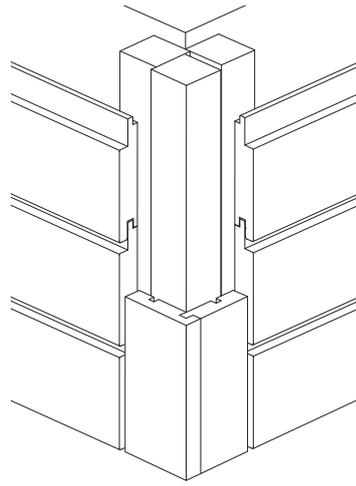
Vertical battens should be a minimum thickness of 38mm treated softwood or 43mm in ThermoWood.

Battens fixed vertically to timber framed walls or aligned with a stud wall should be 19mm as a minimum. If attached to a masonry wall use 38mm minimum.

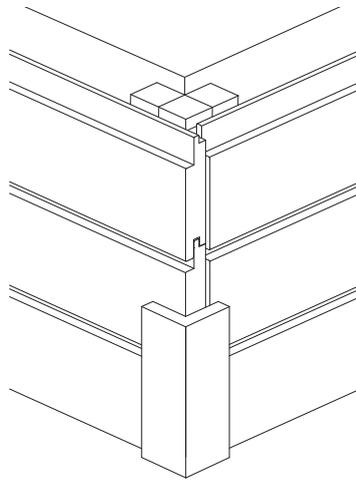
**Corner details**



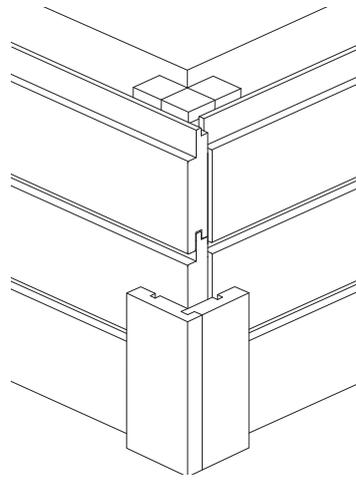
Square timber corner detail.



Square timber corner detail with 2-piece L-shaped corner.



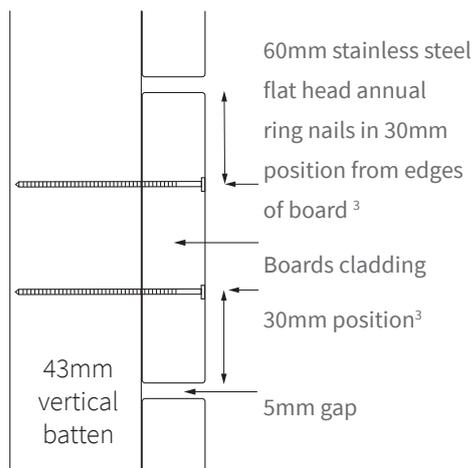
L-shaped timber corner detail.



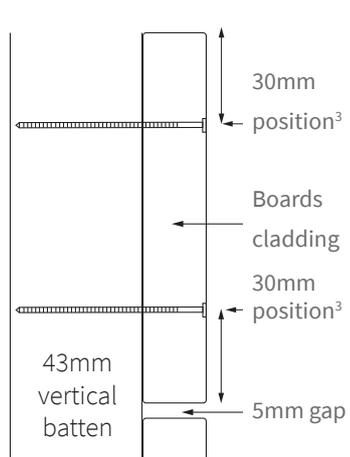
2-piece L-shaped timber corner detail.

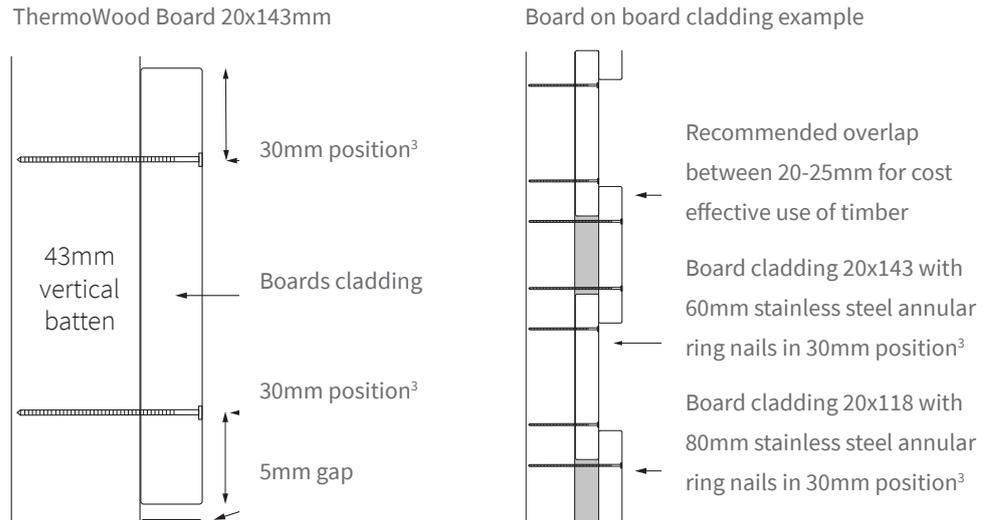
**Wall fixing position**

ThermoWood Board 20x93mm



ThermoWood Board 20x118mm





Silva Timber recommends where possible to position nails a minimum of 30mm from the edge of the board.

## Storage & handling

Store cladding, horizontally, on a solid surface (not earth/grass) in a dry, well-ventilated space sheltered from the sun and rain.

Raise off the ground on bearers to allow airflow through and around the stack and place bearers at regular intervals to prevent stack from bowing.

ThermoWood is a natural wood product without additional chemicals. When not glued or painted, uncoated ThermoWood waste can be handled like any other untreated wood waste.

## Accessories

### Corner solutions

ThermoWood L-shaped corner	SKU: TWST09LSH 1M	Profile code: ST030190
ThermoWood 2 piece L shaped corner	SKU: KITTWST03019 1M	Profile code: ST030194
ThermoWood square shaped corner trim	SKU: TWST09CNR 1M	Profile code: ST030191

### Boards

ThermoWood board (20x93)	SKU: TWST09P04 1M	Profile code: ST030113
ThermoWood board (20x118)	SKU: TWST09P05 1M	Profile code: ST030114
ThermoWood board (20x143)	SKU: TWST09P06 1M	Profile code: ST030115

### Fixings

60mm stainless steel flat head annular ring nails	SKU: 60SHANK
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### Breathable membranes

DuPont™ Tyvek® HouseWrap®	SKU: TY44RHW10028
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### Coatings

Sansin® SDF	SKU: dependent on range and colour
Sansin® Wood Sealer	SKU: 8211/

<sup>1</sup> Note: slight changes in size may occur after machining in response to changes in moisture levels. Though the timber will be kiln-dried to 16 – 18% +/- 2% at the time of production, the moisture level may increase or decrease according to the temperature and the relative humidity (RH) of the ambient air. Changes in moisture levels may cause the cladding to expand or contract slightly, therefore a margin of error to accommodate slight variance in size should be used when producing layout drawings.

<sup>2</sup> Dimensional change of 118mm wide ThermoWood cladding when 50%RH. 90%RH ThermoWood MC change 5% (5%-->10%). Width change (%)  $5\% \times 0.17 = 0.85\%$ . Width change in mm  $0.0085 \times 118\text{mm} = 1\text{mm}$ . Source: ThermoWood Association.

<sup>3</sup> Suggested fixing positions for boards should be a minimum of 30mm from board edges (from the furthest edge of the board) using 60mm stainless steel annular ring nails.

\* Actual product colours may vary from colours shown on your monitor. Colours can be verified by ordering a sample. If you have any questions, please contact us on 0151 495 3111 or email to [enquiries@silvatimber.co.uk](mailto:enquiries@silvatimber.co.uk).

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