### WOOD: A SUSTAINABLE MATERIAL

#### 100% recyclable

Consumption of wood products offers a positive contribution towards preserving and increasing forests.

Every  $m^3$  of wood used as a substitute for another material can save a total of 2 tons of  $CO_2$  emissions from entering the atmosphere Moreover, it is our responsibility to guarantee a type of development based on resource renewal and environmental protection.

Consequently, we actively promote the use of wood from PEFC forests. PEFC certification guarantees sustainable forest management.





These certifications assure customers that they are buying wooden products from sustainably managed forests. By choosing PEFC, customers are helping the fight against illegal tree felling as well as fostering sustainability.

# We are part of the natural cycle



# HEAT TREATMENT THERMOPINE

# The innovative process that endows the wood with high performance

Heat-treated wood is a sustainable, economic and environmentally friendly solution involving wood for outdoor use, as the treatment does not involve using any chemical and biological product. The treatment is performed by placing the material in a chamber with an oxygenfree atmosphere at high temperatures for several hours. This process will always vary according to the type of wood, the necessary properties and the parts' sizes.



The use of a balanced combination of high temperature and vapour, for several hours, transforms wood at the chemical and structural level.



#### Did you know that

...?Natural wood contains biological agents such as xylophages, insects that feed on the wood and on the mould living in it.



# *Temperature, pressure and vapour*

While it may seem like 240°C would char wood, the delicate and precise balance with water vapour and atmospheric pressure make heat treatment a completely safe process.



#### Just wood, nothing else

The process completely does away with xylophages, moulds, residual moisture in the wood, as well as the resins it could contain; all that is left are inert wood fibres.

#### Slowly but surely

Time is a key factor in the process, as the appropriate duration allows the temperature and vapour to reach the centre of the wooden parts. Depending on the wood thickness and type, cycles can last up to 100 hours.



The heat treatment endows the heat-treated wood with high outdoor resistance properties.



#### Did you know that

...?Material fatigue is a physical phenomenon caused by dimensional changes through contraction and dilation. In the case of wood, this occurs through moisture gain and loss, even bringing about changes in dimensions, strains, warps...

The heat treatment results in significantly increased resistance to wear from material fatigue, largely surpassing use class 4 products.



#### Improved dimensional stability

Up to **50%** more dimensional stability, as this is not affected by changes in moisture, while internal tensions are reduced.

#### Greater thermal insulation

Up to **25%** greater thermal insulation, as its thermal conductivity is reduced.

#### Greater uniformity

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Greater colour uniformity - a golden brown shade - across the entire product range, with a very smooth surface finish.

## ONLY WOOD, NATURALLY

Using a natural process, with no chemicals of any kind, we have eliminated everything that affects product durability and have left the structure, for longer-lasting results.

This is a useful treatment for outdoor claddings, for decks, walls and ceilings.



#### **Chemical-free**

Only a special kiln is used for controlling water vapour density inside the wood, thus preventing it from becoming deformed and stained.

#### **Resin-free**

At temperatures exceeding **200°C**, resin components vaporise. This makes it more fireresistant while preventing the moulds that occur in untreated wood.

#### Moisture-free

Not only have we reduced the product's moisture by up to **50%**, but we have also protected the wood, making it resistant to moisture absorption. This prevents deformities brought about by moisture changes.