

General and Technical Information

Mechanical Properties:

(VSP; VCP; HSP; HCP Products)

Compression:

- Parallel to Grain: 8,252 psi (ASTM D198-13 SEC 29-36)
- Perpendicular to Grain: 2,876 psi (ASTM 3501-86)

Tensile Strength:

- Parallel to Grain: 8,810 psi (ASTM D198-13 SEC 29-36)
- Perpendicular to Grain: 665 psi (ASTM 3500-90)

Flexural Strength:

- 11,210 psi (ASTM D198-13 SEC 4-12)

Shear Strength:

- 2,901 psi (ASTM D3048)

Modulus of Elasticity:

- 1.3×10^6 psi (ASTM D1037)

Specific Gravity:

- SG = 0.60

Density:

- 42 to 44 Lbs/Cuft.

Janka Hardness Test:

- 1,900 lbf (ASTM 1037)

Dimensional Stability Coefficient:

- Volumetric Stability Factor: 0.00144
- Solid Lamboo Dimensional Stability at 20% RH - Linear Expansion: Parallel -0.04 percent average (ASTM D1037)
- Perpendicular -0.10 percent average (ASTM D1037)
- Thickness Swell: -0.13 percent average (ASTM D1037)

Moisture Content:

- Solid Lamboo: 7% - 11% (ASTM D 4442)

Flammability:

- "Class B" (ASTM E84 Surface Burning)
- 65 - Flame Spread Index Developed
- 68 - Smoke Index Developed

Smoke Density:

- 270 - Flaming Mode: (ASTM E622)
- 300 - Non- Flaming Mode (ASTM E622)

Pest Resistance:

- Testing Facility: St. Louis, Testing Laboratories Test Date: December 4, 2004 Report Title: Resistance of two bamboo species treated with borates to Formosan Subterranean termites (*Coptotermes Formosanus*) in a No-Choice Test
- Termite mortality was 100% in all treatments. Results indicate that Lamboo Technologies method of borate pressure treating bamboo poles before the lamination process incurs high termite mortality and prevents all but minor superficial damage to the Lamboo in its finished application.

Recommended Storage Procedures:

- **Minimize Handling** - To reduce potential damage to materials, minimize handling and utilize team lifting procedures.
- **Proper Stacking** - Materials should be stored flat on raised blocking of equal thickness and spacing. Recommended spacing for spacers is every 12 to 24 inches.
- **Location and Temperature** - Store materials inside or in a covered shelter between 55° F to 75° F and 45% to 55% Humidity.
- **Light** - Avoid long exposure to direct sunlight for unfinished materials.
- **Acclimation** - Materials should be allowed to acclimate to the installation environment and humidity prior to installation. Recommended acclimation time is 48 to 72 hours.

Fasteners and Clipping Systems:

- **Fasteners** - Aluminum (Interior) and Stainless Steel (exterior) bolts, washers, and nuts, or self-tapping screws are recommended. Pre-drilling is recommended if self-tapping screws are not used. Pre-drilling will help prevent cracking and splitting of the materials and offer superior service life and eliminate chemical reaction or staining of the materials. Zinc coated or dipped fasteners are **NOT** recommended.
- **Clips and Hidden Fasteners** - Lamboo offers clipping and hidden fastener systems for all types of product applications. Please contact Lamboo directly to speak with a technical product specialist in regards to the best system to utilize for your project.

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Recommended Tooling and Fabrication Methods:

- Cutting and Tooling** - Lamboo cuts and tools well with standard woodworking tools. For best results, use sharp high-carbide tipped tooling to help prevent tear-out. When cross-cutting, it is recommended to use high tooth count blades. Lamboo machines very well parallel to the grain. Just as plywood, Lamboo can splinter when crosscutting, coping, and tenoning across the end grain. Due to the linear fibrous nature of Lamboo, do not try to snap off uncut pieces; cut or sand them off. Pulling tear-out or splintered Lamboo could cause a “run” along the length of the grain. Profiles can be easily routed. Use typical woodworking practices when surfacing Lamboo materials. Please see the following table providing recommended saw blades for cutting Lamboo materials.

TYPE OF SAW:	APPLICATION:	DIAMETER:	TEETH:	HOOK:	KERF:	ARBOR:
Table Saw (over 3 HP)	Ripping	10"	24 ATB 30 TCG	20° 12°	.126" .118"	5/8" 5/8"
	Cross-cutting	10" 12"	80 ATB 96ATB	10° 10°	.116" .116"	5/8" 1"
	Combination (Ripping / Cross-cutting)	10" 12"	50 COMB. 60 COMB.	10° 10°	.126" .126"	5/8" 1"
	Cross-Ply Materials	10"	80 TCG 80 HiATB	-3° 2°	.126" .126"	5/8" 5/8"
Sliding Compound Miter Saw/Radial Arm Saw	Cross-Cutting General Cutting	8" 10" 12"	48 ATB 60 ATB 72 ATB	-5° -5° -5°	.090" .090" .090"	5/8" 5/8" 1"
	Extra-Fine Cross-Cutting Cross-Ply Materials	10" 10" 12"	80HiATB	2° -5° -5°	.091" .109" .109"	5/8" 5/8" 1"
Compound Miter Saw	Cross-Cutting General Cutting	8" 10" 12"	64 ATB 80 ATB 96 ATB	10° 10° 10°	.116" .116" .116"	5/8" 5/8" 1"
	Extra-Fine Cross-Cutting Cross-Ply Materials	10" 12"	80 ATB 96 HiATB	2° 2°	.125" .125"	5/8" 5/8"

Stain and Finish Recommendations:

- Lamboo is constantly experimenting and testing stain and finish systems within the market to ensure the best systems are used on Lamboo materials. Please contact Lamboo directly to speak with a technical product specialist to help determine the best stain/finish system for your project.

Contact Information:

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