

SECTION 06 11 23 – TRE-GAI BAMBOO POLE CONSTRUCTION

PART ONE – GENERAL

1.01 SUMMARY

- A. Section includes structural bamboo framing and miscellaneous carpentry using Tre-Gai bamboo poles.

1.02 SYSTEM DESCRIPTION

- A. Provide structural natural bamboo poles used as structural elements in wall, roof, floor, or as individual compression and/or tension members, in Type V non-fire-resistance rated construction.
- B. [Fire-Retardant-Treated Poles: Provide fire-retardant treatment method that includes the entire inside surfaces of poles and provides a flame-spread index of 25 or less and a smoke-developed index of 100 or less per ASTM E 84.]

1.03 SUBMITTALS

- A. Product Data: Submit catalog cuts, illustrations, diagrams, performance charts, instructions and brochures illustrating characteristics and physical appearance of bamboo material.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer.
 - 3. Include data for insect-retardant treatment from chemical treatment manufacturer.
- B. Shop Drawings: Submit drawings showing layout, dimensions of each member, and details of construction for bamboo poles and framing. [Drawings for load bearing structural bamboo design shall be signed and sealed by the Specialty Engineer.]
- C. Samples: Submit [one] [two] samples 18 inch lengths of each size pole and framing member showing the range of variation to be expected in surface texture and color.
- D. Closeout Submittals: Documentation to record compliance with technical or administrative requirements.

1.04 QUALITY ASSURANCE

- A. Regulatory Requirements: Design and install structural bamboo poles and framing to resist wind load forces indicated on drawings in accordance with the [Florida Building Code] [Uniform Building Code].
- B. Certifications: Indicate type of preservative treatment used; include a statement that moisture content of treated materials was reduced to proper levels before shipment.
- C. Coordinate bamboo work with sizes and locations of framing, blocking, furring, and similar type work specified in other Sections to ensure that bamboo components can be supported and installed as indicated.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Storage and Protection: Store materials under cover and protected from weather and contact with wet or damp surfaces. Provide air circulation within and around stacks of material.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Tre-Gai Bamboo: Natural composite material with a high strength-to-weight ratio and having a wall thickness between 12 and 17 percent of its diameter. Minimum wall thickness of 15/32 inch (12 mm).
 - 1. Poles and framing bamboo actual diameters shall be within 1/2 inch of design diameter.
 - 2. Color: Varies with shades of tan.
 - 3. [Fire Retardant Treatment: Manufacturers treatment required to achieve Class A rating.]
 - 4. Insect Treatment: Manufacturers non-toxic pre-treatment system for protection of materials from insect damage.
 - 5. Preservative Treatment: Manufacturers non-arsenic, non-erosive pressure treatment system for protection against rot and weather deterioration.
 - 6. [Structural Bamboo: Tre-Gai bamboo that complies with ICC-ES Evaluation Report ESR-1636.]
- B. Source Product: Bamboo products provided by **amaZulu Inc.**, 1239 Commons Court, Clermont, FL 34711.
 - 1. Telephone: 352.243.5309.
 - 2. Fax: 352.243.5361.
 - 3. Website: www.amazuluinc.com.

2.02 ACCESSORIES

- A. Fasteners: Provide corrosion resistant ring-shank nails, [coated steel][aluminum][stainless steel] of the type and size recommended by the manufacturer to meet the performance requirements.
- B. Wood Glue: Waterproof resorcinol glue recommended by manufacturer for exterior carpentry use.

2.03 FINISHES

- A. Shop Finishing: [Provide natural bamboo suitable for field staining and finishing.][Provide bamboo surfaces lightly sanded with polyurethane finish.]

PART 3 EXECUTION

3.01 ERECTION / INSTALLATION

- A. General: Do not use materials that have become excessively warped, improperly treated or finished, or otherwise damaged and not usable.
- B. Install bamboo pole framing level, plumb, true, and aligned with adjacent materials. Use concealed shims as necessary to align components.
 - 1. Coordinate bamboo poles with materials and systems in or adjacent to units; provide cutouts for mechanical and electrical items that penetrate framing. Maximum 3/4 inch holes in structural bamboo.
 - 2. Install pole units with minimum number of joints as practical, using full-length pieces from maximum lengths of pole units available.
 - 3. Conceal fasteners but where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand smooth. Place fasteners through bamboo nodes if possible. Pre-drill holes before inserting fasteners.
- C. Preservative-Treated Bamboo: Treat field cut ends and field drilled holes with supplemental preservative as recommended by fabricator.
- D. [Fire-Retardant-Treated Bamboo: Handle, store, and install fire-retardant-treated bamboo as required to maintain treatment protection.]

3.02 ADJUSTING / PROTECTION

- A. Remove and replace completed bamboo component materials that become damaged.

END OF SECTION