

INSTALLATION AND MAINTENANCE INSTRUCTION FOR THERMO TREATED DECKING

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 lumber**
- ✓ **Enjoy a beautiful color and grater workability of TTW**

A unique thermal-modification process applied to lumber turns wood into a durable and beautifully looking product without any chemicals. The changes happen on the molecular level, but physically it is the same specie of wood. You can use Thermo-Treated Wood (TTW) like you would regular, non-treated wood. Cut it, sand it, nail it, drill it, paint or stain it as you would practically any standard-grade lumber, using the same standard tools. TTW is drier (4% EMC), lighter in weight and a little more brittle than non-treated wood. Unlike other exterior products, TTW is evenly modified throughout so you are assured of the same performance and look from board center to outside edge. No extraordinary care is needed after sawing and machining TTW - its characteristics and color are consistent throughout the product.

Structural Applications of Thermo-Treated Wood

- ✓ **Use 16” span center-to-center**

Usually TTW is not necessary to use in applications, when you don't see the beauty of TTW. Also, due to decreased strength, the TTW is not used as joists, stringers, beams, support posts, columns or other load-bearing applications. Decking made with TTW must be supported by use of a code-compliant substructure (16” span for ¾” and 1” thick products).

Generally, the strength of wood has strong correlation with density. TTW has 10-25% lower weight and density compared to non-treated wood of the same specie, and correlated lower strength values.

Ground contact and termites resistance

- ✓ **Allowed direct ground contact for non-structural applications**
- ✓ **The termite resistance of TTW is improved**

Direct ground contact is allowed, where structural performance is not critical and periodic drying of the surfaces is allowed. This is especially apparent when the ground has good drainage and is made up of sand. Also, due to bacteria in the air or dirt carried in the rain, when TTW positioned near the ground, fungi can grow on the surface, as they grow on any surface (even on stone). However, this is on the surface only and can be removed by wiping or scraping. We recommend keeping Thermo Decking at at least 2” above grade.

Thermo Decking has improved termite resistance, as we dry wood and burn sugars in the wood during thermo-treatment. Nevertheless for the areas with increased termites activity we recommend to use additional protection.

Cutting, Drilling, Nailing

- ✓ **Saws: 30-tooth and more**
- ✓ **Use sharp Drill Bits**
- ✓ **Pre-drill holes for nailing**

Pay special attention to saw and tool coarseness/fineness to better improve the end results. Saw speed will have an effect on the cut quality; generally, the higher the saw power, the better the cut quality.

Radial and Table Chop saws – Use blades (10”) with greater than 30-tooth carbide tipped for optimal results.

Circular saws – For 7-1/4" circular saws, use a 36–40 tooth carbide tipped blade for optimal results – fewer teeth will result in a coarse cut, especially at board ends. Be sure to use sharpened blades to ensure clean cuts.

Hand saws – Standard wood handsaws also work well with TTW. Pay careful attention to the saw tooth count and blade type for optimal cutting performance. Fine tooth crosscut saws work best.

Drilling – Use standard woodworking bits; however, extra attention should be taken when drilling near edges to avoid wood splitting. Using sharp bits and attention to tool pressure will help improve end results. Coarse, flathead borer bits will tear and split the wood; we recommend standard, round drill bits.

Nailing - Pre-drill holes if use nails. 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 is the best). Use hammers gently due to the increased brittleness of TTW.

Installation

- ✓ **16” span / 12” for staires**

Use 16” on-center span for decks, 12” for stairs treads and 12” for decks and stairs in commercial applications. Deck boards shall extend across a minimum of three joist bays and terminating board ends shall lie on joist centers. A 1/4" gap between adjacent deck boards is recommended as TTW will install dry (~4% MC) so minimal shrinkage will present. In addition, all installations should follow all local municipality code regulations.

Fastening

✓ Use self-tapping Screws

Stainless steel coarse-thread screws work well with TTW. Keep in mind the following tips:

- ✓ Usage of self-tapping composite decking screws (stainless steel are the best) providing the best result, otherwise pre-drill holes if use nails and screws.
- ✓ Fasteners should be applied a minimum of 5/8" from board edge and a minimum of 5/8" from the board ends.
- ✓ Face-fastening with screws provides the optimum holding conditions.

Hidden Fastening

✓ Tiger Claw Clips

✓ Standard Clips



- ✓ Use softwoods tiger clips.
- ✓ If use standard plastic or metal clips which require grooves, make small local grooving (like for biscuit joints) with router to match the shape of desired clips.

Oiling and painting

✓ Product comes 4-sides factory oiled (good for first 1-2 years)

✓ Re-oil every 1-2 years

✓ Use Clear sealant with UV-protection



Oiling is strongly necessary for exterior applications of TTW products to protect the TTW beautiful performance (against silvering and surface checking due to direct sunlight and weather exposure). A sealant with UV protection should be used.

Thermo Decks comes already four sided factory oiled, which is good for first one-two years depends on the place of installation and sun exposure. For oiling we used a widely available Thompson Clear Water sealer with UV protection. For the next period of oiling you may use the same oil, or any clear, or semi-transparent solvent-based finish, which will allow the beautiful wood grain of TTW to be shown.

TTW accepts a variety of wood finishes well; however we recommend monitoring the results of coating applications to be sure that it created a protective screen on the surface of product. Usually a second coating leads to the best results.

The following brands have been tested with TTW: Thompson's WaterSeal Clear (available in Lowe's), Penofin, Protego. Different oils are darkening TTW differently, so check the color before you apply oil. Oil based sealants work best with TTW.

If you missed the oiling and product started fading under sunlight (turned to lighter brown shade, or starts silvering) - you may restore original color just by sanding the surface of your decks before application of new oil.

For optimal results:

- ✓ All cut ends need to be either wax sealed (Anchorseal is one example of this) or apply the same oil to the exposed or cut ends.
- ✓ Applying coating to ALL surfaces of the products leading to the best results.

Care and Maintenance

✓ Thermo-treated wood is a **LOW-MAINTENANCE** product, but it is **NOT A NON-MAINTENANCE** product

Cleaning - Specific cleaning requirements for TTW may vary with climate, use, and traffic. However, because TTW is a real wood, we advise against the usage 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. 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 oil treatment with UV protection.

Maintenance intervals - Because of the increased dimension stability of TTW, the finish works better on the surface of TTW. However, the maintenance intervals may vary with climate, use, and traffic, and also depends on the maintenance recommendations of the coating manufacturer. Periodic inspection of the surface is recommended for optimal product performance and beauty. Usually a one or two years oiling interval provides good results for performance of TTW.