



# DuraWood® - Natures Technology

Exclusive to MTS, **DuraWood®** offers customers a clear-grade sustainably sourced Hardwood which provides a beautiful Teak coloured wood with outstanding durability and exceptional stability in service.

**DuraWood®** is produced using the latest thermal modification technology - applying heat (180 – 260 Degrees C), water vapour and pressure to the timber.

This modification takes a period of 48 to 96 hours to complete (taking into account different thickness).

The process is very environmentally friendly as no chemical substances are used during modification.



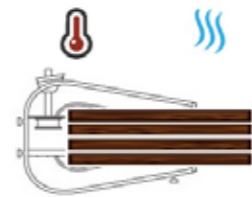
1. HARVEST

1. Our process begins with the harvesting of moulding-grade raw lumber, all of which is sourced exclusively from FSC certified sustainable Hardwood.



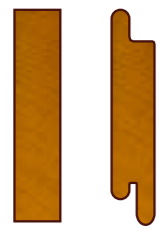
2. MILLING

2. After our Hardwood has been harvested and thoroughly graded for any defects, it is moved to a specially designed kiln where it will begin the three phase process of Thermal Modification.



3. HEAT 260°C & STEAM

4. Next, the Thermally Modified wood is transported from the kilns to our factory in Wicklow, where it will be manufactured into a number of different products for interior or exterior use. For example: joinery, cladding, windows and louvres.



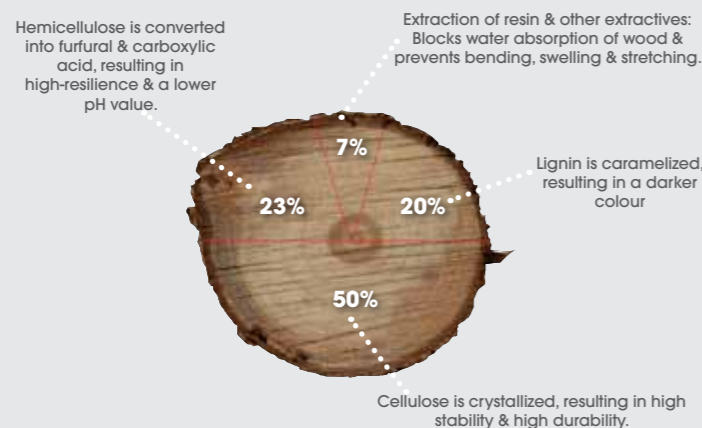
4. PROFILE



3. Once inside the kiln, temperatures steadily increase to around 260°F, effectively dropping the wood's moisture content to nearly zero. It is at these high temperatures that the chemical and structural changes occur in the wood that make it more dimensionally stable, as well as insect and rot resistant. Once modified, steam is introduced into the kiln in order to recondition the wood by returning its moisture content between 6-7%. The entire process can take up to 96 hours depending on the thickness of the Hardwood and doesn't allow for any shortcuts. The process is very environmentally friendly as no chemical substances are used during modification.

## Modifications

- The process reduces the equilibrium moisture content (EMC) and gives the wood a warm brown colour throughout, similar to Teak/Iroko.
- When Cellulose is crystallized the Stability and Durability of the wood increases.
- By extracting the resin and extractives the woods capacity to absorb water is reduced preventing swelling, shrinking and splitting during weathering.
- 100% Natural, nothing added but heat and steam. **DuraWood®** is chemical and toxin free, resulting that the timber is 100% recyclable



## Benefits - Wood Made Better



**100% NATURAL**  
DuraWood® is free of any chemical substances.



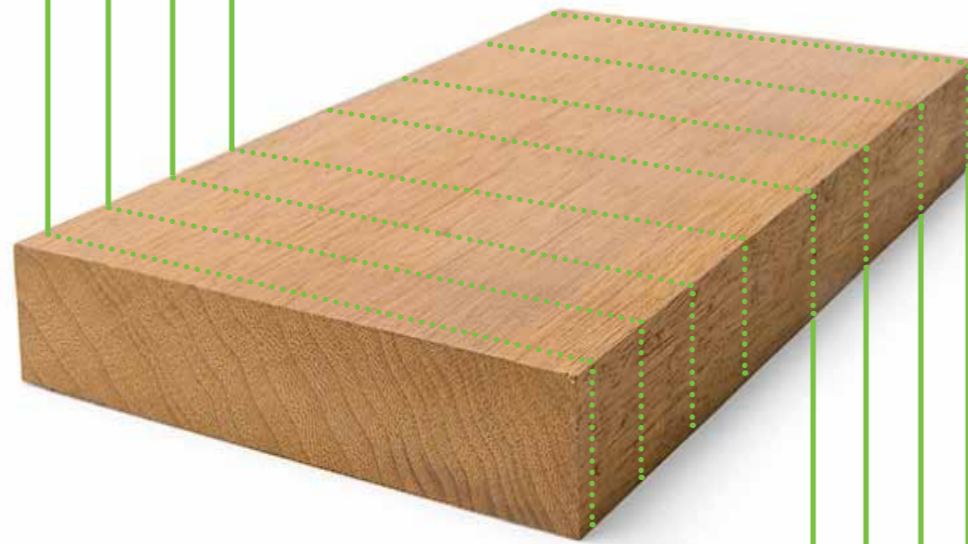
**ECOLOGICAL**  
DuraWood® is harmless to humans and animals. It is environmentally friendly, recyclable, strong, long lasting and produced from sustainable forests.



**DURABLE**  
DuraWood® is suitable for use in external situations such as Cladding, Louvres, Windows, Doors, Fascia, Soffit and General joinery.



**INSULATOR**  
DuraWood® offers 25% greater sound and insulation benefits when compared to non modified wood.



**HOMOGENEOUS**  
DuraWood® is similar in appearance to Iroko / Teak and the colour of the wood goes throughout the solid section with very good colour consistency through boards.



**STABLE**  
DuraWood® has outstanding Stability in service with resulting in no cupping, movement or splitting. This makes it ideal when choosing a performing timber substrate which can be left unfinished or painted. Long straight grained wide boards are not a problem for DuraWood.



**SAFE**  
DuraWood® is approx. 30% more fire resistance when compared to non modified wood.



**INSECT REPELLANT**  
DuraWood® is resistant to mould and is resistant to attack from the three most common woodboring insects found in Europe.



## Durability

For external cladding purposes **DuraWood®** is an extremely durable timber (class 1-2 according to BS EN 350-2). This durability has been achieved by utilising heat, steam and pressure. This form of treatment is Chemical and toxin free, and results in a timber that is 100% recyclable. With this Durability Classification, **DuraWood®** has a lifespan of 50-60 years when used as an external cladding board that is subject to general outdoor exposure.



## Density

**DuraWood®** is approximately 327Kg/m3 at a moisture content of 8% (+/- 2%). This low density allows for ease of handling and allows greater flexibility in relation to installation.



## Sustainability

As with all our timber, **DuraWood®** is FSC Certified and is therefore sourced from well-managed, sustainable forests.



The mark of responsible forestry  
FSC® C118296



## Coating Suitability

**DuraWood®** does not require maintenance and if left untreated, will quickly weather to a beautiful silver/grey. Although there is no requirement for coating in terms of durability, due to the exceptional stability properties described above, this product is highly suitable for factory finishing through our Vacuum Coater or other site applied coatings which we can advise on.

The coatings system will be subjected to less substrate movement and, as a result, the coating will last significantly longer than when applied to non-modified timbers. This in turn substantially reduces the maintenance requirement, meaning that the lifetime cost of the product is reduced.



## Stability

The thermal modification process changes the structure of the timber, resulting in **DuraWood®** having an extremely low, maintained moisture content of 8% (+/- 2%). The benefit of this is that it enhances the timber's dimensional stability; hereby avoiding cupping and overall movement. Excellent stability, low density and a contemporary look mean that **DuraWood®** can also be used to great effect internally.

Results show that **DuraWood®** has outstanding dimensional stability properties, making it suitable for a wide variety of project types including Windows, Doors, Cladding, Internal and External Joinery.



## Appearance

**DuraWood®** is a beautiful brown colour with a subtle figuring. Once modified **DuraWood®** creates a consistent look reminiscent of Iroko / Teak. When left unfinished, **DuraWood®** weathers more quickly than unmodified timbers, in a uniform and more pronounced way resulting in a beautiful silver/grey appearance.

**DuraWood®** is a smooth, straight-grained and virtually knot-free hardwood which is perfect for any projects that require a clean, sharp and contemporary appearance.

**DuraWood®** is frequently preferred by Architects to achieve the high expectations of their design both in appearance and performance.

