

About Thermowood

Thermowood Flooring and Decking

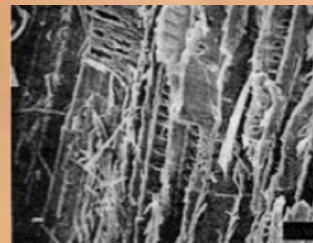
WHAT IS THERMO TREATMENT?

Thermo-treated wood is a natural pure wood material which was treated under extremely high temperatures 400 degree F in oxygen-free environment (just heat and water steam). After thermo-treatment wood:

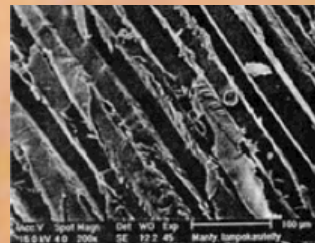
- **Increased weather durability** - up to 25 years when applied outdoors
- **Increased dimensional stability** – Moisture related shrinkage and swelling is reduced by 5-15 times
- **Repels moisture** - at the molecular level and lowers the equilibrium moisture content by 50%-90%
- **Enhanced Visually** - the finished product has an **even brown color** consistent to the center of the wood and the grain structure is beautifully accented.
- **100% chemically free** - it is a 100% "Green" product and "Green" technology

SCIENCE

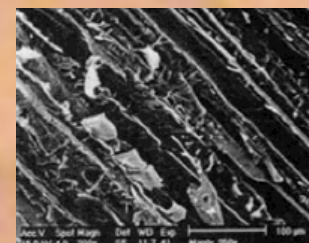
The main reason thermo-treated woods' durability and stability is the molecular changes that occur when wood undergoes the targeted temperatures during the process. More specifically, 95% of the polysaccharides (food for fungi) are removed during this high temperature stage, which dramatically increases durability. Also, the wood substantially reducing moisture related shrinking and swelling.



Normal kiln dried lumber



Thermo-treated lumber



350 year old lumber

The thermo-treatment process enhances the woods color and changes cells structure (like 350 year old lumber) creating an even brown tint that is consistent beyond the surface. Chemicals are never used during the thermo-treatment process, so the material remains environmentally safe. You and your children can walk barefoot across a thermo-treated wooden deck with certainty and peace of mind that the surface is free from harmful chemicals.

MANUFACTURING OF THERMOWOOD

The thermo-treatment technology was initially introduced in Europe more than 20 years ago and now thermo-treated products are completely substituted usage of pressure-treated lumber in Europe. In USA the first thermo-treatment plant was launched in 2007 under Westwood technology. Our new state of art Westwood thermo-treatment plant in Georgia is a full cycle manufacturing facility to provide highest quality Well Done thermo-treated outdoor products. We use only a top grade lumber, do thermo-treatment, then full millwork, defecting of final products and coating – all with careful quality control. Our optimized logistic allows us to propose a very affordable price to the products. So why our **Well Done products are really Well Done!** You and your children will really enjoy your "Green" thermo-treated Well Done deck and siding with a piece of mind for more than 25 years. **Well Done Atlantic Line** introduces a reach wood grain species like Ash, Elm and Cypress. **Well Done Pacific Line** introduces more "calm", lpe-look woods grain structure like Gum and Poplar.

	Specie	Thickness	Width	Length	Weather Durability	Dimension Stability	Hardness, N	Specific gravity	Workability
Atlantic Product Line									
Decking	White Ash Elm	13/16" (21 mm)	4.5" or 5" (115/127 mm)	6' – 12' (1.8 – 3.6 m)	25 years	Excellent	4,000 – 5,800	0.43 – 0.49	Excellent
Siding	Cypress	3/4" (19 mm)	4.5" or 5" (115/127 mm)	7' – 10' (2.1 – 3 m)	25 years	Good	5,500	0.32	Good
Pacific Product Line									
Decking	Sap Gum Soft Maple Beech	13/16" (21 mm)	5" or 5.5" (127/140 mm)	6' – 12' (1.8 – 3.6 m)	25 years	Excellent	4,000 – 5,800	0.42 – 0.52	Excellent
Siding	Poplar	3/4" (19 mm)	4.5" or 5" (115/127 mm)	6' – 12' (1.8 – 3.6 m)	25 years	Good	2,500	0.34	Excellent



One face 2E decking profile



Two faces T&G V-siding profile

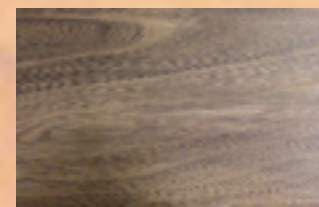
Thermo-treated lumber is chemicals free



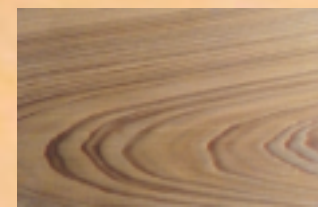
CHEMICALS FREE



White Ash



Elm



Cypress



Soft Maple



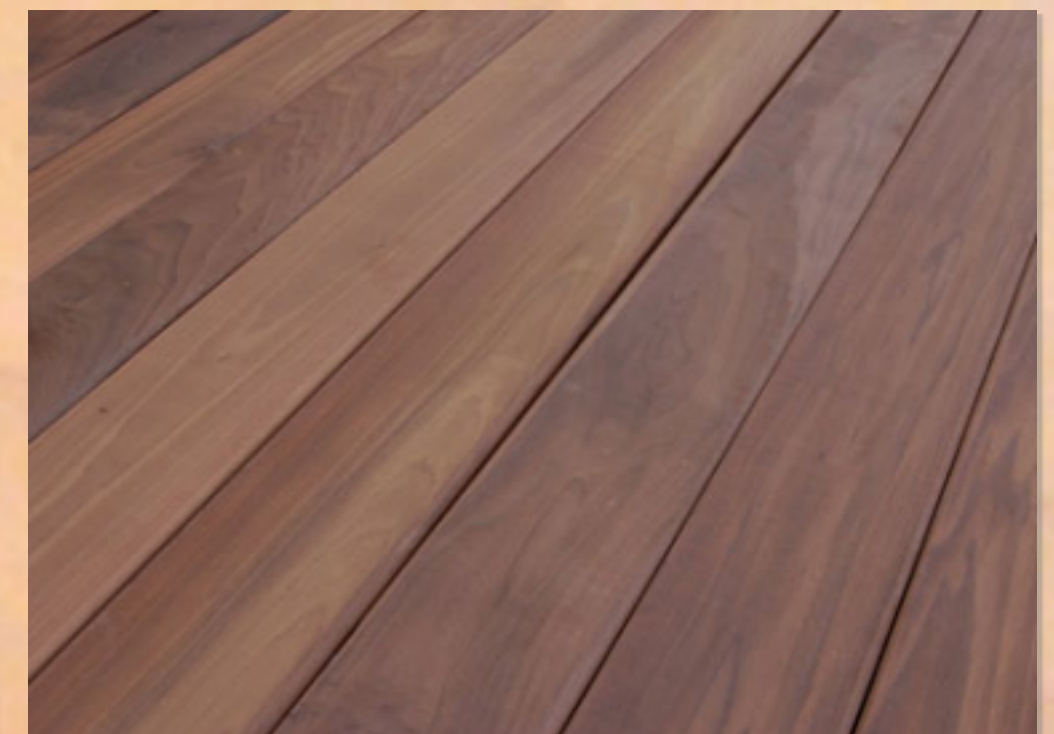
Sap Gum



Poplar



Well Done White Ash Deck



Well Done Sap Gum Deck

Frequently Asked Questions

ENVIRONMENTALLY SAFE?

Our thermo treatment process uses only water and electricity to create the desired results, minimally impacting the environment. When you consider this along with the fact that chemicals are never introduced, it is realized that you have a real wood product that is 100% environmentally safe and people friendly.

DOES THE PRODUCT HAVE TO BE FINISHED FOR OUTDOOR APPLICATIONS?

Thermo treated wood (TTW) is still a natural, organic material and will fade in color from UV exposure. The brown tint will fade to brown-gray over a 1 to 2 year period if untreated with a UV protectant. Although the wood is resistant to checking, it is more likely that surface checking will occur if a UV protectant is not applied. Checking of the wood has no effect on the long term durability or its resistance to rot and decay.

HOW OFTEN IS MAINTENANCE REQUIRED FOR THERMO WOOD PRODUCTS?

TTW products have increased dimensional stability which allows it to maintain its size. This ensures the products almost will not shrink or swell following the application of a protectant. When the product maintains its size it prevents the finish from cracking, which means fewer coats, less often. To restore the original color of product use surface sanding as the gray color is just on a surface layer and original color is consistent to the very center of the boards.

WHAT SHOULD BE THE REAL EXPECTATIONS RELATED TO THERMO TREATED WOOD?

- The thermo-modification increases durability of the wood 25 times on molecular level, **BUT** to keep thermo treated wood "in shape" it still needs the care and maintenance as other natural wood products.
- We decreased shrinkage and swelling of thermo treated wood 5-15 times, **BUT** not have turned the wood into the stone – it can still move slightly with relative humidity changes and can crack if not maintained properly.
- We turn the color of TTW into a beautiful brown exotic-like tint, **BUT** the brown color silver under the direct sunlight, as the color of any natural material will fade, therefore it needs UV protection.

IS THE TTW TERMITE RESISTANT?

A recent research shows that thermo treated wood is much better termite resistant compared to non-treated wood. As it is still under research, we propose to use standard protectant for these applications.

CAN THERMO-TREATED WOOD BE USED WHEN CONSTANT GROUND CONTACT IS UNAVOIDABLE?

Research has shown that when thermo-treated wood is kept in constant contact with the ground it does not decay. However, due to the chemical processes that occur in wood kept in constant contact with the ground, there is some lose of strength. For the time being it is not recommended to maintain constant ground contact when using thermo-treated wood.

DOES THE PRODUCT HAVE ANY GUARANTEE?

Reclaimed Woods of the World offers a transferable, limited 25 year warranty on all Thermowood products for outdoor applications.

Installation Recommendations

THERMO TREATED WOOD – IS A REAL WOOD: Cut it, sand it, nail it, drill it, paint or stain it as you would practically any standard-grade lumber. The treatment modification happens on the molecular level, but physically it is still the same specie of wood. TTW is drier (4% EMC) and slightly more brittle than untreated wood. The color is consistent throughout the product.

TTW IS NOT INTENDED TO BE USED FOR STRUCTURAL APPLICATIONS, such as joists, stringers, beams, support posts, columns or other load-bearing applications. TTW has 10-25% lower density than un-treated wood of the same specie, and correlated lower strength values. Decking made with TTW must be supported by use of a code-compliant substructure. We recommend 16" on-center space between joists and 1/4" gap between boards for Well Done decking products.

CUTTING AND DRILLING: The higher saw power and sharper blades, the better cut quality.

- **Radial and Table Chop saws** – Use blades (10") with greater than 30-tooth carbide blades.
- **For 7-1/4" circular saws,** use a 36 - 40 tooth carbide tipped blade.
- **Hand saws** also work well with TTW. Fine tooth crosscut saws work best.
- **Use standard woodworking drill bits** - extra attention should be taken when drilling near edges to avoid wood splitting.

FASTENING AND NAILING: Standard exterior grade coarse-thread screws work well. Pre-drill holes to avoid splitting at edges. Fasteners should be applied a minimum of 5/8" from board edge and a minimum of 3/4" from the board ends. Use face-fastening along with hidden fastening systems. For deck surface nailing 16D common is the maximum nail size allowed and a 10D common is the minimum. Spiral-shank nails may provide additional holding power. Nails must be exterior-grade (stainless steel or hot-dipped galvanized). Use hammers gently due to the increased brittleness of TTW products.

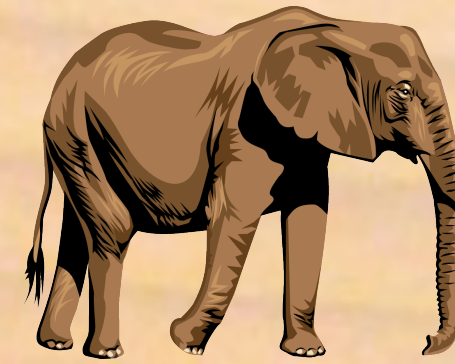
COATING is needed to maintain and improve the woods performance against checking and fading. We recommend the use of clear, or semi-transparent UV protectants. For example, THOMPSON, PENOFIN CLEAR or SIEKENS are commercially available. Apply coating to ALL surfaces of the wood BEFORE installation. All cut ends need to be either wax sealed (ANCHORSEAL as an example) or apply oil-based, deep penetrating stain to all cut or exposed ends.

MAINTENANCE:

Cleaning - Specific cleaning requirements for TTW may vary with climate, use, and traffic. However, because TTW is real wood, we advise against the use of harsh chemicals or power-washing as they can damage the finish of any wood product.

Coating - Treatment process gives wood a rich, exotic wood-like color, which will silver over time if not treated with a UV-resistant sealant or stain. Because of the wood's natural state, some boards may check, or crack, more than others. This checking has no effect on the long term durability of the product, nor does it affect TTW resistance to rot and decay. To enhance the product's performance against fading and checking, we recommend a semi-transparent or clear treatment.

Maintenance intervals - Because of the increased dimension stability of TTW, the finish works better on the surface of TTW (the finish on non-treated wood cracks due to the movement of wood and allows water to penetrate). However, the maintenance intervals may vary with climate, use, and traffic, and also depends on the maintenance recommendations of the coating manufacturer.



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WOODS OF THE WORLD



Atlantic Line



Pacific Line