

**LAMBOO LVB<sup>1</sup>**  
**WINDOWS AND DOORS - COMPONENTS**  
**PRODUCT SPECIFICATION**  
**IN CSI 3-PART FORMAT**

<sup>1</sup> LAMINATED VENEER BAMBOO

**GENERAL NOTES TO SPECIFIER:**

PLEASE GO TO [WWW.LAMBOO.US](http://WWW.LAMBOO.US) TO VERIFY THIS IS THE MOST CURRENT VERSION OF THIS SPECIFICATION.

THE FOLLOWING PRODUCT SPECIFICATION LANGUAGE IS INTENDED TO ASSIST DESIGN PROFESSIONALS IN SPECIFYING BAMBOO PLYWOOD IN EXISTING 3-PART SPECIFICATIONS FOR PANELING, CASEWORK, DOORS, AND SIMILAR ARCHITECTURAL WOODWORK.

SAMPLE LANGUAGE IS PROVIDED FOR APPLICABLE ARTICLES IN PART 1-GENERAL AND PART 2-PRODUCTS FOLLOWING THE CONSTRUCTION SPECIFICATION INSTITUTE'S SECTIONFORMAT. BECAUSE OF THE VARIATION IN SPECIFICATION SYSTEMS CURRENTLY IN USE, ARTICLE AND PARAGRAPH NUMBERS AND TITLES MAY DIFFER SOMEWHAT THAN PRESENTED HEREIN. THE SAMPLE LANGUAGE SHOULD BE EDITED ACCORDINGLY TO FIT EACH FIRM'S SPECIFICATIONS.

ARTICLES AND PARAGRAPHS OF THIS PRODUCT SPECIFICATION ASSUME THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1 DOCUMENTS INCLUDING 01 25 13-PRODUCT SUBSTITUTION PROCEDURES, SECTIONS 01 33 00-SUBMITTAL PROCEDURES, 01 62 00-PRODUCT OPTIONS, 01 66 00-PRODUCT STORAGE AND HANDLING REQUIREMENTS, 01 74 00-CLEANING AND WASTE MANAGEMENT, 01 77 00-CLOSEOUT PROCEDURES, AND 01 78 00-CLOSEOUT SUBMITTALS. CLOSE COORDINATION WITH DIVISION 1 SECTIONS IS REQUIRED. IF THE PROJECT MANUAL DOES NOT CONTAIN THESE SECTIONS, ADDITIONAL INFORMATION MAY BE INCLUDED UNDER THE APPROPRIATE ARTICLES.

NOTES TO THE SPECIFIER ARE IN ALL UPPER CASE TEXT AND ARE CONTAINED WITHIN ROWS OF ASTERISKS.

GREY HIGHLIGHTED GREEN TEXT AND NOTES RELATE TO LEED® PROJECTS AND CAN BE DELETED IF THE PROJECT IS NOT INTENDED TO ATTAIN LEED CERTIFICATION.

OPTIONAL ITEMS REQUIRING SELECTION BY THE SPECIFIER ARE ENCLOSED WITHIN BRACKETS, E.G. [35] [40] [45]. MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS.

**PART 1-GENERAL:**

**1.01 SUMMARY**

**A. SECTION INCLUDES**

**\*ADD SUBPARAGRAPH IDENTIFYING THE ITEMS MADE WITH BAMBOO  
ENGINEERED MATERIAL\***

**B. RELATED SECTIONS**

INCLUDE ALL DIVISION 1 SECTIONS CONTAINING LEED® REQUIREMENTS

INCLUDE SECTION 01350 IF THE PROJECT IS A SCHOOL LOCATED IN A DISTRICT USING "SECTION 01350 - SPECIAL ENVIRONMENTAL REQUIREMENTS".  
[HTTP://WWW.CHPS.NET/MANUAL/INDEX.HTM#SPECS](http://www.chps.net/manual/index.htm#specs) PREPARED BY THE COLLABERATIVE FOR HIGH PERFORMANCE SCHOOLS (CHPS)

**1.02 REFERENCES**

IF THE "REFERENCES" ARTICLE IS USED, INCLUDE THE FOLLOWING IN THE REFERENCE LIST:

**A. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM):**

1. ASTM D 1037, STANDARD TEST METHODS FOR EVALUATING PROPERTIES OF WOOD-BASE FIBER AND PARTICLE PANEL MATERIALS.
2. ASTM D 3043 STANDARD TEST METHODS FOR FLEXURAL STRUCTURAL PANELS IN FLEXURE.
3. ASTM E 84, STANDARD TEST METHOD FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS.
4. ASTM D 4442, STANDARD TEST METHODS FOR DIRECT MOISTURE CONTENT MEASUREMENT OF WOOD AND WOOD-BASE MATERIALS.
5. ASTM D 3500, STANDARD TEST METHOD FOR STRUCTURAL PANELS IN TENSION.
6. ASTM E 1333, STANDARD TEST METHOD FOR DETERMINING FORMALDEHYDE CONCENTRATIONS IN AIR EMISSION RATES FROM WOOD USING A LARGE CHAMBER.

**B. CERTIFIED MR—CREDIT 6 RAPIDLY RENEWABLE MATERIALS, MR CREDIT 7-CERTIFIED WOOD AND IEQ CREDIT 4.4 - LOW-EMITTING MATERIALS.**

**C. US GREEN BUILDING COUNCIL'S LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN GREEN BUILDING RATING SYSTEM (LEED).**

**1.03 SUBMITTALS****A. PRODUCT DATA**

INCLUDE THE FOLLOWING IN THE "PRODUCT DATA" PARAGRAPH:

1. ENGINEERED BAMBOO MANUFACTURER'S PRODUCT DATA.

**B. LEED SUBMITTALS**

INCLUDE THE FOLLOWING FOR LEED PROJECTS, AS APPLICABLE:

1. CREDIT MR 6, RAPIDLY RENEWABLE MATERIALS: BAMBOO MANUFACTURER'S PRODUCT DATA FOR EACH PRODUCT USED, INDICATING THAT PRODUCT(S) ARE MANUFACTURED FROM A RAPIDLY RENEWABLE RESOURCE.

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FOLLOWING RELATES ONLY TO ADHESIVES AND FINISHES APPLIED TO UNFINISHED LAMBOO PRODUCTS. REFERENCES TO DATA SHOULD BE SUPPLIED BY THE ADHESIVE, SEALANT, OR FINISH MANUFACTURER.

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2. CREDIT EQ 4.1, LOW EMITTING MATERIALS: ADHESIVE AND/OR SEALANT MANUFACTURER'S PRODUCT DATA FOR EACH PRODUCT USED, INDICATING ADHESIVE AGENT CONTAINS LOW VOC ADHESIVE.

3. CREDIT EQ 4.2, LOW EMITTING MATERIALS: PAINTS AND/OR COATINGS MANUFACTURER'S PRODUCT DATA FOR FINISHES USED.

## 1.07 WARRANTY

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INCLUDE THE FOLLOWING SPECIAL WARRANTY:

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A. A SPECIAL WARRANTY FOR LAMBOO INC. PRODUCTS REFERENCED AT [WWW.LAMBOO.US](http://WWW.LAMBOO.US)

## PART 2-PRODUCTS

### 2.01 MATERIALS

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INCLUDE THE FOLLOWING PARAGRAPHS AND SUBPARAGRAPHS FOR BAMBOO CORE MATERIAL AS APPROPRIATE.

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A. BAMBOO COMPONENT MATERIAL:

1. MANUFACTURER LAMBOO INC. SPRINGFIELD, IL

A) TEL: 217-679-0913.

B) [WWW.LAMBOO.US](http://WWW.LAMBOO.US)

2. SPECIES: MOSO (PHYLLOSTACHYS PUBESCENS) OR GUADUA ANGUSTIFOLIA.

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INCLUDE THE FOLLOWING SUBPARAGRAPH IF PRODUCTS ARE USED FOR INTERNAL CORE APPLICATIONS FOR WINDOWS AND DOORS PURSUANT TO SECTION 1714.5 OF THE 2006 IBC AND SECTION R613 OF THE 2006 IRC.

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3. FIRE RESISTANCE CLASSIFICATION: [CLASS A] [CLASS C].

A) TEST SURFACE BURNING CHARACTERISTICS IN ACCORDANCE WITH ASTM E 84.

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**4. TYPE:**

SELECT APPROPRIATE TYPE(S) BELOW TO SUIT PROJECT REQUIREMENTS. DELETE THOSE NOT USED. FABRICATION ARTICLE OR DRAWINGS MUST CLEARLY IDENTIFY SPECIFIC USES.

GO TO [WWW.LAMBOO.US](http://WWW.LAMBOO.US) FOR AVAILABLE FACE SIZES.

**PART 3-PRODUCT****2.01 LAMBOO LVB MATERIAL**

1. LAMBOO MATERIAL SHALL BE FREE OF FINGER JOINTS, OR VENEER WRAPPED, KILN DRIED TO A MOISTURE CONTENT OF 6-12 PERCENT AND PRESERVATIVE TREATED.
2. LAMBOO FRAME AND SASH WILL BE A MINIMUM OF 1-1/4" THICK.

**2.02 ADHESIVES**

1. ADHESIVE: TYPE 1, WATERPROOF, SEE ATTACHED SPEC.
  - A) HEXION, CASCOMEL® MF-3L/ WONDERBOND® M-610LY

**2. PHYSICAL/MECHANICAL PROPERTIES:**

- A) ASTM D 3043 METHOD D FLEXURAL STRENGTH (MOE/MOR)
  - 1) 3/4 INCH THICK 1-PLY VERTICAL GRAIN: FLEXURAL MODULUS: 2,317,754-2,857,000 PSI (ASTM D3043)
  - 2) 3/4 INCH THICK 1-PLY VERTICAL GRAIN: MOE/MOR: 2,856,200.00 PSI (ASTM D 1037)
- B) ASTM D 1037 SCREW HOLD
  - 1) 3/4 INCH THICK 1-PLY VERTICAL GRAIN
    - A) FACE: 261 POUNDS AVERAGE
    - B) BACK: 233 POUNDS AVERAGE
    - C) EDGE 1: 513 POUNDS AVERAGE
    - D) EDGE 2: 636 POUNDS AVERAGE
- C) ASTM D 4442 METHOD A MOISTURE CONTENT
  - 1) 3/4 INCH THICK 1-PLY VERTICAL GRAIN: 4.9 PERCENT AVERAGE
- D) ASTM D 1037 TENSILE STRENGTH PARALLEL
  - 1) 3/4 INCH THICK 1-PLY VERTICAL GRAIN: LOAD 1700 POUNDS, STRENGTH 15300 PSI AVERAGE
- E) ASTM D 3500 TENSILE STRENGTH PERPENDICULAR
  - 1) 3/4 INCH THICK 1-PLY VERTICAL GRAIN: LOAD 642 POUNDS, STRENGTH 428 PSI AVERAGE
- F) ASTM D 1037 DIMENSIONAL STABILITY AT 20% RH
  - 1) 3/4 INCH THICK 1-PLY VERTICAL GRAIN
    - A) LINEAR EXPANSION: PARALLEL -0.04 PERCENT; PERPENDICULAR -0.10 PERCENT AVERAGE
    - B) THICKNESS SWELL: -0.13 PERCENT AVERAGE
- G) ASTM E 1333 FORMALDEHYDE EMISSION
  - 1) 3/4 INCH THICK 1-PLY VERTICAL GRAIN: 0.02 PPM
- H) ASTM E 84 SURFACE BURNING
  - 1) 3/4 INCH THICK, 3-PLY, VERTICAL GRAIN: CLASS C

**END OF PRODUCT SPECIFICATION**