

# TERRAMAI

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ACCLIMATING TERRAMAI  
FLOORING/PANELING

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# ACCLIMATING TERRAMAI FLOORING AND PANELING

## A FEW QUICK FACTS ABOUT WOOD

There are a few things you need to know about your newly purchased reclaimed wood flooring/paneling. Wood naturally has certain levels of moisture in it at all times. Wood is hygroscopic, which means it gains or loses moisture based upon changes in temperature and humidity of its immediate environment. As wood loses or gains moisture, it will shrink or swell. Wood shrinks and swells primarily in thickness and width, but very little in length. This results in wood arriving to your location potentially at a different moisture content than what is required for your installation. In order to make your flooring/paneling look and perform its best, you need to acclimate it. Acclimating is when you allow the wood time to reach equilibrium moisture content with the environment that it will be installed in. The only way to ensure wood has reached its equilibrium moisture content is testing. Failure to acclimate both engineered and solid wood flooring/paneling may well result in cupping, warping, gaps, splits, and other movement before, during, and/or after installation.

## WHAT NEEDS TO BE DONE?

- ENVIRONMENTAL CONDITIONS**

First and foremost, ensure your HVAC system is running at least 7 days prior to installation at the proper settings for desired temperature and humidity for the space when permanently occupied. This will allow the humidity to stabilize in the room where your new flooring/paneling will reside. Ambient air humidity should be between 35% and 55% and temperature between 60°F to 80°F (16°C to 27°C). See the chart below explaining the variation in equilibrium moisture content of wood at various ambient humidity and temperature ranges. If your humidity or temperature is out of spec, postpone your installation. Failing to do so may cause the room to have an improper moisture content that will cause failure. These conditions must be maintained over the life of the product.

MOISTURE CONTENT OF WOOD AT VARIOUS TEMPERATURES AND RELATIVE HUMIDITY READINGS																				
Temperature (°Fahrenheit)																				
30	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9
40	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9
50	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9
60	1.3	2.5	3.6	4.6	5.4	6.2	7.0	7.8	8.6	9.4	10.2	11.1	12.1	13.3	14.6	16.2	18.2	20.7	24.1	26.8
70	1.3	2.5	3.5	4.5	5.4	6.2	6.9	7.7	8.5	9.2	10.1	11.0	12.0	13.1	14.4	16.0	17.9	20.5	23.9	26.6
80	1.3	2.4	3.5	4.4	5.3	6.1	6.8	7.6	8.3	9.1	9.9	10.8	11.7	12.9	14.2	15.7	17.7	20.2	23.6	26.3
90	1.2	2.3	3.4	4.3	5.1	5.9	6.7	7.4	8.1	8.9	9.7	10.5	11.5	12.6	13.9	15.4	17.3	19.8	23.3	26.0
100	1.2	2.3	3.3	4.2	5.0	5.8	6.5	7.2	7.9	8.7	9.5	10.3	11.2	12.3	13.6	15.1	17.0	19.5	22.9	25.6
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	98
	Relative Humidity (percent)																			

Chart taken from *Wood Handbook: Wood as an Engineering Material*, (Agriculture Handbook 72), Forest Products Laboratory, U.S. Department of Agriculture.

- **STORAGE OFF SITE**

Ensure your product is stored properly. Flooring/paneling should be stored in a clean and dry location with the product still properly wrapped. This includes storing for short periods of time. All flooring/paneling should be stored on a solid flat surface that is properly supported with blocking evenly spaced no further than one foot apart along the length of the units (preferably not directly on the floor) to prevent warping. This is essential for engineered flooring/paneling which tends to be thinner. Storage in direct sunlight or uncontrolled environments where the temperature or humidity is outside of the ideal temperature and humidity range for wood (ambient air humidity between 35% and 55% RH and temperature between 60°F to 80°F (16°C to 27°C), may result in warping, twisting, cupping, crowning, cracking, or other damage to the flooring/paneling and is not covered under warranty.

- **ACCLIMATING**

The wood flooring/paneling must be allowed time to reach its equilibrium moisture content with the room where it will be installed, after the room temperature and humidity have been controlled at the expected living conditions for at least 7 days. Upon receiving your material, remove the flooring/paneling from the box/pallet and visually inspect boards for defects including boards from the top, bottom and middle. Cross-stack the material with stickers (spacers between each layer) to allow air circulation on all sides of all boards. Stickers must be a maximum of 12" apart to prevent the flooring/paneling from warping. Start stacking elevated from the subfloor. It is recommended that after the flooring/paneling is stacked, one more layer of stickers and plywood be placed on top with sufficient weight to prevent warping or twisting of the top layers during acclimation. Acclimate to equilibrium moisture content for as long as it takes. Some species will take much longer to reach equilibrium moisture content than others Tropical species have been known to take longer than domestic species so consideration should be taken when planning your installation. It is never a good idea to base acclimation on time alone, but rather on actual moisture content.

- **CHECKING MOISTURE**

Immediately after stacking, check the moisture content of the wood flooring/paneling with a moisture meter, randomly selecting throughout the stack. 40 boards should be measured up to the first 1,000 square feet, and an additional 4 boards per 100 square feet thereafter. Record, date, photograph, and document all results. Follow all of the manufacturer's recommendations to ensure proper use of the moisture meter. Make sure that the species selection on the moisture meter matches the species of the flooring/paneling or the substrate being tested. There are two common types of moisture meters.

- Pin style meters are more accurate, but require driving pins into the wood, so checking moisture content from the back of the boards is recommended to avoid damage to the surface finish.
- Pinless meters are generally less accurate, but many have depth adjustment that can improve accuracy somewhat. Never hold the board in hand or place on a damp substrate as the reading from the meter could be affected, as it detects moisture from behind the board.

Make sure to check the MC of the installation surface (walls or subfloor, including concrete) in at least 20 points every 1000sq ft, and record the results. Failure to do so might jeopardize the entire installation. Please consult a professional installer regarding the type of subfloor and possible need for a moisture vapor retarder. Flooring/paneling must be within 2% of the subfloor's or existing wall sheeting's MC. Be sure to check the moisture near windows or plumbing. These areas may have higher out-of-range MC readings that will affect the performance of your material.

If the HVAC system has been running at least 7 days prior to installation at the proper settings for desired

temperature and humidity for the space when permanently occupied (as specified above), and the moisture content of the flooring/paneling is within 2% of the moisture content of the substrate, installation may begin immediately. If outside of this range, allow the flooring/paneling to acclimate further, checking moisture content of the flooring/paneling, per the instructions above, on a daily basis.

These are guidelines only and are superseded by the expertise and guidance of the National Wood Flooring Association (NWFA) as well as your professional and knowledgeable flooring/paneling installer. For more information, or if you have additional questions, please consult a licensed professional or consult with the National Wood Flooring Association (NWFA) prior to installation.