



TECHNICAL SPECIFICATION

THERMOWOOD RAINSCREEN CLADDING

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.

Rainscreen is chamfered on both edges enabling the boards to overlap and to drain water to the outside. The open joint creates strong shadow lines, which will accentuate the width of a façade. This type of cladding is suited to contemporary architectural styles.



Wood species

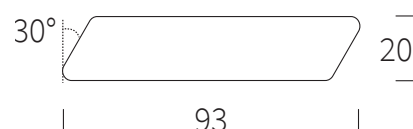
Thermally modified, Nordic Pine (*Pinus sylvestris*).

Profile, sizes, and lengths

Profile: Rainscreen.

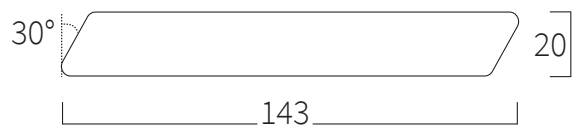
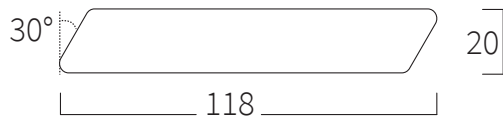
Lengths: 3.9m to 5.1m.

Sizes ¹ :	Profile codes:
20 x 93mm	ST030110
20 x 118mm	ST030111
20 x 143mm	ST030112



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All measurements displayed in millimetres.

Product specification

Name	ThermoWood® Rainscreen Cladding.
Classification	Thermo-D (internal and external use) and is CE marked and approved.
Grade	Live knotted A/B grade European Redwood.
Surface texture	Smooth face.
Durability	Decay resistance of durability Class 2 (durable) according to the EN 113 standard.
Serviceable life	30+ years can be achieved or 60+ years if a surface coating is applied at the outset and detailed and maintained periodically.
Moisture content	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.
Dimensional change	Expected dimensional change is dependent on board size, profile and wood species. Example based on 118mm wide ThermoWood board with an expected dimensional change of 1mm when 50%RH ² .
Density	350 – 480kg/m ³ when its moisture content is 6% (typical for RH = 65%, t=20° conditions). Natural variation will occur between individual boards.
Fire	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.
Thermal Properties	0.099 W/(m K).
Sustainability	Sourced Finnish forests, PEFC certified, ensuring the raw material is sourced from sustainable managed forests.

Factory coating

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

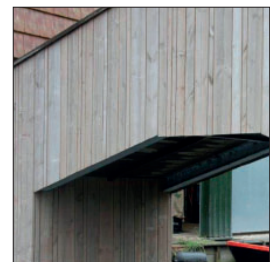
Coniston Grey

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

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.

Boards should be installed sloping away from the wall.

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.

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.

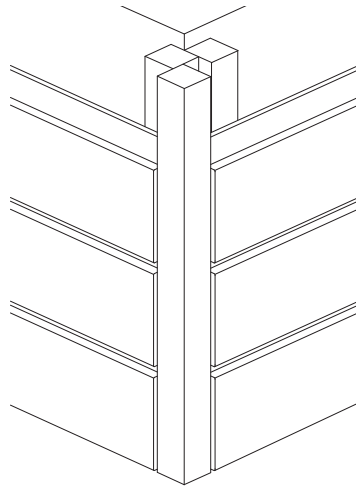
Battens should be configured so as not to restrict drainage and the vertical circulation of air.

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

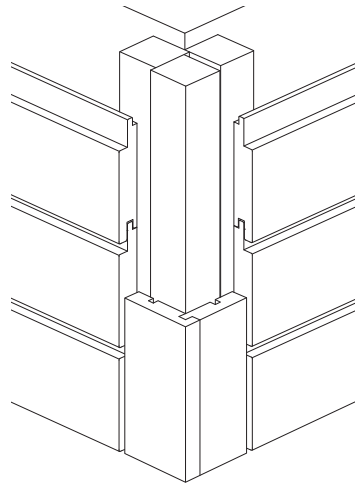
Vertical battens should be a minimum thickness of 38mm treated softwood or 43mm in ThermoWood.

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.

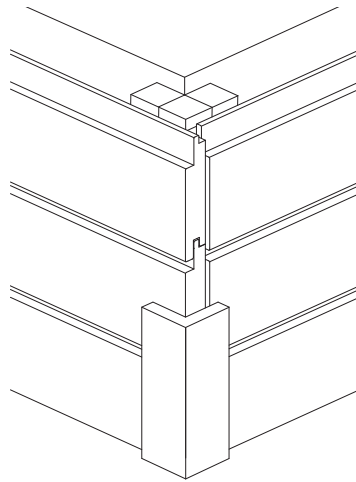
Corner details



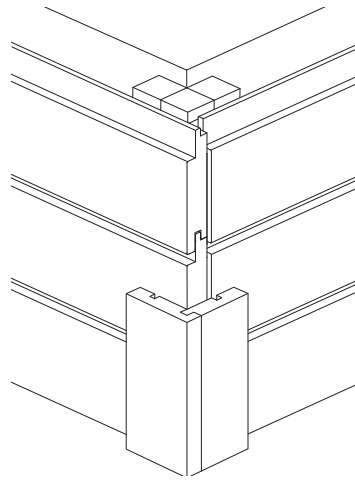
Square timber corner detail.



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



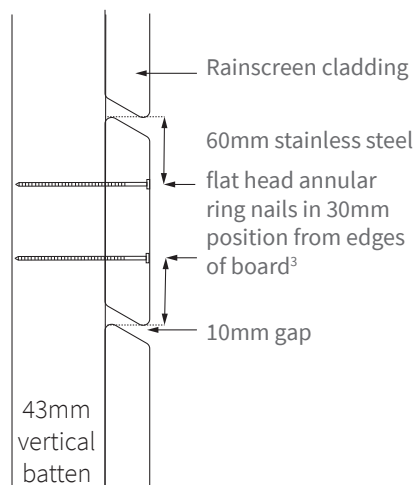
L-shaped timber corner detail.



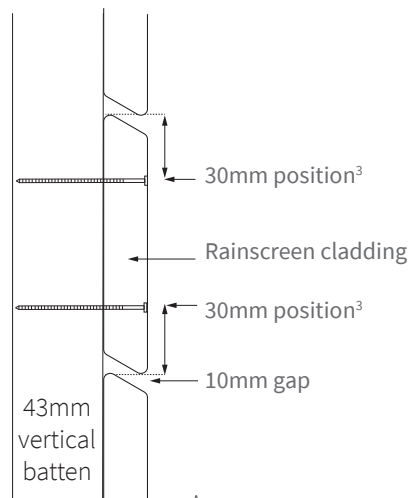
2-piece L-shaped timber corner detail.

Wall fixing position

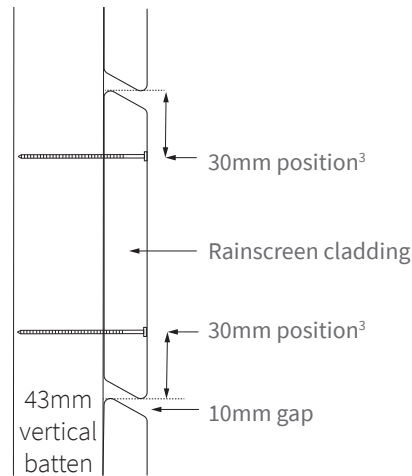
ThermoWood Rainscreen 20x93mm



ThermoWood Rainscreen 20x118mm



ThermoWood Rainscreen 20x143mm



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/

¹ 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.

² 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.

³ 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.

T: 0151 495 3111
E: enquiries@silvatimber.co.uk
W: silvatimber.co.uk

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