



storaenso



# Stora Enso ThermoWood®

Environmentally friendly choice

[storaenso.com](http://storaenso.com)



# Safe and durable choice.

Stora Enso ThermoWood is a material for demanding end uses, great for products affected by changing climatic conditions such as exterior claddings, fascia boards, windows and garden constructions. For interior, the attractive appearance and stability makes the resin-free product a good choice for use in saunas, interior panelling, furniture and flooring. In municipal construction it suits applications such as noise barriers. Stora Enso ThermoWood products are made of pine or spruce.

## Product applications

**ThermoClad** is a perfect material for usage as exterior and interior claddings and panels. The high level of durability and stability ensures that there is very little dimensional movement in the product once it has been fixed to the wall. As a result of the reduced movement surface coatings that are applied after installation will have a far better service life. In addition, the resins are removed during the process thus removing the problem of resin leakage from knots and pockets.

**ThermoSauna** products bring an attractive alternative material to your sauna, hamam, spa etc. Relax and enjoy the comfort, which is achieved because of the reduced thermal conductivity.

**ThermoDeck** is a standard range of grooved decking boards. The material is the perfect solution for that warm, attractive deck to spend time and enjoy the delights of your garden. Stora Enso ThermoWood provides a safe material with superior durability and stability.

**Other End Uses.** ThermoWood can be used in many other end uses such as windows, doors, garden structures, cabins, car ports, and even in large civil engineering projects like motorway sound barriers.

For non-standard products, please contact your nearest Stora Enso sales office or visit our web site [storaenso.com/buildingandliving](http://storaenso.com/buildingandliving)

## Material properties

**Ecological & safe:** No chemicals are used in the treatment process and wood itself is a renewable material. Disposal of off-cuts can be by burning or into normal waste system. Safe for surroundings with kids.

**Appearance:** During the thermal treatment process the wood takes on an attractive hardwood-like brown colour consistent through the entire section of each timber piece. Higher temperatures produce a darker shade. If the product's appearance and colour is to be maintained, it should be surface treated. Covering is also recommended to lengthen the service life by slowing down the natural weathering effect. Unprotected, non-toxic, wood will change color and turn to grey. Mold will start in any non-toxic environment but will not lead to decay.

**Dimensional stability:** The thermal treatment process greatly reduces wood's tendencies to warp, swell or shrink in different humidity conditions. The wood's equilibrium moisture balance may be decreased to less than 40-50% compared to untreated timber. Stora Enso Thermo-Wood maintains its dimensional stability when exposed to variances of humidity.

**Natural rot resistance/durable:** The thermal modification of wood significantly improves its resistance to rot and fungal decay. The process ensures that all the material is treated and not just the surfaces. Stora Enso ThermoWood is not resistant to termites but is resistant to long horn beetles.

**Thermal properties:** The tests have shown that the thermal conductivity of ThermoWood is considerably lower compared to untreated wood, thus giving improved insulation performance.

The material properties of the finished product are influenced by wood selection and pre-treatment procedures, as well as wood species and treatment level used.

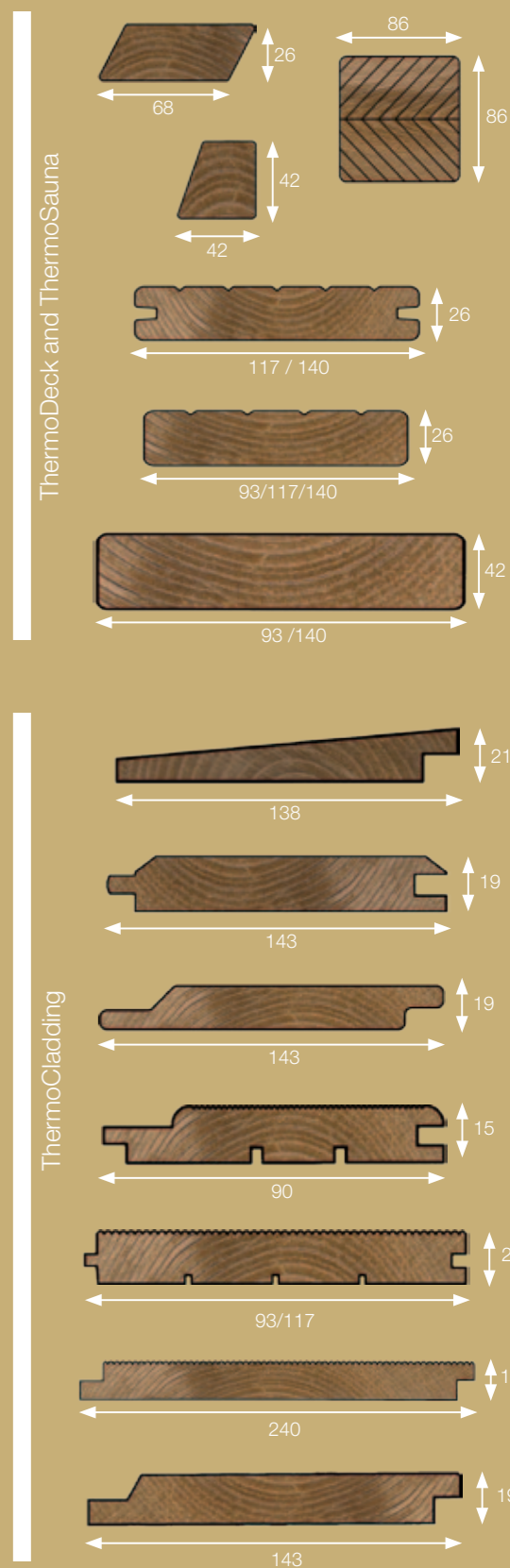
Stora Enso ThermoWood product	Dimensional stability acc. to EN 1910	Equilibrium Moisture Content		Durability according to EN 113
		at 65 % RH	at 95 % RH	
Thermo-S Spruce	Very good	6-7%	13-14 %	Moderately durable (3)
Thermo-S Pine	Good	6-8%	14-16 %	Moderately durable (3)
Thermo-D Spruce	Excellent	5-6%	11-12 %	Durable (2)*
Thermo-D Pine	Good	6-7%	12-13 %	Durable (2)*

General service situations and hazard classes given in EN 335-1: 1) Above ground, covered (dry); 2) Above ground, covered (risk of wetting); 3) Above ground, not covered.

\* Stora Enso ThermoWood is not intended to be used in direct ground contact. If it is used in direct contact with the ground or under constantly wet conditions then the risk of fungal attack is higher and the durability would be classed as 2 - 3.

The strength of the wood reduces during the heat treatment process at the same time as brittleness increases. As the strength reduction is greatly influenced by knots, we recommend contacting our sales organisation regarding choice of wood quality for ThermoWood used in. The stiffness of the wood is generally only affected to a minor extent. Brinell hardness is generally slightly higher or unaffected as compared to untreated wood.

Here are some examples of the ready plained products. We manufacture products also according to your needs.



If you want to plain yourself the material, it has similar working properties as wood species such as Western Red Cedar and some hardwoods. It is essential that tools are sharp for sawing and planing.



## Stora Enso Building and Living

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## Production

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[storaenso.com/thermowood](http://storaenso.com/thermowood)  
[storaenso.com/buildingandliving](http://storaenso.com/buildingandliving)  
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## Certification for quality and environment

The production of ThermoWood works under strict quality management systems. The quality control system and requirements set up the ThermoWood Association sets the general standards for Stora Enso ThermoWood classes S and D. Since Stora Enso Building and Living aims to be the leading supplier of high quality ThermoWood products we have added further requirements for each specific end use.

ThermoWood® is a registered trademark owned by International ThermoWood Association. Stora Enso Building and Living is a member of the International ThermoWood Association.

