THERMOWOOD

Real FACADE® for cladding

Real DECK® for decking

Expert overview of Thermowood and the product range.

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Thermowood
REAL DECK for decking

WHAT IS THERMOWOOD?

Warm, safe and healthy wood for decking, cladding and sauna interiors. Thermowood is a thermally treated wood produced using completely natural methods.

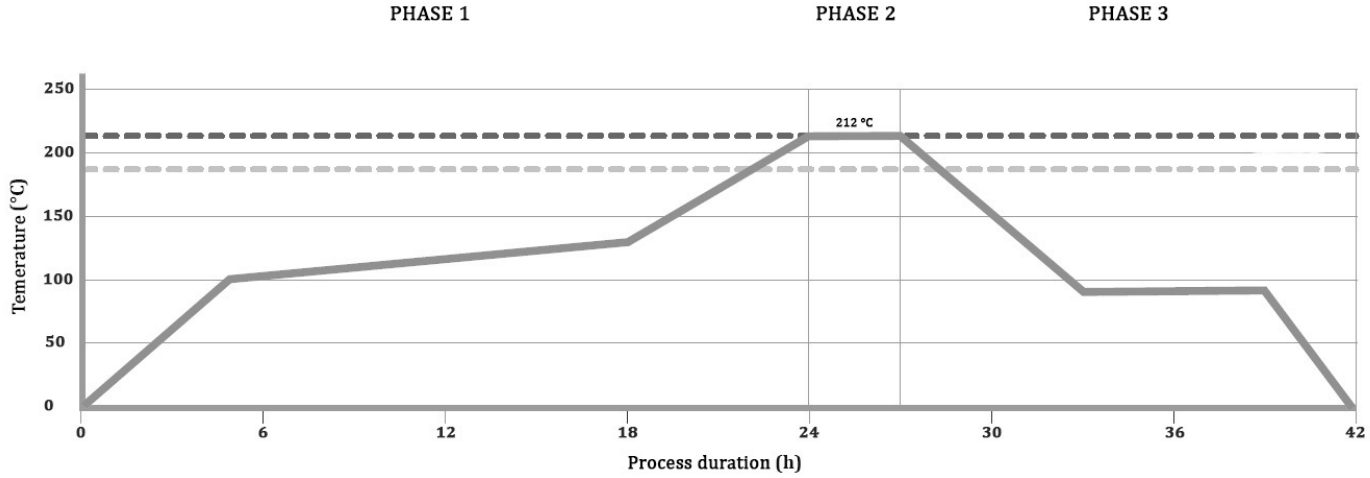
Eco-friendly and safe, Thermowood is produced using high temperature and steam. As no chemicals are added during the process, there is no chemical leaching and Thermowood contains only renewable substances. In addition, since the resin is removed during the process, there is no problem with resin leakage through the knots or resin pockets after the panels are laid.

The heat treatment improves the properties of the wood and opens up a wide range of applications. Thermowood is mainly made from pine, spruce and ash. The entire production process is environmentally friendly, without the use of harmful chemicals, and gives the wood high properties for all weather conditions.

Charring the surface of wood to make it more resistant to moisture was used by the ancient Egyptians. The charred surface created a protective layer that increased the biological resistance of the wood. This method was used to protect the underground parts of hay stakes and fence posts from moisture in the soil. It can be said that charring the surface of the wood until it charred on an open fire was the first step towards heat.

The wood is processed using the WTT thermal modification method. The production is harmonised and the manufacturers have implemented an audited quality control system. Thermal modification of wood is carried out in industrial facilities. The product acquires a brownish tint during the process. During the thermal modification process, the softwood excretes resin and other organic compounds. Extractive substances are also removed from hardwood. A special control system is used to regulate the temperature, which prevents the wood from cracking. Different settings of the production control system are used for different types and sizes of wood.

FIGURE 1:



The production process can be divided into three main phases.

Stage 1: high temperature drying
The dryer quickly heats up to 100 °C. The temperature is then gradually increased to the desired level. During this process, the wood dries out and its moisture content is reduced to 6-8%.

Stage 2: Heat treatment
After high temperature drying, the furnace is kept at a constant temperature and the actual modification takes place.

Stage 3: Cooling/air conditioning
In the last phase, the temperature in the furnace is lowered using a water spray system. When the temperature is low enough, the wood‘s moisture content is again increased using water and steam to improve its workability and dimensional stability. The residual moisture level remains at 10-12%. This moisture content is the final moisture content for Thermo wood.

Thermowood

A SIGN OF REAL QUALITY

Thermowood uses a patented manufacturing process and is a registered trademark that can only be used by licensed companies that are members of the International ThermoWood Association (ITWA). The quality of production is carefully controlled, so when you buy Thermowood from REAL FACADE or REAL DECK, you know you are getting a truly quality product from manufacturers belonging to this International Association.

GRADING:

Thermowood pine decking boards are supplied in A/B grading in a 60:40 ratio. In practice, this means that sixty percent of the delivered material is free from defects of a serious nature on the face of the decking boards at the time of delivery. The remaining forty per cent of the delivery may have the grading described in detail in the product data sheet.

High durability, dimensional stability and thermal properties.

Thermowood is an eco-friendly alternative to pressure-impregnated wood and is resistant to harsh weather conditions, fungus and rot. Its rot resistance, low moisture content and thermal conductivity make Thermowood a dimensionally stable and durable wood product with excellent insulating properties. Thermowood retains its shape and with recommended care and maintenance can withstand harsh climatic conditions.
The heat treatment process significantly reduces the wood‘s tendency to warp, swell or shrink under varying moisture conditions. The equilibrium moisture balance of wood can be reduced to less than 40-50% compared to untreated wood.

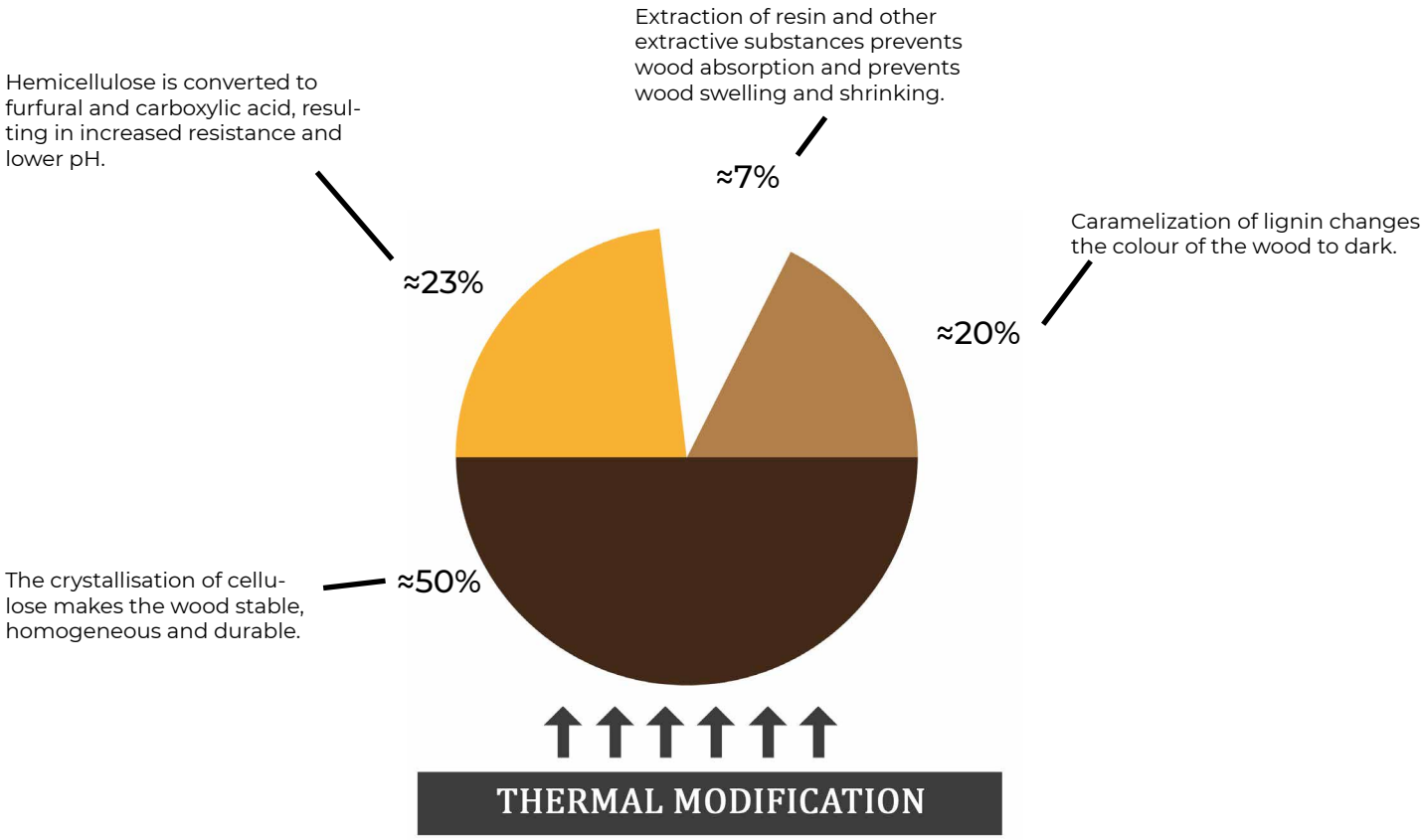
Versatile product, diverse use in exterior and interior.

Thermowood is a very popular choice for interior cladding and saunas, but also for flooring, furniture and other building elements. Externally, it is the perfect wood for deckings and claddings. We supply standard and custom profiles and can also supply you with heat-treated raw material for further processing. Because Thermowood contains no resin or heartwood, you can easily further enhance it with an oil or oil and wax finish, apply fireproof coatings or simply leave it in its natural state.
Thermowood from AU-MEX, which supplies this material under the licensed brands REAL FACADE and REAL DECK, is available in the Thermo-D heat treatment class, which ensures the best technical properties. Thermo-D has increased durability due to the thermal modification of the wood at 212°C, has a darker brown shade and is used both indoors and outdoors. Thermo-D is suitable for use class 3 (EN 335).
Durability and rot resistance Thermo-D falls into durability class 2 (EN 350). If the wood is to be protected against termites, treatment with a suitable coating is required.

Natural condition of THERMOWOOD

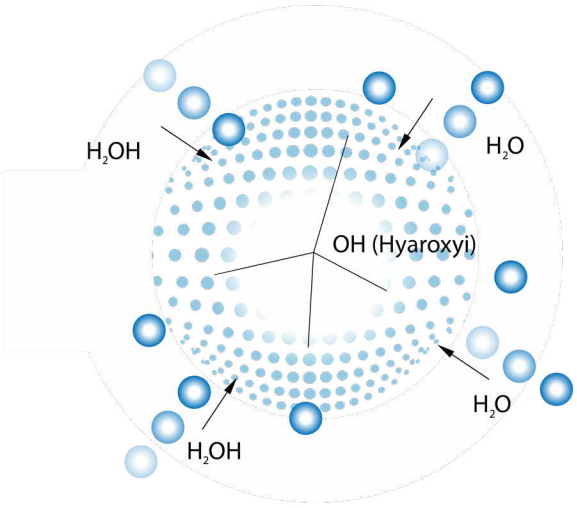
Why does thermally modified wood generally get high marks for increased stability and durability? Heat treatment increases the stability and durability of wood. Wood consists of 50% cellulose, 23% hemicellulose, 20% lignin and 7% other organic compounds called extractives or tannins.
The heat treatment removes the resin, all extractive substances and also the OH (Hydroxyl) binding water groups from the wood. This process reduces the water absorption of the wood, thereby increasing its resistance to rotting and reducing swelling and shrinkage. Another factor that contributes to the high durability of wood is the crystallisation of cellulose. The change in hemicellulose increases the durability of the wood. Hemicellulose breaks down into furfural* and carboxylic acid. Heat-induced caramelisation of lignin results in a darkening of the original shade of the wood.

***furfural- an organic compound contained in hemicellulose**

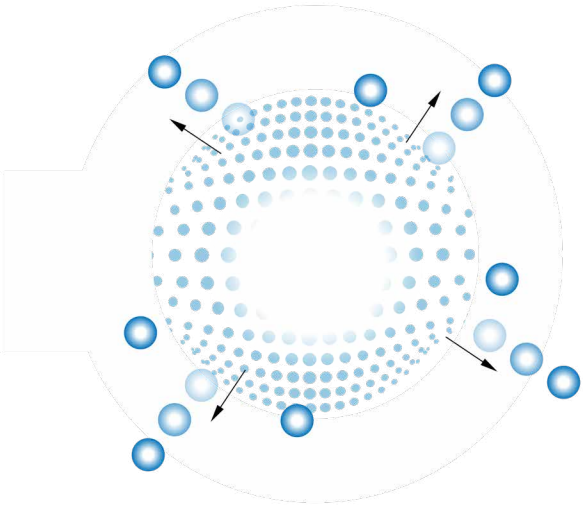


THERMOWOOD PROCESS and changes in wood structure during the production process.

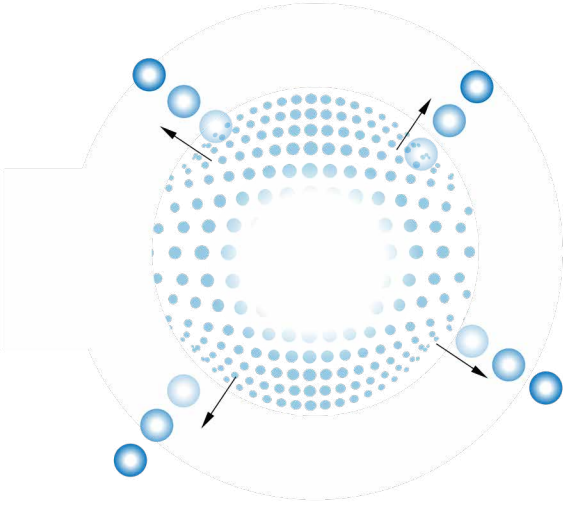
H_2O and OH move inside the wood.



Regular drying (up to 90°C) releases free water from the wood cell.



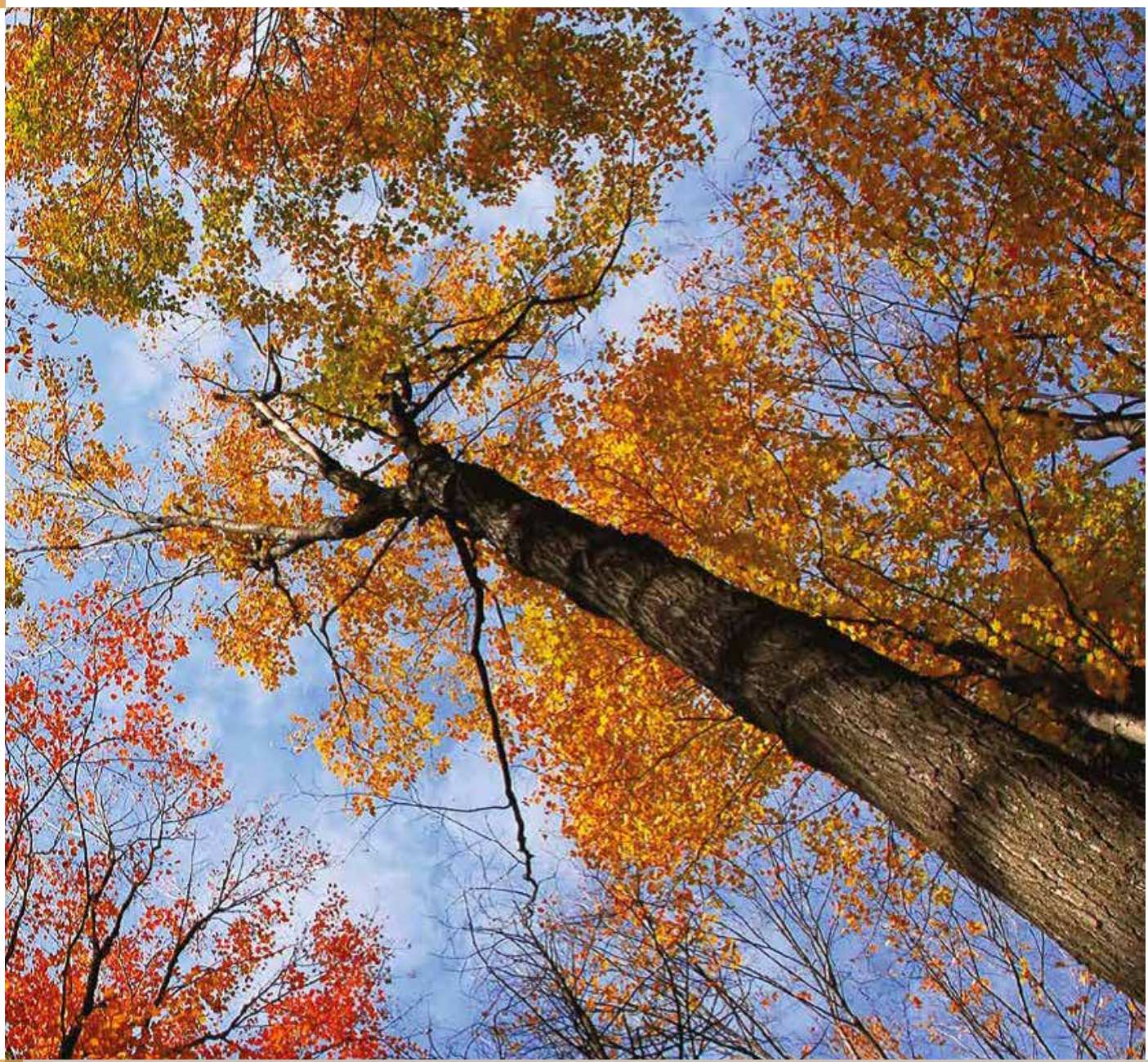
The Thermowood process (212°C) releases water-bound (hygroscopic) OH from the cell and the moisture content of the wood is rapidly eliminated.



Impacts on the enviroment

Thermo wood products are manufactured using certified wood that falls under the PEFC and FSC certification systems.
The finished products are natural wood products without chemicals.
The by-products generated during the production process can be used for energy production or recycled, for example as raw material for composite materials.

THERMOWOOD products offer a long service life. When they reach the end of their life, thermally modified wood can be used in a similar way to other woods.



Product technical data Thermowood pine with Thermo-D thermal modification

NATURAL DURABILITY INDEX - USE CLASS ACCORDING TO EN 335						
1	2	3	4	5	6	7
1=VERY HIGH DURABILITY						7=LOW

Wood properties:

Density (at 20/65 kg/m3) DIN 52182	362-404kg/m3
light wood	
Drying in radial direction	1,79%
Drying in tangential direction	3,62%
Modulus of elasticity (perpendicular to the fibres) (Mpa-N/mm2) DIN EN 408, TS 2478	7411
Burst Module (Mpa) DIN EN 408, TS 2474	31-42
Impact bending strength (perpendicular to the fibres) (Mpa) TS 2477	0,16
Compressive strength (Mpa) TS 2395	44
Brinell hardness	15 N/mm2

Physical, biological and technological properties:

Equilibrium moisture content at 20/65 (%) EN 13185-1	4(4-6)
Biological resistance to fungal attack and rot EN 350	Class 2
Strength of screws and bolts (stainless steel bolts and plastic clips only)	Class 2
Hardness of JANKA	850
Group according to hardness	MPa
Soft	<40
Fire resistance of untreated wood EN 13823 Smoke generation Degree of burn-through	Class D S2 d0

Fire resistance of wood treated with fire retardant coating EN 13823 Smoke generation Degree of burn-through	Class A2/B S1 d0
Thermal properties EN 12667	0,099W/(m K)

Emissions, environment, health and safety:

Emissions are not harmful outdoors	YES
PEFC Certificate	YES
100% natural	YES
100% recyclable, biodegradable, degradable	YES
low energy consumption of processing	YES
Sustainable development and a low-carbon future	YES
from forests managed in a sustainable manner	YES
completely natural and harmless, without any chemicals	YES
Safe for health	YES
Improving wood stability and durability without the use of persistent toxic chemicals	YES

Product technical data Themowood ash with Thermo-D thermal modification

NATURAL DURABILITY INDEX - CLASS OF USE ACCORDING TO EN 335						
1	2	3	4	5	6	7
1=VERY HIGH SERVICE LIFE						7=LOW

Wood properties:

Density (at 20/65 (kg/m³) DIN 52182)	595-629kg/m³
medium-heavy and hard wood	
Drying in radial direction	4,6%
Drying in tangential direction	2,03%
Modulus of elasticity (perpendicular to the fibres) (Mpa-N/mm2) DIN EN 408, TS 2478	12.480-14.000
Burst Module (Mpa) DIN EN 408, TS 2474	56.6-85.7
Impact bending strength (perpendicular to the fibres) (Mpa) TS 2477	-
Compressive strength (MPa) TS 2595	-
Brinell hardness	30.5 N/mm2

Physical, biological and technological properties:

Equilibrium moisture content at 20/65 (%) EN 13183-1	4.2 (4-6)
Biological resistance to fungal attack and rot EN 350	Class 1
Strength of screws and bolts (stainless steel bolts and plastic clips only)	Class 2
Hardness of JANKA	1320
Group according to hardness	MPa
Soft	≥40
Fire resistance of untreated wood EN 13823 Smoke generation Degree of burn-through	Class D S2 d0

Fire resistance of treated wood fire-retardant-treated EN 13823 Smoke generation Degree of burn-through	Class A2/B S1 d0
Thermal properties EN 12667	0,099 W/(mK)

Emissions, environment, health and safety:

Emissions are not harmful outdoors	YES
PEFC Certificate	YES
100% natural	YES
100% recyclable, biodegradable, degradable	YES
low energy consumption of processing	YES
Sustainable development and a low-carbon future	YES
from forests managed in a sustainable manner	YES
completely natural and harmless, without any chemicals	YES
Safe for health	YES
Improving wood stability and durability without the use of persistent toxic chemicals	YES

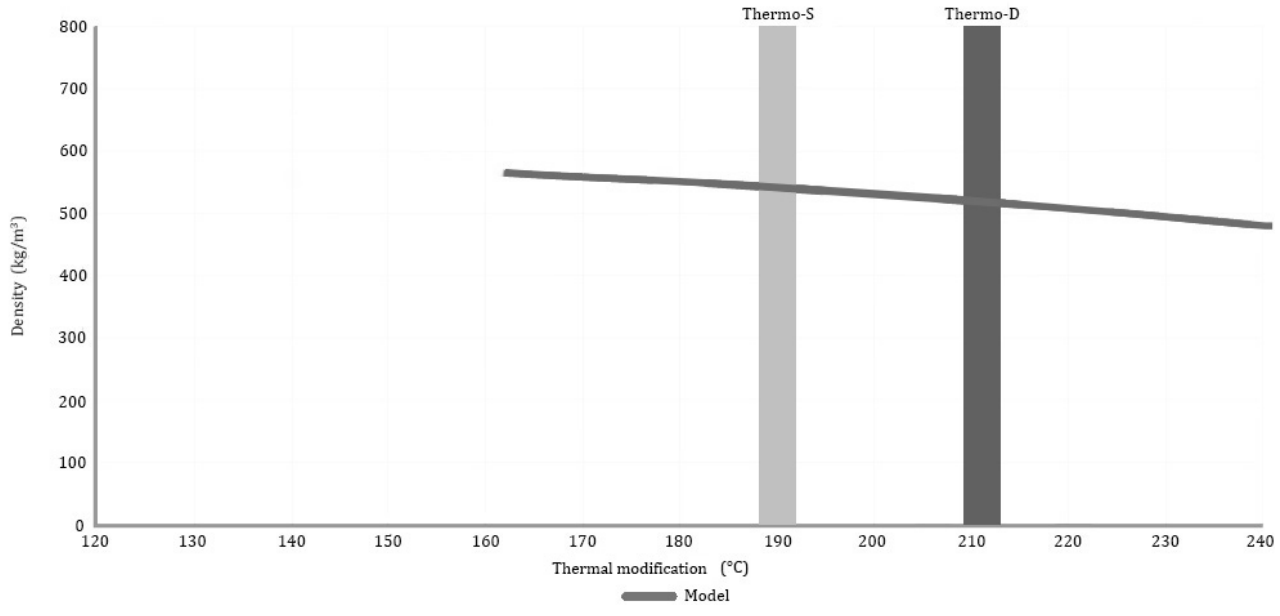
Physical and biological and technical properties

Density

Thermowood has a lower density than wood that has not been modified. This is mainly due to the fact that the wood loses some of its compounds during thermal modification. Figure 2 shows the effect of thermal modification on the density of pine wood when treated for three hours at temperatures between +160 °C and +240 °C. The density decreases with higher temperatures. However, variations are likely due to the natural variability of wood density. The average density at temperatures <160 °C is 560 kg/m3. The test material was conditioned at 65 % of relative humidity.

(Explanatory note: conditioning = adaptation of the material to specific predetermined influences (moisture, heat, pressure, etc.)

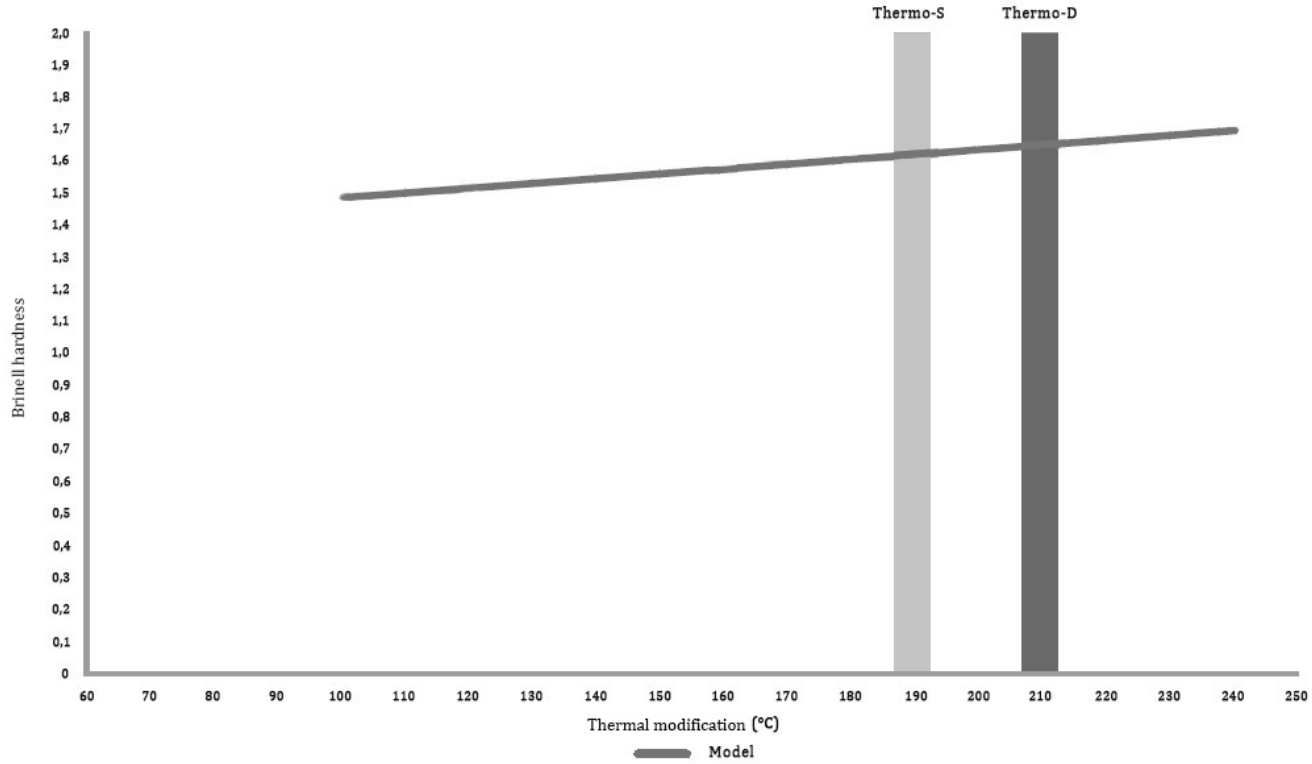
Figure 2. Effect of thermal modification on the density of ThermoWood® (source: VTT).



Hardness

Image 3 shows that Brinell hardness increases with increasing modification temperature. However, studies have shown that the relative change is very small and has no practical impact. For all wood species, Brinell hardness is largely dependent on density.

Figure 3. Effect of thermal modification (3 h) on Brinell hardness of pine (source: VTT).



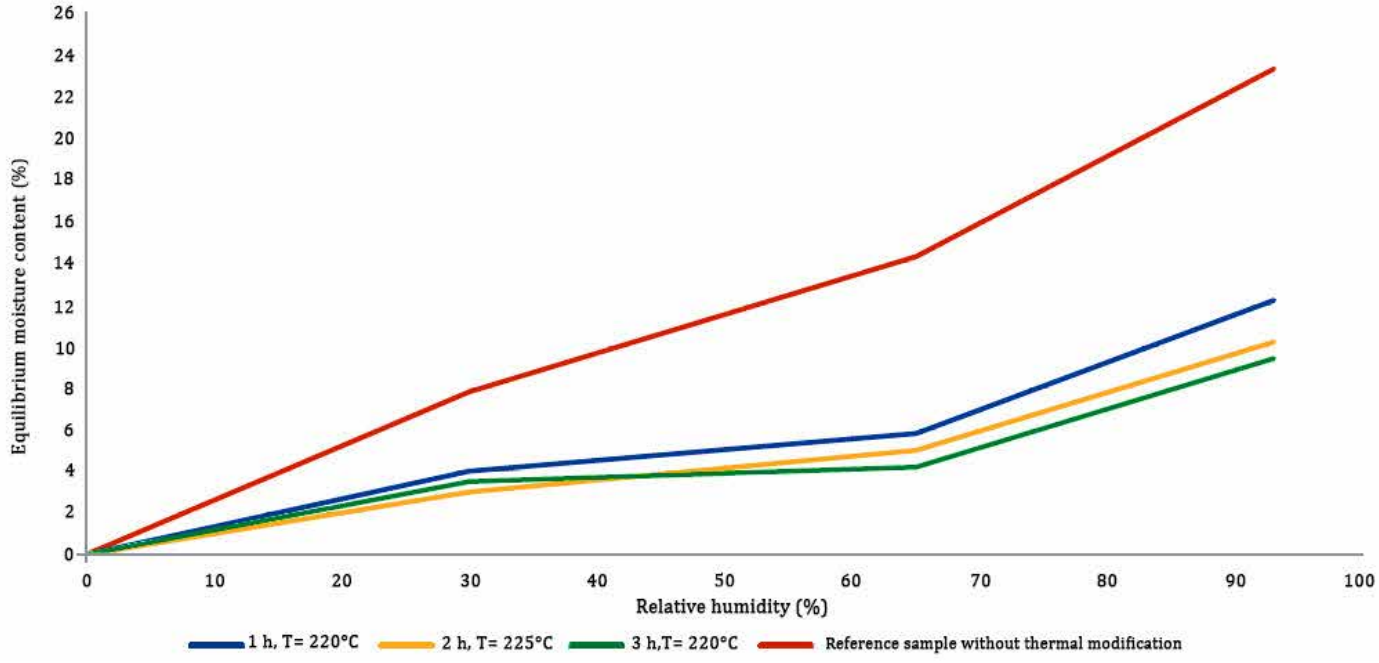
Fire resistance

Compared to standard wood, Thermo wood causes less fire load and its smoke production is lower. This is due to the lower density of Thermowood and the lower content of wood constituents and extractives. In addition, with Thermowood, a better fire-proofing of the cladding can be achieved, as less shrinkage occurs due to moisture changes. However, these factors cannot be used directly in fire engineering design and planning for a particular purpose must be carried out with regard to specific fire engineering regulations.

Thermomechanical properties

Thermal modification reduces the equilibrium moisture content of the wood. Figure 4 shows the effect of thermal modification on the equilibrium moisture content of spruce. At high temperatures (220 °C) the equilibrium moisture content is halved compared to unmodified spruce. At higher relative humidity, the difference in moisture content is greater. Saprotrophic fungi (fungi that decompose organic matter of plant origin) are active when the moisture content of the wood exceeds 20 %. Irrespective of the relative humidity, the equilibrium moisture content of thermally treated wood remains well below 20 %. This has a major impact on the long-term durability of the wood.

Figure 4. Effect of relative humidity on the equilibrium moisture content of thermally modified spruce (source: VTT).



Swelling and shrinkage due to humidity

The reduced equilibrium moisture content of ThermoWood® wood affects its swelling and shrinkage due to humidity. Thermal modification significantly reduces tangential and radial swelling of the wood. Figures 5 and 6 show how thermal modification reduces the swelling of thermally modified wood compared to standard wood. By reducing swelling and shrinkage, ThermoWood® is dimensionally more stable than standard wood. It retains its dimensions well even without surface treatment.

Figure 5. Radial swelling of spruce as a function of relative humidity (source: VTT).

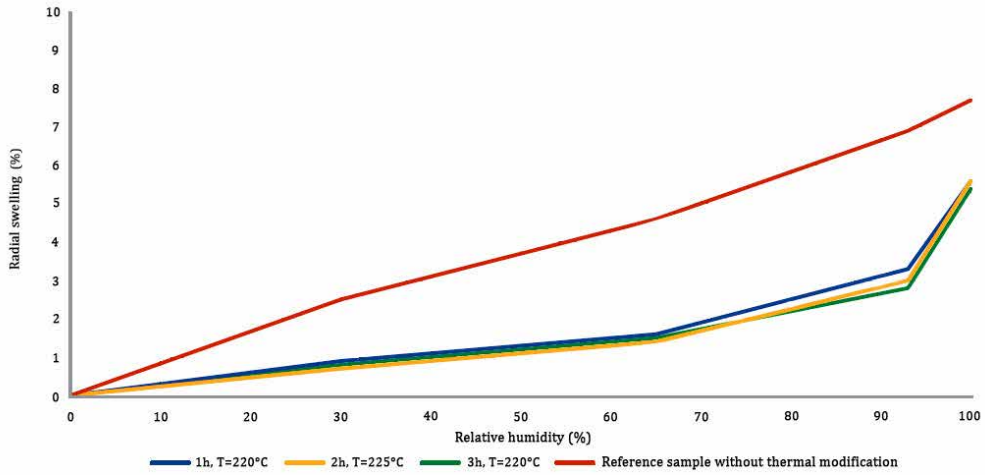
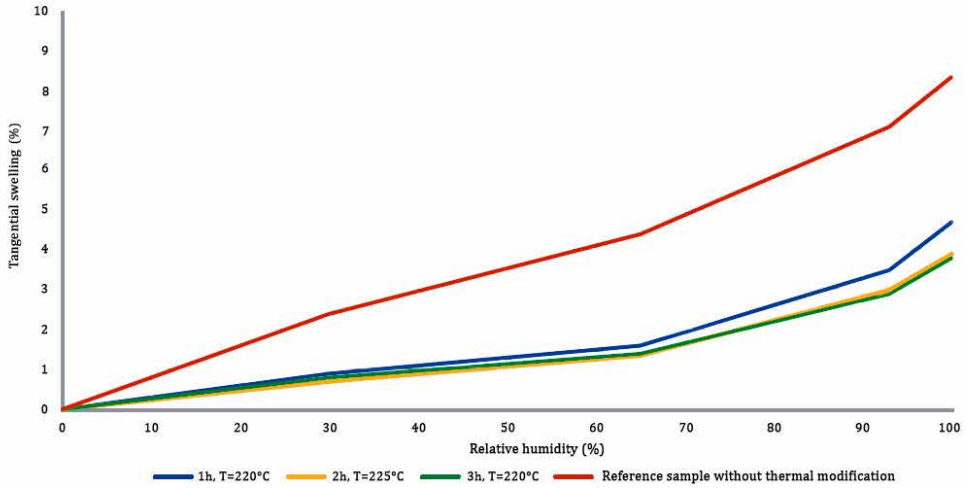


Figure 6. Tangential swelling of spruce as a function of relative humidity (source: VTT).



Water permeability

The water permeability of ThermoWood® has been tested for water penetration through the end cutting edges. The results showed that within a short period of time, the water permeability of thermally modified spruce is 20-30 % lower than the corresponding untreated wood.

Thermal conductivity

Studies have shown that thermal modification reduces thermal conductivity compared to standard wood. The thermal conductivity of thermally modified Nordic coniferous wood is 20-25% lower than that of standard wood. This makes ThermoWood® an ideal material for constructions such as exterior cladding and terraces, windows and saunas.

Long-term durability and sustainability

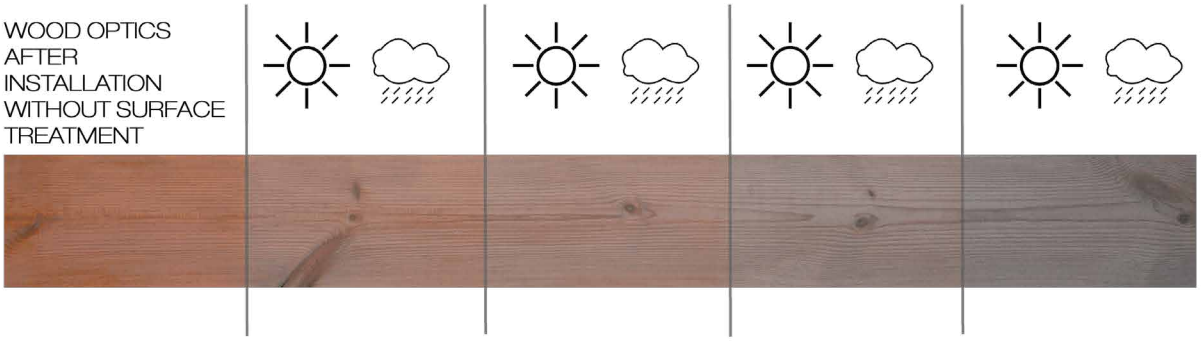
ThermoWood® products remain significantly drier than unmodified wood when exposed to the weather without surface treatment. However, for thermally modified wood that is exposed to the weather, a finish that protects against moisture, erosion and UV rays is recommended. This recommendation is particularly valid for applications in warm and humid climates.
Untreated wood may be discoloured by rain. UV radiation causes greying of untreated wood products.
As with all materials exposed to rain, mould can appear on the surface of thermally treated wood. This happens as a result of airborne bacteria or impurities contained in the rain, mould can appear on untreated surfaces. However, this growth is superficial and can be removed by wiping or gently sanding the surface.
The natural resistance of the wood (untreated) is determined by laboratory tests according to standards.

Resistance to insects

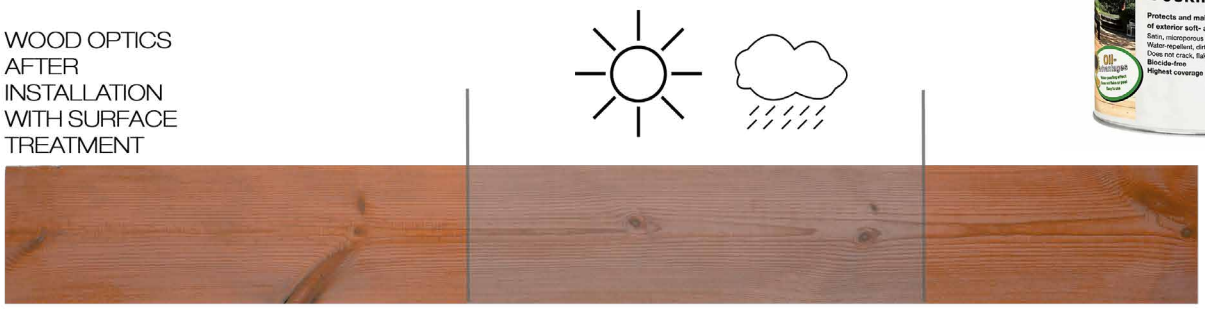
Beetles are found mainly in the sapwood of softwood. Studies have shown that ThermoWood® is resistant to a large number of insect species. ThermoWood® also offers good resistance to long-toothed beetles. These beetles identify pine as a suitable place to lay their eggs because of the terpene it secretes. The amount of terpene produced by ThermoWood® is drastically reduced compared to untreated wood. For this reason, it is expected that beetles will choose other wood materials over ThermoWood® whenever possible.

Thermowood surface treatment

For Thermo wood products that are exposed to the weather, a surface treatment is recommended. Coating helps to preserve the original colour and reduces cracking and splintering that are typical of wood materials during exposure to weathering.



WEATHERED WOOD



One renovation coat of Osmo oil, a method to put a new coat on the old one.

Thermowood is an excellent surface for finishing products because it does not contain resin and swells and shrinks only slightly when exposed to moisture. When finishing Thermowood, it is important to note that all finishing products will not adhere sufficiently to the surface due to the acidity and low water absorption capacity of Thermowood. This is especially true for water-based coatings. The roughness of the surface may also affect adhesion. For example, brushed or finely textured surfaces may be better than planed surfaces in terms of adhesion.
When treating Thermowood or any other wood, care must be taken to choose the right finish and maintain it. In this context, we recommend the use of OSMO brand coatings for our REAL DECK and REAL FACADE Thermowood materials, which are based on pure, oil and wax based growing materials. Because thermally treated wood is susceptible to very early graying after exposure to weather conditions, we recommend treating this wood within the first two weeks after processing.
The ends of the wood, the so-called front cut edges, should be treated with Wax for cut edges, which serves this purpose. This will significantly reduce the absorption of wood through the cut ends and reduce cracking near the ends caused by re-drying.

Fire protection

Like all wood, Thermowood products can be treated with fire-resistant coatings. For fire retardant coatings, check that they have the required approvals and always use them in accordance with the manufacturer‘s instructions. With a fire protection treatment, Thermowood can meet the requirements of fire protection class C or B, depending on the coating used. The highest classification that can be achieved is B-s1, d0.

Thermowood product storage

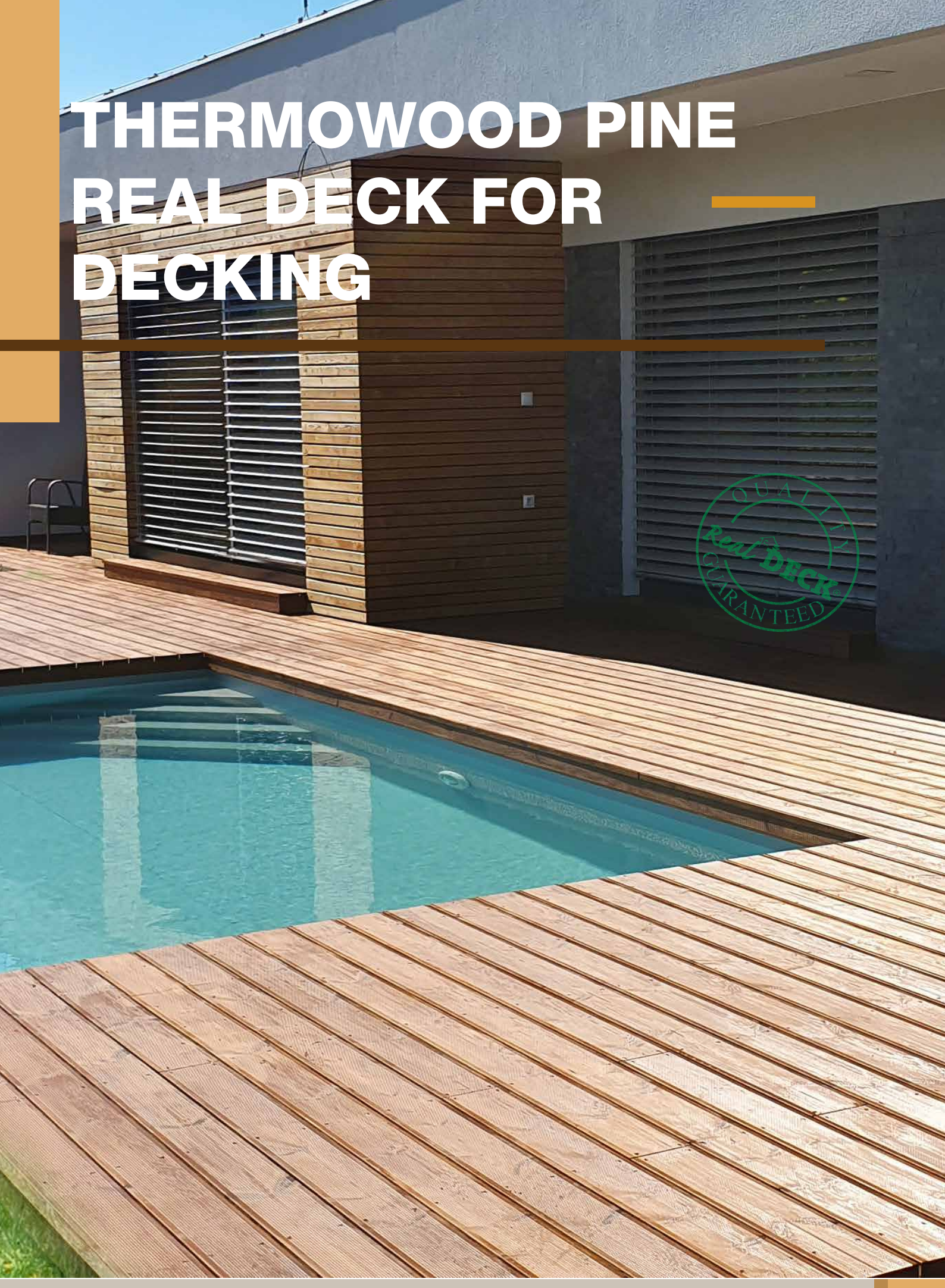
The following factors should be considered when storing Thermowood:

- For storage of products intended for interior use, an indoor dry area must be used.
- For products intended for outdoor use, a covered, dry outdoor area can be used.
- Products must be protected from contamination and UV light.
- They must be placed horizontally on a flat surface (off the ground).
- A sufficient number of slats must be used as a base.
- The product bundles must not be loosened from the drawstrings before use. The timber must be immediately mounted on the pre-prepared grid after the release of the straps. In the same way, the parts must be stored on site before assembly, i.e. always tightly taped until assembly.

- Products for interior cladding are used straight from the pack. This means that the individual packages are opened and processed at the time of installation.
- The tongue-and-groove products must be handled with care to avoid damage (especially with long lengths).

A flat surface and a sufficient number of backing joists prevent deformation of the parts.

THERMOWOOD PINE REAL DECK FOR DECKING

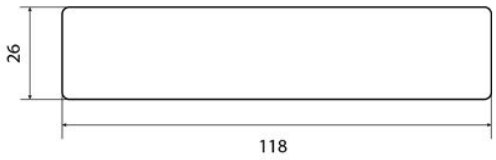


Decking boards and joists from THERMOWOOD PINE

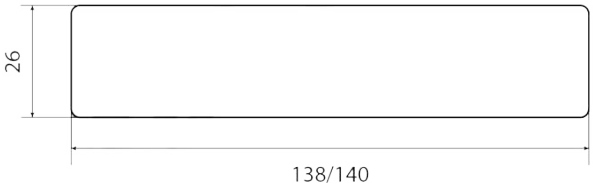
DIMENSIONS (mm)	LENGTHS (m)	GRADING	MOISTURE	FACE SIDE
26x118	1,8-6,0*	A/B	10-12%	smooth
26x138	1,8-6,0*	A/B	10-12%	smooth
26x140	1,8-6,0*	A/B	10-12%	smooth
26x138	1,8-6,0*	A/B	10-12%	reeded
26x140	1,8-6,0*	A/B	10-12%	reeded
26x118 Clip*	1,8-6,0*	A/B	10-12%	grooved
26x118 Clip*	1,8-6,0*	A/B	10-12%	smooth
42x68	1,8-6,0*	A/B	10-12%	smooth

Stock lengths are multiples of 30cm = 1,8m, 2,1m, 2,4m, 2,7m, 3m, 3,3m, 3,6m, 3,9m, 4,2m, 4,5m, 4,8m, 5,1m, 5,4m, 5,7m, 6m

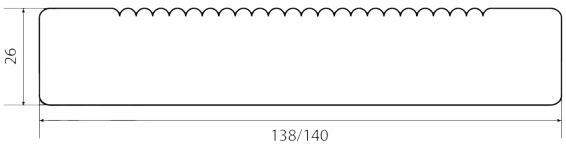
THERMOWOOD PINE 26 X 118 mm



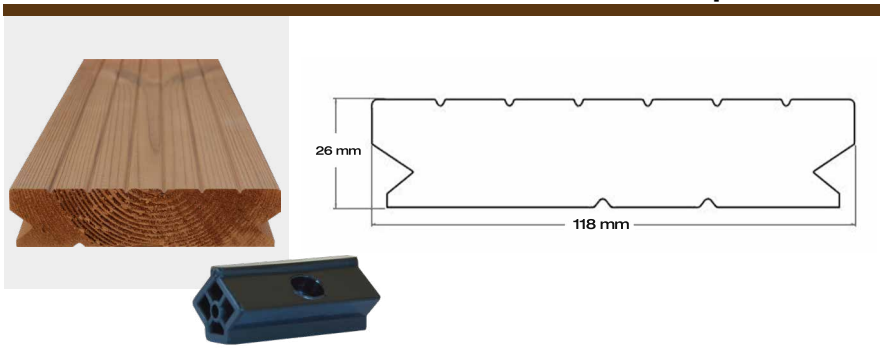
THERMOWOOD PINE 26 x 138/140 mm



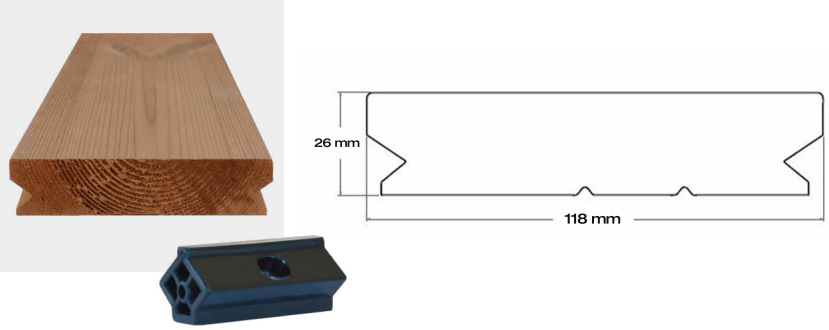
THERMOWOOD PINE 26 x 138/140 mm



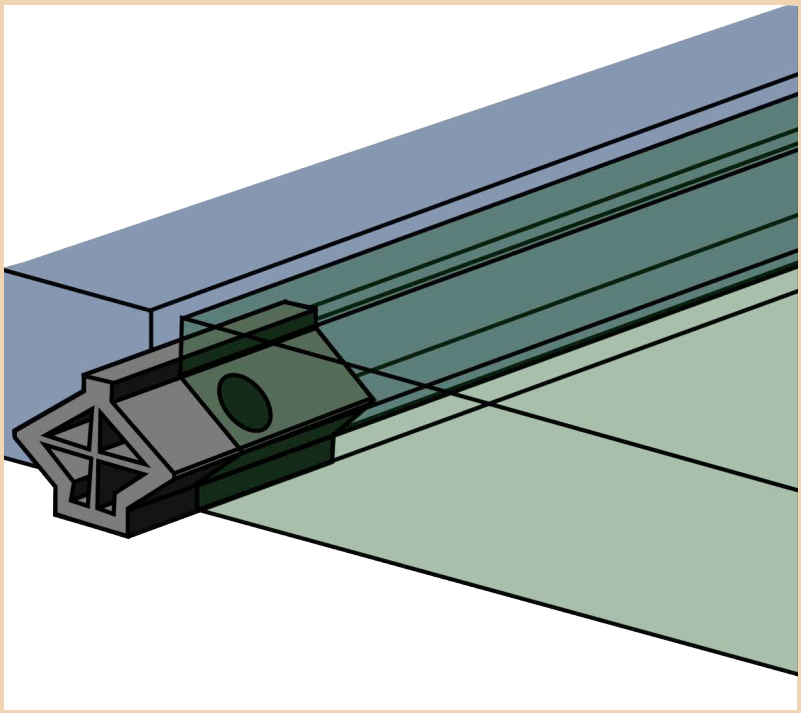
THERMOWOOD PINE 26 x 118 mm Clip



THERMOWOOD PINE 26 x 118 mm Clip



Detail of anchoring with clip:



Installation of Thermowood decking with clip joint:

Choice of fasteners for Thermo pine deckings

The Thermowood pine decking boards are stable and can be installed with both a visible connection and an invisible anchoring system. Only material that does not cause a chemical reaction with the wood must always be used to avoid deterioration. This means using steel grade at a minimum of A4 for visible screw connection, or composite materials meeting the strength requirements for invisible anchoring, e.g. Eurotec.

Recommended fasteners:

DECKING BOARD	STEEL	DIMENSION OF THE SCREW	TERRACE WIN-DOW
THERMO PINE CLIP 26x118mm	C1	Hapatec Heli 4,5x45 or 4,5x50	YES
THERMO PINE 26x118/138/140 mm	A4	Hapatec Heli 5 x 60mm	YES

Underconstruction

The installation of the decking planks can only be made on a underconstruction made of wood of the same or higher bio-resistance with a minimum profile of 42 x 68 mm (thermowood pine). Another alternative is a underconstruction made of aluminium profiles, which is dimensionally stable, resistant to weathering, UV load, insects and mould and is suitable for the construction of any terrace, regardless of the type of wood. The maximum axial spacing of the substructure for the different thicknesses of the decking boards follows the table below.

Axis spacing:

DECKING BOARD	MAXIMUM AXIS SPACING OF THE UNDERCONSTRUCTION
THERMO PINE 26 x 118 mm	500 mm
THERMO PINE 26 x 138 mm	500 mm
THERMO PINE 26 x 118mm Clip	300 mm

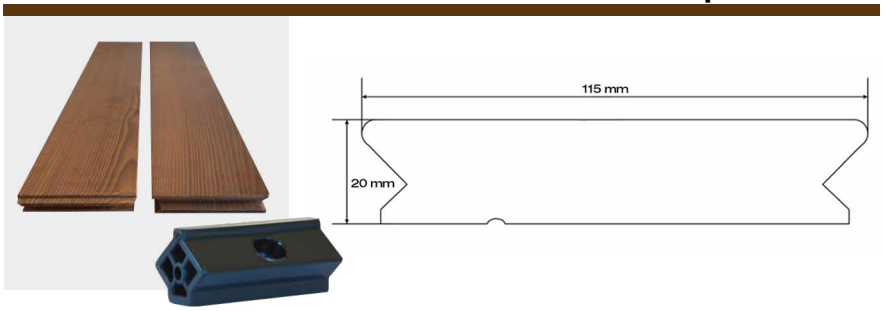
THERMOWOOD ASH REAL DECK FOR DECKING

Decking boards and under-constructions from THERMOWOOD ASH

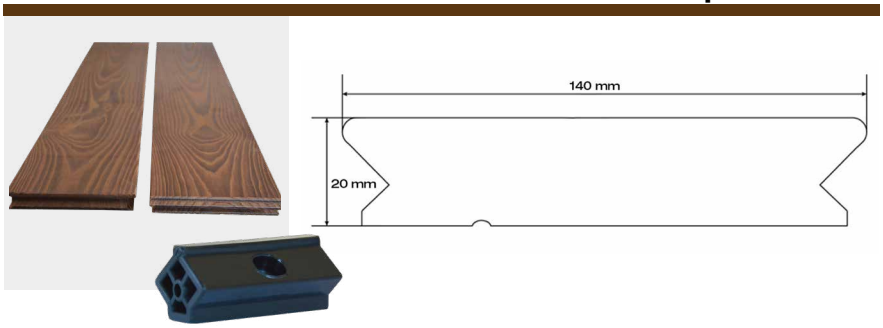
DIMENSIONS (mm)	LENGTHS (m)	GRADING	MOISTURE	FACE SIDE
20 x 115 Clip*	0,8 - 3,0*	Select	10-12%	smooth
20 x 140 Clip*	0,8 - 3,0*	Select	10-12%	smooth
20 x 140 Clip*	0,8 - 3,0*	Select	10-12%	grooved
20 x 140	0,8 - 3,0*	Select	10-12%	smooth

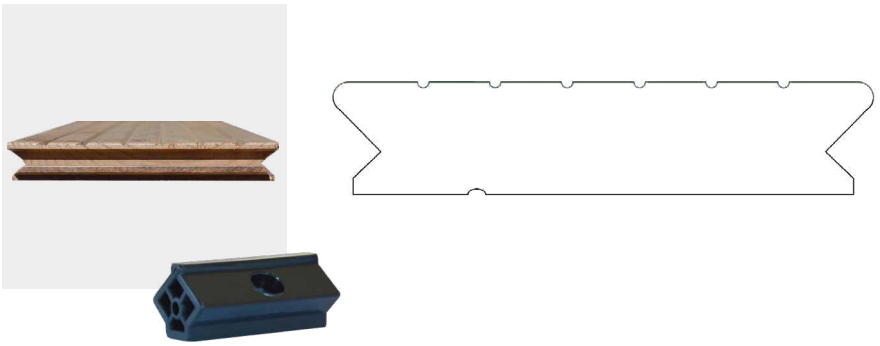
**stock lengths are multiples of 1cm = 0.8, 0.9, 1.0, 1.1 etc...*

THERMOWOOD ASH 20 x 115 mm Clip

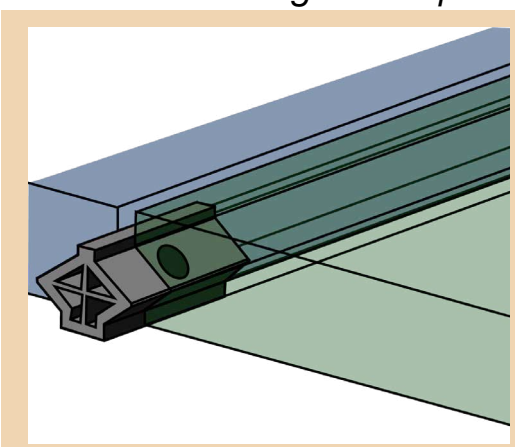


THERMOWOOD ASH 20 x 140 mm Clip

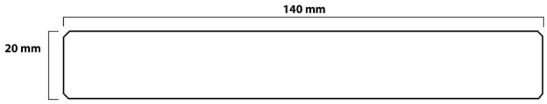




Detail of anchoring with clip:



THERMOWOOD ASH 20 x 140 mm



Choice of fasteners for deckings from Thermo ash

The Thermowood ash wood decking boards are stable and can be installed with both a visible connection and an invisible anchoring system. Only material that does not cause a chemical reaction with the wood must always be used to avoid deterioration. This means using steel grade at least A4 for visible screw connection, or composite materials meeting the strength requirements for invisible anchoring, e.g.

Recommended fasteners:

DECKING BOARD	STEEL	DIMENSIONS OF THE SCREW	THE INVISIBLE ANCHORING
THERMO ASH CLIP 20 x 115/140mm	C1	Hapatec Heli 4,5 x 45 popř. 4,5 x 50	YES
THERMO ASH 20 x 140 mm	A4	Hapatec Heli 5 x 50 mm	YES

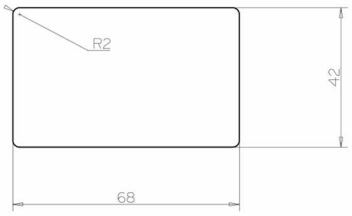
Underconstruction:

The installation of the decking boards can only be made on a underconstruction made of wood of the same or higher bio-resistance with a minimum profile of 42 x 68 mm (thermowood pine). Another alternative is a underconstruction made of aluminium profiles, which is dimensionally stable, resistant to weathering, UV load, insects and mould and is suitable for the construction of any decking regardless of the type of wood.
The maximum axis spacing of the underconstruction for the different thicknesses of the decking boards follows the table below.

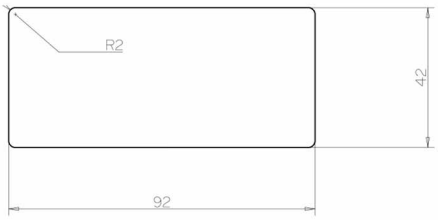
Axis spacing:

DECKING BOARD	MAXIMUM AXIS SPACING OF THE UNDERCONSTRUCTION
THERMO ASH CLIP 20 x 115 mm	300 mm
THERMO ASH 20 x 140 mm	500 mm

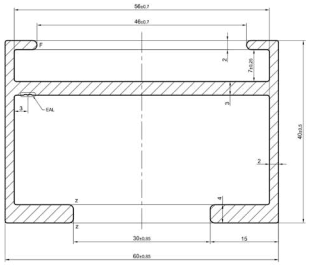
THERMOWOOD PINE 42 x 68 mm



THERMOWOOD PINE 42 x 92 mm



ALUMINUM PROFILE 40 x 60 mm



HEIGHT ADJUSTABLE FEET

BASE - LINE ADJUSTABLE FEET BASE-Line

BASE 1

Order no.	Marking	Mounting height [mm]	load cap. [kN]	packed by**
10000	BASE 1	25 - 40	2,2	50

BASE 2

Order no.	Marking	Mounting height [mm]	load cap. [kN]	packed by**
10001	BASE 2	35 - 60	2,2	50

BASE 3

Order no.	Marking	Mounting height [mm]	load cap. [kN]	packed by**
10002	BASE 3	60 - 110	2,2	30

BASE 4

Order no.	Marking	Mounting height [mm]	load cap. [kN]	packed by**
10003	BASE 4	110 - 210	2,2	20

*The load capacity values given are recommended values. For this device, the adjustable feet will only deform by approx. 2 mm. The load capacity after possible breakage is many times higher.

** The BASE adjustable feet comes standard with a BASE L-adapter and screws for the adjustable feet.

PROFI - LINE

Profi-Line adjustable feet with modular system

Innovative, versatile, flexible and easy to use!
The Profi-Line range of adjustable feet consists of six adjustable feet of different heights, which can be adjusted in mounting height by means of additional rings and additional plates.

PRO S

Order no.	Marking	Mounting height [mm]	load cap. [kN]	packed by**
946070	PRO S	30 - 53	8,0	10

PRO S: Height adjustment over 3 steps up to 5 mm can be combined with an additional 8 mm by means of a threaded ring.

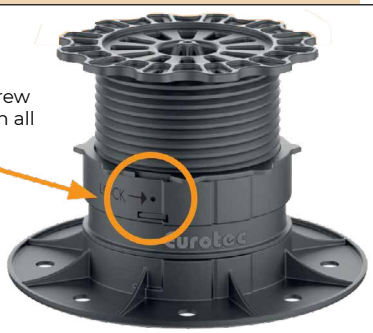
PRO M

Order no.	Marking	Mounting height [mm]	load cap. [kN]	packed by**
946071	PRO M	53 - 82	8,0	10

PRO L

Order no.	Marking	Mounting height [mm]	load cap. [kN]	packed by**
946072	PRO L	70 - 117	8,0	10

Fixing with Thermofix screw 4.2 x 22 mm is possible on all PRO adjustable feet.



*The load capacity values shown are recommended values. For this device, the adjustable feet will only deform by approx. 2 mm. The load capacity after possible breakage is many times higher.

PRO XL

Order no.	Marking	Mounting height [mm]	load cap. [kN]	packed by**
946079	PRO XL	74 - 168	8,0	10

The PRO range of adjustable feet is assembled using an L-adapter.

L-adapter

-for classic wooden bottom structures or modern aluminium structures

Additional rings

To increase the height adjustable feet PRO and SL PRO

Suitable for adjustable feet PRO S, M, L and XL

Order no.	Marking	Mounting height [mm]	load cap. [kN]	packed by**
946074	additional ring + 4	40	8,0	10
946073	additional ring +10	100	8,0	10

L-adapter

Including screws for adapter!

For wooden profiles

Suitable for adjustable feet PRO S, M, L and XL

Order no.	Marking	packed by**
946075	L-adapter	10


QUALITY
Real FACADE
GUARANTEED

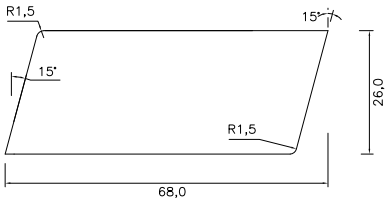
Thermowood pine REAL FACADE for cladding

Planed cladding profiles made of wood THERMOWOOD PINE

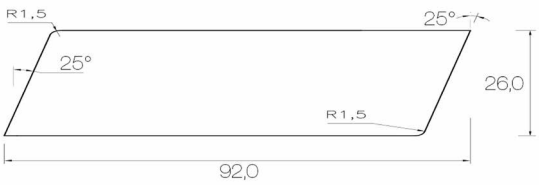
PROFILE	DIMENSIONS (mm)	LENGTHS (m)	GRADING	MOISTURE
Raute(Rhombus)	26 x 68	1,5 - 6,0*	A/B	10-12%
Raute(Rhombus)	26 x 65	1,5 - 6,0*	A/B	10-12%
Raute(Rhombus)	26 x 92	1,5 - 6,0*	A/B	10-12%
Classic profile(smooth on both sides)	19 x 120	2,1 - 6,0*	A/B	10-12%
Classic prifile	19 x 140	2,1 - 6,0*	A/B	10-12%
Planed board	19 x 140	2,1 - 6,0*	A/B	10-12%
4 sided planed joist	42 x 42	2,1 - 6,0*	A/B	10-12%
4 sided planed joist	42 x 68 or 65	2,1 - 6,0*	A/B	10-12%

**stock lengths are multiples of 30 cm = 1,5 m, 1.8 m, 2,1 m, 2.4 m, 2,7 m,3 m, 3.3 m, 3.6 m, 3.9 m, 4,2 m, 4.5 m, 4.8 m, 5,1 m, 5,4 m, 5,7 m, 6,0 m*

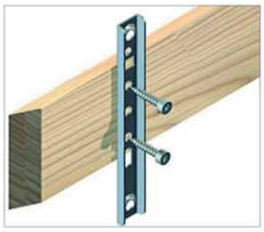
THERMOWOOD PINE RAUTE/RHOMBUS 26x 68 mm or 26 x 65 mm



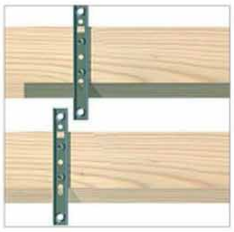
THERMOWOOD PINE RAUTE/RHOMBUS 26x 92 mm



Cladding clips - invisible connection for profiles Raute/Rhombus



Attach the clip to the cladding with the stop on the back and screw in the profile screw.



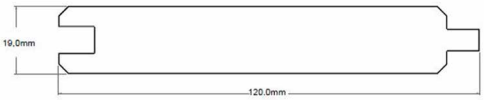
Repeat the procedure for all other cladding profiles.

Screw the facade profile to the counter batten.

Simply slide the other profile in and only screw on the top side with the profile screw.

The joint distance is automatically set by the profile screw head.
Done!

THERMOWOOD PINE CLASSIC PROFILE - smooth on both sides 19x120 mm



THERMOWOOD PINE CLASSIC PROFILE 19x140 mm

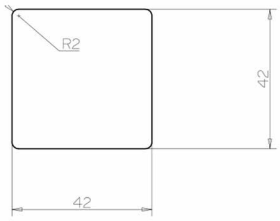
FOR PROFILES CLASSIC 19x120, 19x145 mm and Planed boards 19x140 mm we also offer brushed surfaces without surface treatment on request:

With coating

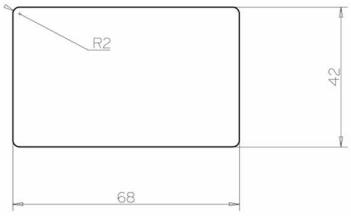
Without coating

THERMOWOOD PINE PLANED PROFILE 19x140 mm

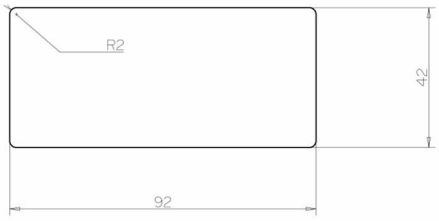
THERMOWOOD PINE 4-SIDED PLANED JOIST 42x42 mm



THERMOWOOD PINE 4-SIDED PLANED JOIST 42x68 mm



THERMOWOOD PINE 4-SIDED PLANED JOIST 42x92 mm



Choice of fasteners for Thermo pine facades

The Thermowood pine cladding profiles are stable and can be installed with both a visible connection and an invisible anchoring system. Only material that does not cause a chemical reaction with the wood must always be used to avoid deterioration. This means using steel grade at least A4 for visible screw connection or composite materials meeting the strength requirements for invisible anchoring.

Recommended fasteners:

CLADDING PROFILE	STEEL	SCREW DIMENSION	INVISIBLE ANCHORING WITH CLIP FOR CLADDING
Raute(Rhombus) 26x68/ 65mm	A4	Hapatec Heli 5 x 70 mm	YES TYPE OF CLIP 115x22mm or profile dimension 57-68mm
Raute (Rhombus) 26x92mm	A4	Hapatec Heli 5 x 70 mm	YES TYPE OF CLIP 145x17mm for profile dimension 80-95 mm
Classic profile 19x140mm	A4	Hapatec Heli 4,5 x 50 mm	NO
Planed board 19x140mm	A4	Panelwistec with sun-ken head 4 x 45mm	NO
Joist 42x42mm	A4	Hapatec Heli 5 x 80 mm	NO
42x68/65mm 42x92mm	A4	Hapatec Heli 5 x 80mm	NO

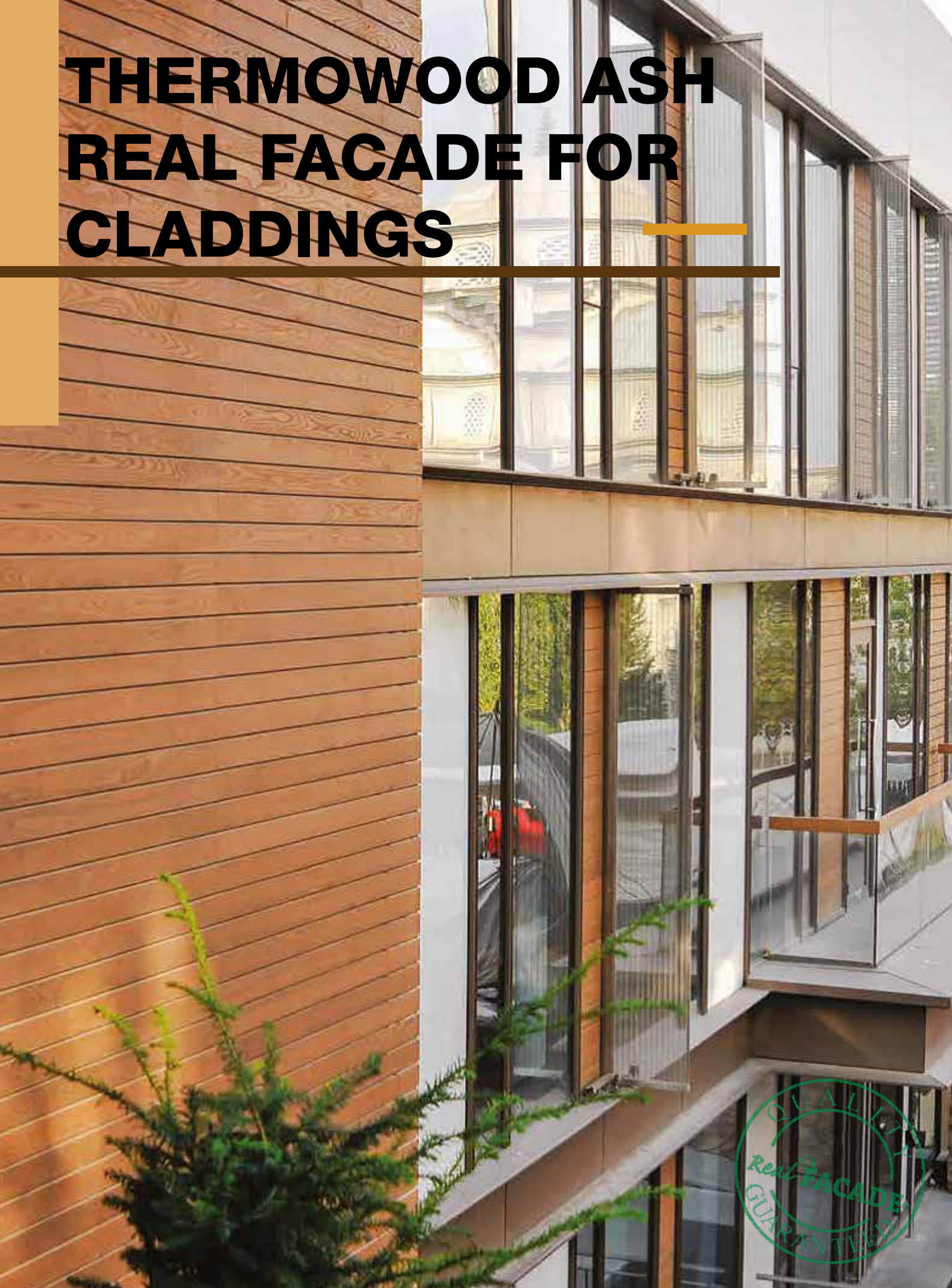
Substructure:

The cladding profiles can only be installed on a substructure made of wood of the same or higher bio-resistance of a minimum profile of 42 x 42 mm (thermowood pine). The maximum axis spacing of the substructure for the individual thicknesses of the decking boards is governed by the following table.

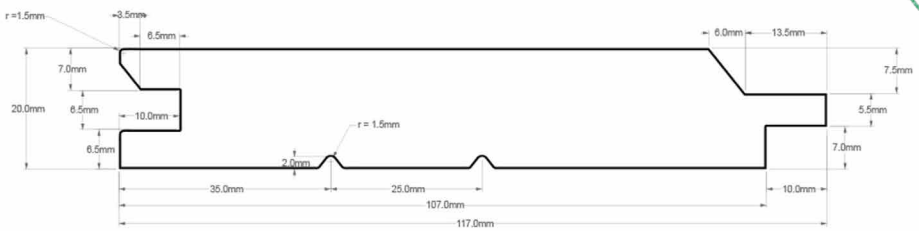
Axis spacing:

CLADDING PROFILE	MAXIMUM AXIS SPACING OF THE SUBSTRUCTURE
THERMO PINE 26x68/65/92 mm	500 mm
THERMO PINE 19x140mm	600 mm
THERMO PINE 42x42/65/68/92 mm	500 mm

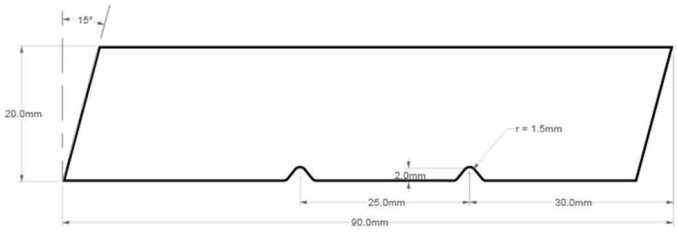
THERMOWOOD ASH REAL FACADE FOR CLADDINGS



THERMOWOOD ASH Profile with offset tongue 20 x 117 mm



THERMOWOOD ASH Profile Raute(Rhombus) 20 x 90 mm



Choice of fasteners for cladding from Thermo ash

The Thermowood ash wood cladding profiles are stable and can be installed either by visible connection or by an invisible anchoring system, depending on the type of profile. Only material that does not cause a chemical reaction with the wood must always be used to avoid deterioration. This means using steel grade at least A4 for visible screw connection or composite materials meeting the strength requirements for invisible anchoring.

Recommended fasteners:

CLADDING PROFILE	STEEL	DIMENSION OF THE SCREW	INVISIBLE ANCHORING WITH CLIP FOR CLADDINGS
Profile with offset tongue 20x117mm	A4	Hapatec Heli 4,5 x 50 mm	NO
Raute (Rhombus) 20x90mm	A4	Hapatec Heli 4,5 x 50 mm	YES

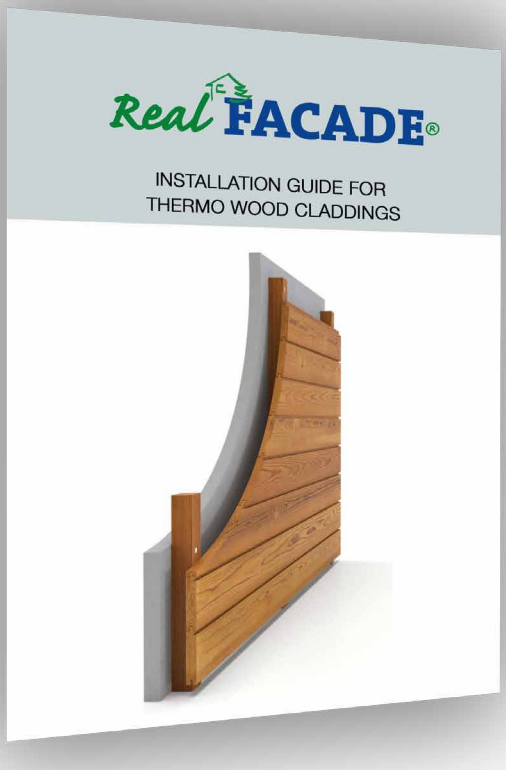
Underconstruction:

The cladding profiles can only be installed on a underconstruction made of wood of the same or higher bio-resistance of a minimum profile of 42 x 42 mm (thermowood pine). The maximum axial spacing of the underconstruction for the individual thicknesses of the decking boards is governed by the following table.

Axis spacing:

CLADDING PROFILE	MAXIMUM AXIS SPACING OF THE UNDERCONSTRUCTION
THERMO ASH WITH OFFSET TONGUE 20 x 117mm	500mm
THERMO ASH RAUTE(RHOMBUS) 20 x 92mm	500mm

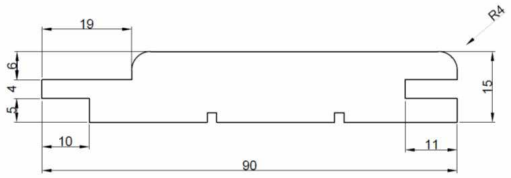
For more detailed information on the installation instructions of our REAL FACADE Thermowood Cladding profiles, please request our „Thermo Wood Cladding Installation Guide“.



THERMOWOOD FOR SAUNA PROFILES

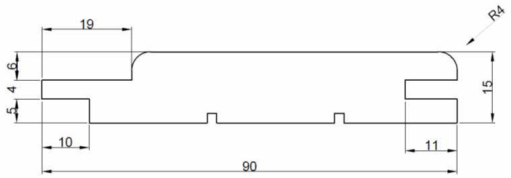
Thermo Spruce with brushed surface

Technical information:
Coniferous, soft and light wood, colour slightly brown due to thermo treatment
Grade A
STP Sauna profile - softline profile
Size: 15 x 90 mm
Lengths: 2400, 2700, 3000 mm
Packing: 6 pcs/package
264 pcs/pallet
15 x 90 STP profile detail:



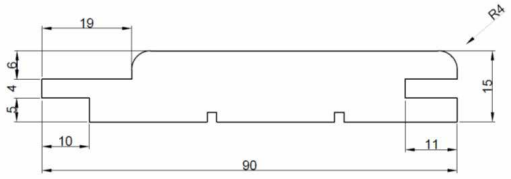
THERMO Radiata Pine

Technical information:
Coniferous, soft and light wood, colour slightly brown due to thermo treatment
Grade A
STP Sauna profile- softline profile
Size: 15 x 90 mm
Lengths: 2400, 2700, 3000 mm
Packing: 6 pcs/package
264 pcs/pallet
15 x 90 STP profile detail:



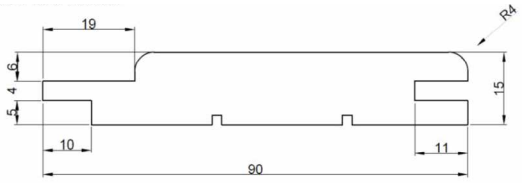
Thermo Aspen

Technical information:
Deciduous, soft and light wood, colour light brown due to thermo treatment
Grade A
STP Sauna profile- softline profile
Size: 15 x 90 mm
Lengths: 2400, 2700, 3000 mm
Packing: 6 pcs/package, 264 pcs/p
15 x 90 STP profile detail:



Thermo Alder

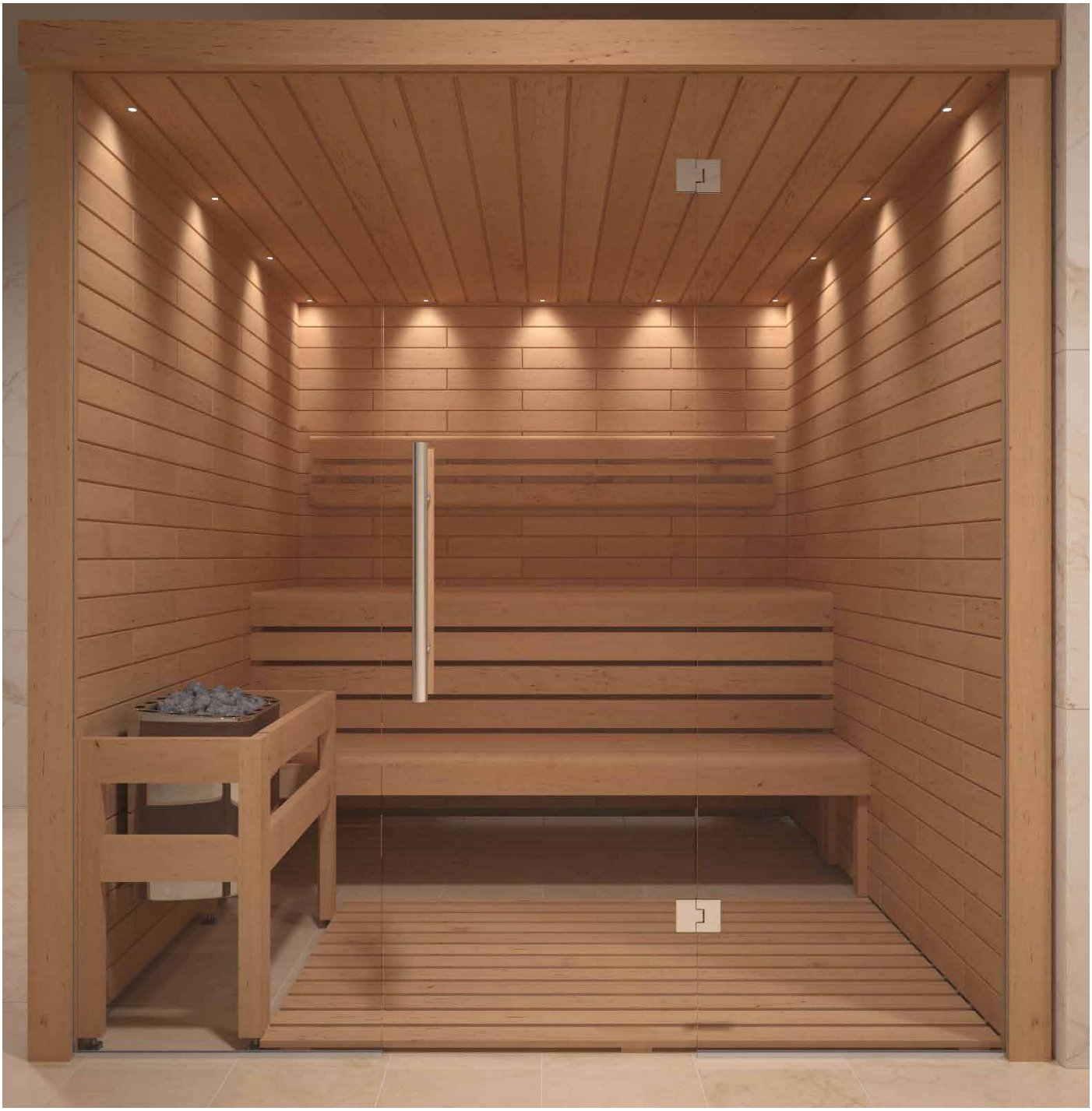
Technical information:
Deciduous, soft and light wood, colour light brown due to thermo treatment
Grade A
STP Sauna profile- softline profile
Size: 15 x 90 mm
Lengths: 2400, 2700, 3000 mm
Packing: 6 pcs/package
264 pcs/pallet
15 x 90 STP profile detail:



In the same wood species we offer:

Bench profiles – SHP planed board

Dimensions: 28 x 90 mm
Lengths: 2400, 2700, 3000 mm
Detail of the profile 28 x 90 SHP:



OUR REFERENCES

REAL DECK THERMO PINE 26 x 140 mm reeded OSMO Thermowood decking oil no. 010 naturally tinted

REAL DECK THERMO PINE 26 x 140 mm reeded
Surface treatment: OSMO Thermowood decking oil no. 010 naturally tinted

REAL DECK THERMO PINE 26 x 138 mm smooth, Surface treatment: OSMO Decking oil no. 004 Douglasie

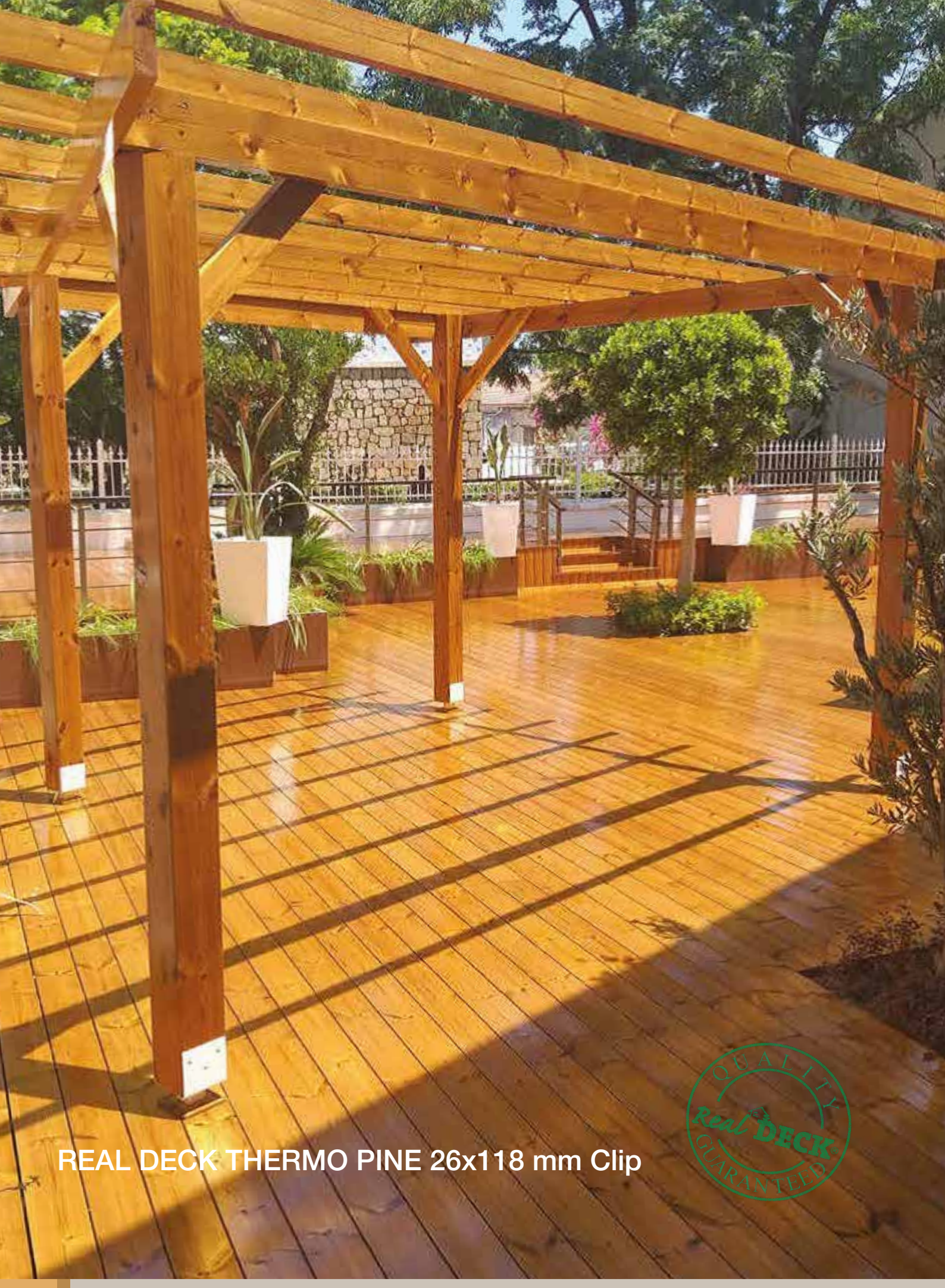
REAL DECK THERMO PINE Clip 26 x 118 mm grooved,
invisible connection,
Surface treatment: natural

REAL DECK THERMO PINE 26 x 138 mm smooth
Surface treatment: Osmo decking oil no. 019 grey

REAL DECK THERMO PINE 26 x 140 mm reeded
Surface treatment: OSMO Thermowood decking oil no. 010 naturally tinted

REAL DECK THERMO PINE 26 x 140 mm smooth
Surface treatment: natural

REAL DECK THERMO PINE 26 x 140 mm reeded
Surface treatment: natural



REAL DECK THERMO PINE 26x118 mm Clip

THERMO PINE Classic 19x140 mm
lining of the ceiling

REAL FACADE_THERMO PINE Classic 19 x 146 mm_brushed,
Surface treatment: OSMO oil no. 700 pine

REAL FACADE_THERMO PINE Raute 26x68mm
Surface treatment: OSMO oil no. 700 pine

REAL FACADE_THERMO PINE Raute 26x92mm
Surface treatment: natural

REAL FACADE THERMO PINE Raute 26x92mm
Surface treatment: natural

REAL FACADE THERMO PINE Raute 26x92mm
Surface treatment: natural

REAL FACADE THERMO PINE Classic 19 x 140 mm

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