



THERMALLY MODIFIED TIMBER



Thermally modified timber by Bäckegårds®

Thermally modified timber is ordinary timber, with no additives whatsoever, that has been heated in a way that alters the properties of the wood at cell level. The process has its roots in the Viking age, when timber posts were burned to increase their resistance to rot. Better resistance is still the main reason for thermal modification; the difference is that the process is now carried out under carefully controlled conditions.

The table below sets out the thermally modified species Bäckegårds normally works with.

Species	Use class EN 335	Durability class EN 350	Reaction to fire EN 13501-1 with Woodsafe Exterior WFX*
Thermowood pine	3	2	B-s2,d0
Thermowood spruce	3	2	B-s2,d0
Thermally modified ash	3	NPD	B-s1,d0
Thermally modified ayous	3	NPD	B-s1,d0
Thermally modified fraké	3	NPD	B-s1,d0

*For panels treated with Woodsafe Exterior WFX® and installed in closed façade systems. The Euroclass is declared by Bäckegårds List AB in the product's Declaration of Performance. All other documentation relating to fire performance – the Swedish type approval certificate, façade systems tested to SP Fire 105 and the use class to EN 16755 – is issued by Woodsafe Timber Protection AB. All classifications assume that the product is used as tested.

Use class to EN 335 states the product's intended service situation and is not a measure of durability. NPD means that no durability class is declared.

Pine and spruce are supplied as certified Thermowood, thermally modified to the Thermo-D schedule by producers affiliated to the International ThermoWood Association (ITWA). The durability class stated refers to that treatment. Ash, ayous and fraké are thermally modified by producers that are not affiliated to ITWA; for these we declare no durability class. All species can be supplied FSC®- or PEFC™-certified.



Thermowood pine



Thermowood spruce



Thermally modified ash



Thermally modified ayous



Thermally modified fraké

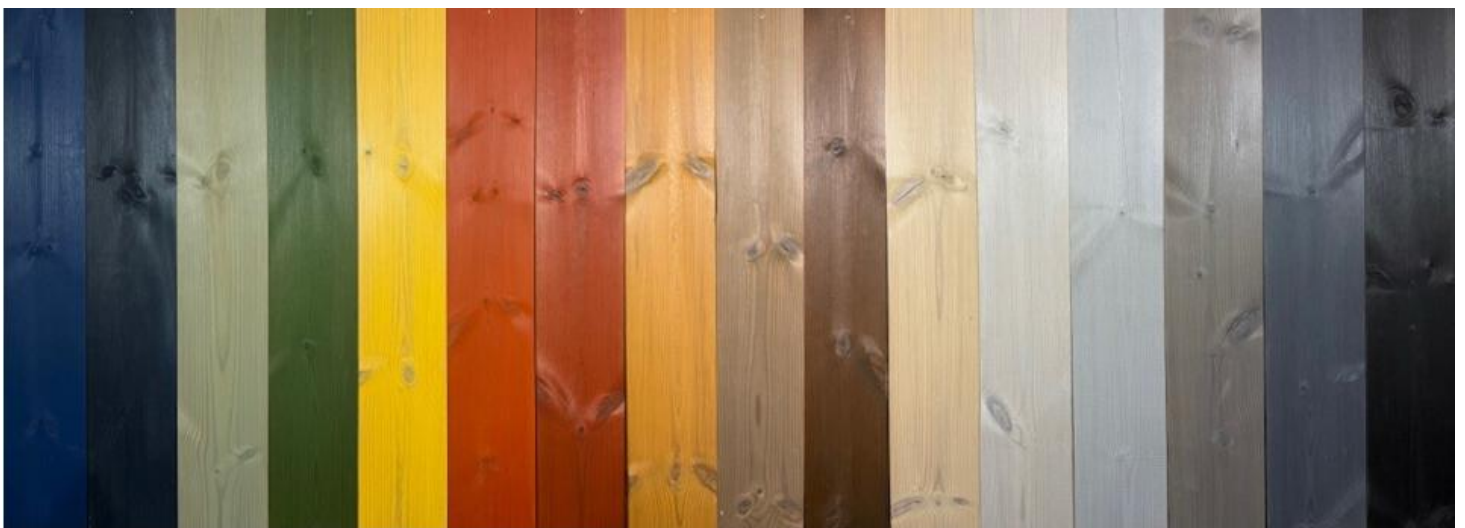
Surface treatment

Thermally modified timber has a natural durability and, on outdoor exposure, develops a silver-grey patina over time. How quickly the colour change happens depends on climatic factors such as UV radiation, rainfall and wind.

For projects where an even greyed appearance is wanted from the outset, we offer several grey shades across the whole range. The finish is based on a pigmented water-borne oil and gives the timber an apparently finished, patinated tone on delivery. As the surface is exposed to the weather, the treatment gradually breaks down. On less exposed surfaces it remains longer, which can even out the difference between elevations. How the process develops, and how long it takes, varies between projects and with aspect.

In addition to the grey options we offer a range of standard colours. In our own paint shops we can also tint virtually any colour, which gives considerable freedom in the architectural expression.

For a pigmented finish to keep its colour and lustre over time, recurring maintenance is required. The maintenance interval depends on the product's exposure and on the surrounding environment. This maintenance concerns appearance. The durability of thermally modified timber is a property of the material itself and requires no surface treatment.



Our panel dimensions

Below is an overview of the dimensions we offer for our cladding boards and open-joint battens. The sizes have been developed to give considerable flexibility while being optimised for our production, which gives a better yield from the raw material.

We can of course produce other dimensions on request.

Board	Board	Batten	Batten	Batten	Batten
21x68	27x68	21x43	27x43	33x43	43x43
21x93	27x93	21x68	27x68	33x68	43x68
21x118	27x118	21x93	27x93	33x93	43x93
21x142	27x142	21x118	27x118	33x118	43x118
21x165	27x165	21x142	27x142	33x142	43x142



About thermally modified timber and Thermowood

No chemical additives are used in thermal modification. The raw material can be supplied certified to FSC® or PEFC™. The method is based on controlled thermal modification of the timber using heat, steam and water.

The process comprises three main stages: high-temperature drying, thermal modification, and cooling with moisture conditioning. During treatment, permanent physical and chemical changes take place in the cell structure of the wood, giving improved dimensional stability, reduced moisture movement and increased durability. These properties remain after further processing such as sawing and planing. The timber is coloured through to its characteristic brown tone.

Thermally modified timber

Thermally modified timber is a collective term for thermally modified species. Each producer's modification schedule may have its own particularities and calls for its own control programme and its own testing to establish the properties of the finished product. Producers affiliated to ITWA may call their product Thermowood and follow established treatment schedules that are monitored by independent certification bodies. There are two degrees of treatment to choose between, described briefly below. Not following a specific standard brings a degree of uncertainty about the actual properties of the treated product.

Thermo-S (Stability)

Thermo-S is developed with the focus on high dimensional stability and reduced moisture movement. Treatment takes place at a lower temperature than for Thermo-D, which means that the strength of the timber is retained to a greater extent. The product is mainly suited to internal applications and sheltered outdoor environments where dimensional stability is the priority. Thermo-S is not part of our range.

Thermo-D (Durability)

Thermo-D undergoes a more intensive thermal modification at a higher temperature, which gives clearly improved biological durability and a lower equilibrium moisture content. This makes the material particularly suitable for external constructions and environments with high moisture loads, where the demands on resistance to rot are greater.