

## PRODUCT SPEC SHEET


# Thermal Poplar

A lightweight, thermally modified wood with refined texture and enhanced exterior durability.

Carbon Smart Wood's Thermal Poplar is produced from yellow poplar (*Liriodendron tulipifera*) that has been thermally modified using a chemical-free process of heat and steam. Poplar is transformed through thermal modification into a stable, durable material suitable for exterior applications.

The process deepens the wood's tone and improves resistance to moisture and decay, giving this lightweight hardwood a new role in exterior cladding, fencing, and design-forward architectural applications.









## Technical Specifications

<b>Application</b>	Lumber & Trim, Fencing, Siding
<b>Use</b>	Exterior
<b>Expected Service Life</b>	20 years
<b>Durability Class (Rot Resistance)*</b>	Class 1-2 (Durable)
<b>Termite Resistance</b>	
<b>Sustainability (Estimated Carbon Impact)**</b>	790.5kg CO <sub>2</sub> e /cubic meter
<b>Janka (lbf)</b>	540 lbf
<b>Average dried weight (lbs/cubic ft)</b>	~29 lbs/cubic-ft (pre-modification)
<b>Fire Rating</b>	Class B (26–75) moderate
<b>Modulus of Rupture (MOR)</b>	~7,800 psi

\*following TRADA standard scale

\*\*Derived from the Global Wood Density Database (GWDD v2) using species-level basic density, converted to CO<sub>2</sub>e using standard carbon fraction and molecular weight ratios. Total biogenic carbon stored, expressed in kg CO<sub>2</sub>e/m<sup>3</sup> (kilograms of carbon dioxide equivalent per cubic meter), represents the amount of CO<sub>2</sub> removed from the atmosphere by a tree during its growth and locked into its woody biomass, calculated per unit of volume. In the context of tree species and wood products, this metric measures the "carbon sink" potential of the timber—essentially, how much carbon is stored rather than emitted. (USDA)

# Application Specifications

Thermally Modified Poplar (Liriodendron tulipifera)	Lumber & Trim 	Fencing 	Siding 
<b>Use</b>	Exterior	Exterior	Exterior
<b>Thermally Modified Treatment</b>	<ul style="list-style-type: none"> <li>• Chemical Free</li> <li>• Increased Stability</li> <li>• Decay Resistant</li> <li>• Enhanced Appearance</li> </ul>	<ul style="list-style-type: none"> <li>• Chemical Free</li> <li>• Increased Stability</li> <li>• Decay Resistant</li> <li>• Enhanced Appearance</li> </ul>	<ul style="list-style-type: none"> <li>• Chemical Free</li> <li>• Increased Stability</li> <li>• Decay Resistant</li> <li>• Enhanced Appearance</li> </ul>
<b>Finish</b>	Unfinished	Unfinished or Clear	Unfinished or Clear
<b>Grain</b>	Mixed Grain	Mixed Grain	Mixed Grain
<b>Texture</b>	Rough	Smooth	Smooth
<b>Profile</b>	Lumber: Rough Trim:  S4S	 E4E  S4S	 T&G  T&G-G
<b>Lengths (ft)</b>	Standard material is sold RL with a random mix of lengths from 8-12'. Please inquire for specific lengths if necessary.*	RL	RL
<b>Nominal Width (in)</b>	RW	4", 6"	4", 6"
<b>Nominal Thickness (Quarters)</b>	4/4, 5/4, 6/4, 8/4	4/4	4/4




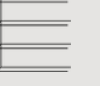
\*RL and RW are used to denote 'random length' and 'random width' respectively.

## Dimensional Stability & Thermal Modification Process

Thermal Poplar is heat-treated to reduce moisture content and remove sugars that contribute to decay and insect activity. This significantly improves durability and dimensional stability compared to untreated poplar, without the use of chemical preservatives.

This material has been traditionally limited to interior use, similar to the Red Oak, but it is abundant and has great potential for versatile use across the built environment.

## Other Species Available

Application	Lumber & Trim 	Decking 	Fencing 	Siding 
Species	Thermal Oak Silky Cedar Fallen Douglas Fir	Thermal Oak Silky Cedar	Thermal Oak Silky Cedar Fallen Douglas Fir	Thermal Oak Silky Cedar Fallen Douglas Fir

## Variation and Color Change

Naturally lightweight with a fine, even texture, Thermal Poplar develops rich, darkened tones through the thermal process. Subtle variation in color and grain remains inherent to the species, including mineral streaking that may appear as green, gray, or muted purple hues. These characteristics are natural and part of the material's visual identity when installed at scale.

## How We Stack up Against Other Brands

Brand	# Species Offered	Sourcing	Thermal Treatment Method
<b>CARBON SMART™ WOOD</b> Carbon Smart Wood	10	Domestic U.S.	Natural (heat & steam)
<b>THERMORY.</b> Thermory <sup>1</sup>	8	Northern U.S. & Canada and Northern Europe	Natural (heat & steam)
<b>accoya</b>  Accoya <sup>2</sup>	1	New Zealand & Tennessee (U.S.)	Chemical
<b>ke bo ny</b>  Kebony <sup>3</sup>	2	New Zealand	Chemical

1. Thermory website 2. Accoya website 3. Kebony website

## About Us

Cambium is connecting and modernizing the wood economy. We provide high-performance, sustainably sourced wood products – including our flagship Carbon Smart Wood™ – all sourced and manufactured in the U.S.

Samples and spec support are available.

[Contact us here](#) for current availability, pricing, and lead times.

