



**SECTION 06 20 00
ENGINEERED BAMBOO EXTERIOR BUILDING MATERIALS**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Exterior Lamboo® Elements™ Materials
- B. Interior wood finish system.

1.2 RELATED SECTIONS

- A. Section 06 20 00 - Finish Carpentry.
- B. Section 06 40 00 – Architectural Woodwork

1.3 REFERENCES

- A. Uniform Building Code (UBC).
- B. International Building Code (IBC)

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Recommended Tools and Installation Equipment
 - 4. Mechanical Properties.
- C. Shop Drawings: Provide manufacturer's standard details referenced to exterior and interior elevations of the project drawings.
- D. Selection Samples:
 - 1. Sample 12-inch (305 mm) boards chosen from Lamboo® Elements™ Series product offerings.
- E. Verification Samples: For each finish product specified.
 - 1. Lamboo Elements™ Series products to be used with tinted finish applied 12-inches (305 mm) long sample.
- F. Manufacturer Qualifications: Minimum 5-year experience manufacturing similar products.
- G. Installer Qualifications: Minimum 2-year experience installing similar products.

- H. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship is approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.
 - 4. Mockups to be prepared as specified by Architect and approved shop drawings.

1.5 LEED SUBMITTALS

- A. LEED Submittal (MR credit 6 / MRc6): Rapidly renewable material. Documentation as required.
- B. LEED Submittal (EQ credit 2 / EQc2): Low Emitting Materials. (No added formaldehyde) Documentation as required.
- C. LEED Submittal (EA credit 2 / EAc2): Innovation in Design. (Environmentally Preferred material) Documentation as required.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's packaging bearing the brand name and manufacturer's identification until ready for installation.
- B. Use Proper Material Handling practices to avoid damage to finished products.
- C. Include in delivery of material a complete list of items shipped.
- D. Protect finish Carpentry during transit, delivery, storage and handling to prevent damage, soiling, and deterioration. Lamboo® Elements™ Series products shall be delivered on a tarped flatbed truck or an enclosed van for small quantities. Keep Lamboo Elements™ tarped or packaged until installation.
- E. Do not deliver finish carpentry materials until painting, wet work, grinding, and similar operation which could damage, soil or deteriorate Lamboo® Elements™ have been completed in installation areas. If finish carpentry must be stored in other than the installation areas, store only in areas meeting requirements specified for installation areas.
- F. Do not allow finish carpentry to get wet.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Lamboo Technologies, LLC, 311 West Edwards Street, Litchfield, Illinois, 62056. Toll Free Telephone: 1 (866)-966-2999, Email: sales@lamboo.us.

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 PRODUCT AVAILABILITY

- A. Lamboo Exterior Rainscreen™ Wall Cladding and Siding.
- B. Lamboo Interior Rainscreen™ Wall Cladding and Siding.
- C. Lamboo Soffit™ System.
- D. Lamboo Elements™ Exterior Design Products
- E. Lamboo Skyline™ Interior Ceiling System.
- F. Lamboo Structure™ Structural Beams and Glu-Lams.
- G. Lamboo Vue™ Window and Door Products
- H. Lamboo Surface™ Interior Grade Products.

2.3 WOOD PRODUCT QUALITY STANDARDS AND REQUIREMENTS

A. High Yield:

1. Most of Lamboo products are made entirely out of 100% bamboo with specialized adhesives, binders, and treatments specific per the application.
2. Lamboo's engineered materials offer up to 98% to 99% usage avoiding the need to cut around defects found in other natural-based material.

B. Key Advantages:

1. High material yield.
2. Rapidly Renewable Materials.
3. Uniform lengths up to 16-feet (Longer lengths available upon request)
4. Ease of workability.
5. LEED credits.
6. Class A fire-rated Product per ASTM E84

2.4 EXTERIOR FINISH MATERIAL:

A. Lamboo Elements™ Series Products – Exterior Finish:

1. **Exterior Finished Lamboo Dimensional Lumbers:** Lamboo dimensional lumbers are provided in typical lengths of 8', 10', 12' and 16'. Custom sizes and colors available upon request.

- a. **Dimensional Lumber Lengths:**
 - 1.) 8-foot lengths. (EXT-8)
 - 2.) 10-foot lengths. (EXT-10)
 - 3.) 12-foot lengths. (EXT-12)
 - 4.) 16-foot lengths. (EXT-16)
 - 5.) Custom Sizes and Colors available upon request.

- b. **Nominal 1x4:** ¾ inch thick x 3-1/2 inch width. Lamboo is factory finished.
 - 1.) #VSPC-104-EXT Unfinished Vertical Carbonized.
 - 2.) #VSPH-104-EXT Finished Vertical Hazel.
 - 3.) #VSPGH-104-EXT Finished Vertical Golden Honey.
 - 4.) #VSPDA-104-EXT Finished Vertical Deep Amber.
 - 5.) #VSPF-104-EXT Finished Vertical Butternut.
 - 6.) #VSPOB-104-EXT Finished Vertical Fawn.

- c. **Nominal 1x6:** ¾ inch thick x 5-1/2 inch width. Lamboo is factory finished.
 - 1.) #VSPC-106-EXT Unfinished Vertical Carbonized.
 - 2.) #VSPH-106-EXT Finished Vertical Hazel.
 - 3.) #VSPGH-106-EXT Finished Vertical Golden Honey.
 - 4.) #VSPDA-106-EXT Finished Vertical Deep Amber.
 - 5.) #VSPF-106-EXT Finished Vertical Butternut.
 - 6.) #VSPOB-106-EXT Finished Vertical Fawn.

- d. **Nominal 1x8:** ¾ inch thick x 7-1/4 inch width. Lamboo is factory finished.
 - 1.) #VSPC-108-EXT Unfinished Vertical Carbonized.
 - 2.) #VSPH-108-EXT Finished Vertical Hazel.
 - 3.) #VSPGH-108-EXT Finished Vertical Golden Honey.
 - 4.) #VSPDA-108-EXT Finished Vertical Deep Amber.
 - 5.) #VSPF-108-EXT Finished Vertical Butternut.
 - 6.) #VSPOB-108-EXT Finished Vertical Fawn.

- e. **Nominal 5/4x4:** 1 inch thick x 3-1/2 inch width: Lamboo is factory finished.
 - 1.) #VSPC-5404-EXT Unfinished Vertical Carbonized.
 - 2.) #VSPH-5404-EXT Finished Vertical Hazel.
 - 3.) #VSPGH-5404-EXT Finished Vertical Golden Honey.
 - 4.) #VSPDA-5404-EXT Finished Vertical Deep Amber.
 - 5.) #VSPF-5404-EXT Finished Vertical Butternut.
 - 6.) #VSPOB-5404-EXT Finished Vertical Fawn.

- f. **Nominal 5/4x6:** 1 inch thick x 5-1/2 inch width: Lamboo is factory finished.
 - 1.) #VSPC-5406-EXT Unfinished Vertical Carbonized.
 - 2.) #VSPH-5406-EXT Finished Vertical Hazel.
 - 3.) #VSPGH-5406-EXT Finished Vertical Golden Honey.
 - 4.) #VSPDA-5406-EXT Finished Vertical Deep Amber.
 - 5.) #VSPF-5406-EXT Finished Vertical Butternut.
 - 6.) #VSPOB-5406-EXT Finished Vertical Fawn.

- g. **Nominal 2x2:** 1-1/2 inch thick x 1-1/2 inch width: Lamboo is factory finished.
 - 1.) #VSPC-202-EXT Unfinished Vertical Carbonized.
 - 2.) #VSPH-202-EXT Finished Vertical Hazel.
 - 3.) #VSPGH-202-EXT Finished Vertical Golden Honey.
 - 4.) #VSPDA-202-EXT Finished Vertical Deep Amber.
 - 5.) #VSPF-202-EXT Finished Vertical Butternut.
 - 6.) #VSPOB-202-EXT Finished Vertical Fawn.

- h. **Nominal 2x4:** 1-1/2 inch thick x 3-1/2 inch width: Lamboo is factory finished.
 - 1.) #VSPC-204-EXT Unfinished Vertical Carbonized.
 - 2.) #VSPH-204-EXT Finished Vertical Hazel.
 - 3.) #VSPGH-204-EXT Finished Vertical Golden Honey.
 - 4.) #VSPDA-204-EXT Finished Vertical Deep Amber.
 - 5.) #VSPF-204-EXT Finished Vertical Butternut.
 - 6.) #VSPOB-204-EXT Finished Vertical Fawn.
- i. **Nominal 2x6:** 1-1/2 inch thick x 5-1/2 inch width: Lamboo is factory finished.
 - 1.) #VSPC-206-EXT Unfinished Vertical Carbonized.
 - 2.) #VSPH-206-EXT Finished Vertical Hazel.
 - 3.) #VSPGH-206-EXT Finished Vertical Golden Honey.
 - 4.) #VSPDA-206-EXT Finished Vertical Deep Amber.
 - 5.) #VSPF-206-EXT Finished Vertical Butternut.
 - 6.) #VSPOB-206-EXT Finished Vertical Fawn.
- j. **Nominal 4x4:** 3-1/2 inch thick x 3-1/2 inch width: Lamboo is factory finished.
 - 1.) #VSPC-404-EXT Unfinished Vertical Carbonized.
 - 2.) #VSPH-404-EXT Finished Vertical Hazel.
 - 3.) #VSPGH-404-EXT Finished Vertical Golden Honey.
 - 4.) #VSPDA-404-EXT Finished Vertical Deep Amber.
 - 5.) #VSPF-404-EXT Finished Vertical Butternut.
 - 6.) #VSPOB-404-EXT Finished Vertical Fawn.

2. **Exterior Finished Lamboo® Elements™ Cross-Laminated Panels**

- a. **½" Thick x 2' x 8' Panels:** Lamboo is factory finished.
 - 1.) #VCPC(050)-EXT-2496 Unfinished Vertical Carbonized.
 - 2.) #VCPH(050)-EXT-2496 Finished Vertical Hazel.
 - 3.) #VCPGH(050)-EXT-2496 Finished Vertical Golden Honey.
 - 4.) #VCPDA(050)-EXT-2496 Finished Vertical Deep Amber.
 - 5.) #VCPF(050)-EXT-2496 Finished Vertical Butternut.
 - 6.) #VCPOB(050)-EXT-2496 Finished Vertical Fawn.
- b. **½" Thick x 4' x 4' Panels:** Lamboo is factory finished.
 - 1.) #VCPC(050)-EXT-4848 Unfinished Vertical Carbonized.
 - 2.) #VCPH(050)-EXT-4848 Finished Vertical Hazel.
 - 3.) #VCPGH(050)-EXT-4848 Finished Vertical Golden Honey.
 - 4.) #VCPDA(050)-EXT-4848 Finished Vertical Deep Amber.
 - 5.) #VCPF(050)-EXT-4848 Finished Vertical Butternut.
 - 6.) #VCPOB(050)-EXT-4848 Finished Vertical Fawn.
- c. **½" Thick x 4' x 8' Panels:** Lamboo is factory finished.
 - 1.) #VCPC(050)-EXT-4896 Unfinished Vertical Carbonized.
 - 2.) #VCPH(050)-EXT-4896 Finished Vertical Hazel.
 - 3.) #VCPGH(050)-EXT-4896 Finished Vertical Golden Honey.
 - 4.) #VCPDA(050)-EXT-4896 Finished Vertical Deep Amber.
 - 5.) #VCPF(050)-EXT-4896 Finished Vertical Butternut.
 - 6.) #VCPOB(050)-EXT-4896 Finished Vertical Fawn.
- d. **¾" Thick x 2' x 8' Panels:** Lamboo is factory finished.
 - 1.) #VCPC(075)-EXT-2496 Unfinished Vertical Carbonized.
 - 2.) #VCPH(075)-EXT-2496 Finished Vertical Hazel.
 - 3.) #VCPGH(075)-EXT-2496 Finished Vertical Golden Honey.
 - 4.) #VCPDA(075)-EXT-2496 Finished Vertical Deep Amber.
 - 5.) #VCPF(075)-EXT-2496 Finished Vertical Butternut.

- 6.) #VCPOB(075)-EXT-2496 Finished Vertical Fawn.
- e. **¾" Thick x 4' x 4' Panels:** Lamboo is factory finished.
- 1.) #VCPC(075)-EXT-4848 Unfinished Vertical Carbonized.
 - 2.) #VCPH(075)-EXT-4848 Finished Vertical Hazel.
 - 3.) #VCPGH(075)-EXT-4848 Finished Vertical Golden Honey.
 - 4.) #VCPDA(075)-EXT-4848 Finished Vertical Deep Amber.
 - 5.) #VCPF(075)-EXT-4848 Finished Vertical Butternut.
 - 6.) #VCPOB(075)-EXT-4848 Finished Vertical Fawn.
- f. **¾" Thick x 4' x 8' Panels:** Lamboo is factory finished.
- 1.) #VCPC(075)-EXT-4896 Unfinished Vertical Carbonized.
 - 2.) #VCPH(075)-EXT-4896 Finished Vertical Hazel.
 - 3.) #VCPGH(075)-EXT-4896 Finished Vertical Golden Honey.
 - 4.) #VCPDA(075)-EXT-4896 Finished Vertical Deep Amber.
 - 5.) #VCPF(075)-EXT-4896 Finished Vertical Butternut.
 - 6.) #VCPOB(075)-EXT-4896 Finished Vertical Fawn.
- g. **1" Thick x 2' x 8' Panels:** Lamboo is factory finished.
- 1.) #VCPC(100)-EXT-2496 Unfinished Vertical Carbonized.
 - 2.) #VCPH(100)-EXT-2496 Finished Vertical Hazel.
 - 3.) #VCPGH(100)-EXT-2496 Finished Vertical Golden Honey.
 - 4.) #VCPDA(100)-EXT-2496 Finished Vertical Deep Amber.
 - 5.) #VCPF(100)-EXT-2496 Finished Vertical Butternut.
 - 6.) #VCPOB(100)-EXT-2496 Finished Vertical Fawn.
- h. **1" Thick x 4' x 4' Panels:** Lamboo is factory finished.
- 1.) #VCPC(100)-EXT-4848 Unfinished Vertical Carbonized.
 - 2.) #VCPH(100)-EXT-4848 Finished Vertical Hazel.
 - 3.) #VCPGH(100)-EXT-4848 Finished Vertical Golden Honey.
 - 4.) #VCPDA(100)-EXT-4848 Finished Vertical Deep Amber.
 - 5.) #VCPF(100)-EXT-4848 Finished Vertical Butternut.
 - 6.) #VCPOB(100)-EXT-4848 Finished Vertical Fawn.
- i. **1" Thick x 4' x 8' Panels:** Lamboo is factory finished.
- 1.) #VCPC(100)-EXT-4896 Unfinished Vertical Carbonized.
 - 2.) #VCPH(100)-EXT-4896 Finished Vertical Hazel.
 - 3.) #VCPGH(100)-EXT-4896 Finished Vertical Golden Honey.
 - 4.) #VCPDA(100)-EXT-4896 Finished Vertical Deep Amber.
 - 5.) #VCPF(100)-EXT-4896 Finished Vertical Butternut.
 - 6.) #VCPOB(100)-EXT-4896 Finished Vertical Fawn.

2.5 MATERIAL (WOOD) SPECIES

A. Engineered Bamboo:

- 1. Product: Lamboo® Elements™ Series Product
- 2. Uses:
 - a. Exterior applications.
- 3. Toxicity: Low VOC adhesives, does not produce off-gassing when sanding, profiling or handling materials.

4. Pests and Insects: Lamboo materials are treated with environmentally safe preservatives which help protect the materials from termites and other insects harmful to natural products.
5. Fire Resistance:
 - a. ASTM E84 Class B
6. Density and Buoyancy:
 - a. Janka Rating – 1900lbf
 - b. Average Weight: 44lbs/cubic foot
 - c. Specific Gravity: 0.60
7. Workability: Specialized adhesives, binders and treatments specific per the application. Typical woodworking tools and machinery can be used on Lamboo materials.

PART 3 EXECUTION

3.1 EXAMINATION

- A.** Do not begin installation until substrates have been properly prepared.
- B.** If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A.** Clean surfaces thoroughly prior to installation.
- B.** Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C.** Condition wood material for a minimum of 48 hours to average prevailing humidity conditions in installation areas prior to installing.

3.3 INSTALLATION

- A.** Install in accordance with manufacturer's instructions.
 1. NOTE: Use Finish Touch-Up on all field cut ends of the Elements™ products.
- B.** Discard units of material which are unsound, warped, bowed, twisted, not adequately seasoned, or which are of defective manufacture with respect to surface, size, or pattern.
- C.** Install the work plumb, level, true and straight with no distortions. Shim as required using concealed shims.
- D.** Refinish cut surfaces or repair damage finish at cuts by applying the final coat of wood finish on the entire surface of the wood wall.
- E.** Carefully coordinate electrical requirements and wiring with millwork installation.

3.4 PROTECTION

- A.** Repair damaged and defective finish carpentry work wherever possible to eliminate defects functionality and visually; where not possible to repair properly, replace woodwork. Adjust joinery for uniform appearance.

- B.** Clean finish carpentry work on exposed and semi-exposed surfaces. Apply a complete top coat of wood finish to all exposed and semi-exposed surfaces.
- C.** Installer of finish carpentry shall advise Contractor of final protection and maintained conditions necessary to ensure that work will be without damage or deterioration at the time of acceptance.
- D.** Protect installed products until completion of project.
- E.** Touch-up, repair or replace damaged products before Substantial Completion.
- F.** Refinish field cuts by applying the final coat of wood finish directly on the cut ends prior to abutting an additional panel and before adding corner trim system.

END OF SECTION

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