



**MOST EXCLUSIVE SUSTAINABLE LUMBER FOR MARINE EXTERIOR AND INTERIOR APPLICATION**



**TMT Marine® is only produced from North American renewable forests.**

#### SUSTAINABILITY

While forests are dynamic eco-systems in which species composition will shift over time, regular forest inventories undertaken by the federal government demonstrate that there is rapid growth in the volume of nearly all commercial hardwoods in U.S. forests. This growth is also well distributed throughout the United States.

According to the latest statistical update by the [United States Department of Agriculture \(USDA\)](#):

- Between 1953 and 2012 the volume of U.S. hardwood growing stock increased from 5.2 billion m<sup>3</sup> to 12.0 billion m<sup>3</sup>, a gain of over 130%.
- Between 2007 and 2012, the volume of hardwood standing in the U.S. increased at a rate of 124 million m<sup>3</sup> a year (even after harvesting and natural mortality is taken into account) – that’s about 4 m<sup>3</sup> every second.
- U.S. hardwood forests are aging and more trees are being allowed to grow to size before being harvested – the volume of hardwood trees with diameters 48 cm or greater increased nearly four-fold from 0.73 billion m<sup>3</sup> in 1953 to 2.7 billion m<sup>3</sup> in 2012.
- The total area of hardwood and mixed hardwood-softwood forest types in the U.S. increased from 99 million hectares in 1953 to 111 million hectares in 2012. This area increased consistently throughout the 60 year period and continued at a rate of 401,000 hectares per year between 2007 and 2012 – that’s equivalent to adding an area the size of a soccer pitch every minute.



## TMT Marine® is sustainable & carbon footprint negative.

### Example of maple lumber used to produce 250 m<sup>2</sup> of decking for a 55 meter Yacht

**Wood specie:** Maple

**Logs volume required:** 27 m<sup>3</sup>

**Origin:** North American West Coast

**Destination:** EU Shipyard

#### AMERICAN HARDWOOD'S LIFE CYCLE ASSESSMENT TOOL

This tool shows the environmental impact of delivering one cubic meter of kiln dried sawn lumber of the selected American hardwood species and thickness to the overseas customer using the specified transport route. The data is derived from an ISO conformant LCA model prepared using GABI software by Thinkstep. The eight environmental impact categories shown are a selection of those used in EN15804-conformant Environmental Product Declarations (EPDs) of construction products and are also being pilot tested for the EU's Product Environmental Footprint (PEF) initiative.

#### GROWN IN SECONDS

Select species  
American hard maple

Select lumber thickness  
4/4 (1 inch)

Select export port  
East Coast

Select import port  
W. Europe

**1.70**  
seconds

it takes 1.7 seconds to grow 1m<sup>3</sup> of American hard maple

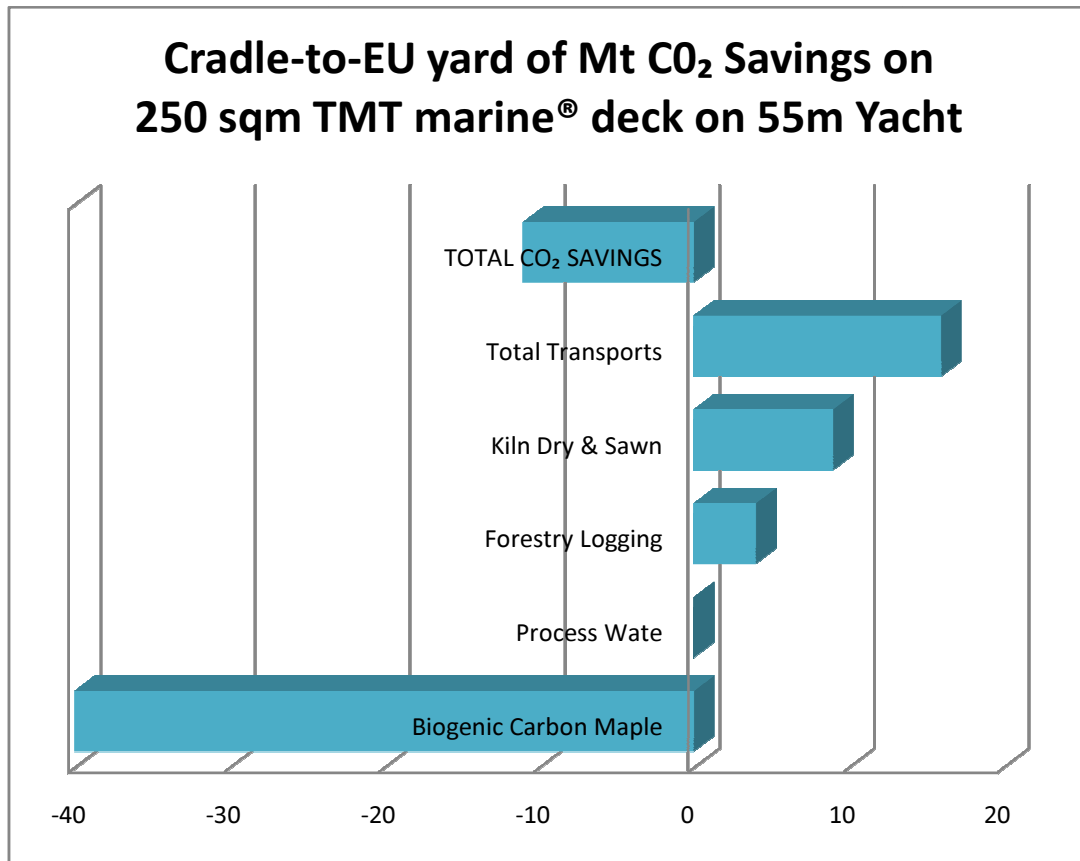
The replacement rate is calculated from total U.S. annual increment of the specified hardwood species derived from the U.S. Forest Service Inventory and Analysis (FIA) program and assumes that 2 m<sup>3</sup> of logs is harvested to produce 1 m<sup>3</sup> of lumber (i.e. 50% conversion efficiency). The rapid rate of replacement is due to the very large volume of hardwood trees in U.S. forest.

**The replacement on natural grow in the forest of 27m3 needed for this Yacht is 46 seconds!  
All US forests are growing. E.g.: NY State Maple growth/removals as per bellow illustration**

#### INTERACTIVE FOREST MAP

Our unique, interactive map uses published US Forest Service data to show national and regional distribution, growth and removal information for most of the main commercial American hardwood species.





**OFFSETS - EMISSIONS**

### CO<sub>2</sub> analysis with carbon footprint negative

- Biogenic Carbon: CO<sub>2</sub> is only liberated when wood is burned or rotted. Value is for 27m<sup>3</sup>
- Process waste: We count 0, because it is going to be used for biomass fuel = 60.000Kw/h
- Rest of values: Energy used for all the logging, cutting, drying and transport

### CONCLUSION

RENEWABLE LUMBER FROM STABLE COUNTRY OF ORIGIN → STABILITY IN PRICE AND VOLUMES

## TMT Marine® wood properties

Based on our more than 30 years experience being Burmese Teak traders and saw millers, supplying the selective marine market, we clearly knew what was expected from us to cover the demand with a new product. We focused our work in 4 objectives

### 1 Sustainability

Already described in previous pages


### 2 Durability

Objective: To get exterior class 1 by EU norm EN 350. TMT marine® durability is over 25 years.  
On following chart you can see our position in front of well known different lumbers.



## Comparison Chart

### Natural durability of solid wood according to European norm EN 350

DURABILITY LEVEL	EXT. CLASS 1	EXT. CLASS 2	EXT. CLASS 3	EXT. CLASS 4	EXT. CLASS 5
DURABILITY PERIOD	> 25 Years	15-25 years	10-15 years	5-10 years	< 5 years
WOOD SPECIES	 Burma Teak Doussie	Bangkirai Iroko Mahogany W.Red Cedar	Plantation Teak Douglas Fir Sapele Oak	Okoume Spruce Pine Eur. Larch Limba	White Ash Beech Poplar Red Pine Maple
WITHSTANDS	Outdoor Contact with ground, not protected. Always wet	Outdoor Contact with ground, not protected. Regularly wet	Outdoor Contact with ground, protected. Rarely wet	Indoor and covered areas  Dry	Indoors  Dry

EN 350:2016

The wood-destroying agents considered in this standard are:

- Wood-decaying fungi (basidiomycete and soft-rot fungi)
- Beetles capable of attacking dry wood Termites
- Marine organisms capable of attacking wood in service.

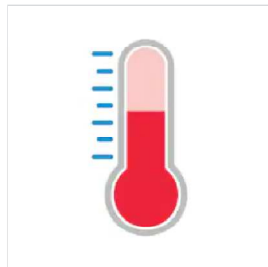
### 3 Non chemical agents in the process

TMT marine® is Thermal Modified Timber based on Maple wood with no chemicals

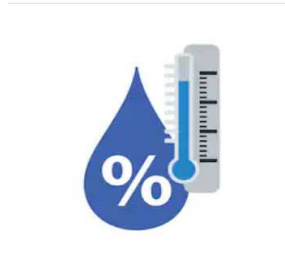


Thermo treated lumber is a process that only involves an accurate control of

**Temperature**



**Moisture**



**Pressure**



Because the excellent physical properties of the Maple we are not in need to add any chemical, like it's needed in softwoods like pines and some tropical lumbers.



#### 4 **Beauty**

Beauty is also important on the exclusive marine market. We know that, and we worked so hard to get a lighter color than common Thermal woods without losing exterior class 1 condition.

It's well known that lighter color is equivalent to fresh surface. But lighter color is not enough. TMT marine® is only approved when quality of the lumber is quarter sawn, straight, with narrow yearly rigging.

**The result is an eco-friendly superb performance lumber without comparison.**

