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## LAMBOO® STRUCTURE™ COMPONENTS

### MECHANICAL PROPERTIES

#### COMPRESSION:

- ◆ PARALLEL TO GRAIN: 13,488 PSI (ASTM 3501-86 A)
- ◆ PERPENDICULAR TO GRAIN: 3043 PSI (ASTM 3501-86 A)

#### TENSILE STRENGTH:

- ◆ PARALLEL TO GRAIN: 21,465 -- 55,694 PSI (ASTM 3500-90)
- ◆ PERPENDICULAR TO GRAIN: 543 PSI (ASTM 3500-90)

#### FLEXURAL STRENGTH:

- ◆ 12,800 PSI (ASTM D3043)

#### SHEAR STRENGTH:

- ◆ 2,901 PSI (ASTM D3048)

#### MODULUS OF ELASTICITY:

- ◆ 2.9 E PSI (ASTM D 1037)

#### THERMAL PROPERTIES:

- ◆ THERMAL CONDUCTIVITY:  $K = (W/M \cdot K(BTU \cdot IN/H \cdot FT^2 \cdot ^\circ F)) = 0.14(0.94)$
- ◆ THERMAL RESISTIVITY (R) VALUE =  $(K \cdot M/W(H \cdot FT^2 \cdot ^\circ F/BTU \cdot IN)) = 7.9(1.1)$
- ◆ SPECIFIC GRAVITY: 0.60
- ◆ DENSITY: 38-47 #s/FT<sup>3</sup>.

#### DIMENSIONAL STABILITY COEFFICIENT:

- ◆ VOLUMETRIC STABILITY FACTOR: 0.00144
- ◆ SOLID LAMBOO DIMENSIONAL STABILITY AT 20% RH - LINEAR EXPANSION:  
PARALLEL -0.04 PERCENT AVERAGE (ASTM D 1037)  
PERPENDICULAR -0.10 PERCENT AVERAGE (ASTM D 1037)
- ◆ THICKNESS SWELL: -0.13 PERCENT AVERAGE (ASTM D 1037)

#### MOISTURE CONTENT

- ◆ SOLID LAMBOO: 4.9 PERCENT AVERAGE (ASTM D 4442)

#### FLAMMABILITY:

- ◆ CLASS 1 (ASTM E648 - CRITICAL RADIANT PANEL TEST) - CLASS A (ASTM E 84 SURFACE BURNING)

#### SMOKE DENSITY:

- ◆ 270 - FLAMING MODE (ASTM E622)
- ◆ 300 - NON-FLAMING MODE (ASTM E622) \* PASSING IS ANY NUMBER BELOW 450

**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, INC. 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.
- ◆ DURABILITY AGAINST WOOD DESTROYING FUNGI IS VERY HIGH DUE TO THE INHERENT ANTIMICROBIAL PROPERTIES OF BAMBOO AND DUE TO THE PROPRIETARY TREATMENT & CURING PROCESSES OF LAMBOO TECHNOLOGIES.
- ◆ LAMBOO PRODUCTS ARE INDIGESTIBLE TO INSECTS AND MICRO ORGANISMS AND ARE THEREFORE MORE DURABLE AGAINST DECAY THAN ANY WOOD PRODUCT ON THE MARKET