

## SECTION 06 7300

### COMPOSITE WOOD DECKING

This section includes editing notes to assist the user in editing the section to suit project requirements. These notes are included as hidden text, and can be revealed or hidden by one of the following methods:

Microsoft Word: From the pull-down menus select TOOLS, then OPTIONS. Under the tab labeled VIEW, select or deselect the HIDDEN TEXT option.

Corel WordPerfect: From the pull-down menus select VIEW, then select or deselect the HIDDEN TEXT option.

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Composite wood decking.
  - 2. Composite wood [fascia] [risers] [and] [trim].
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.
  - 2. Section [06 1100 - Wood Framing:] [\_\_\_\_\_ - \_\_\_\_\_:] Wood framing and supports.

##### 1.2 REFERENCES

- A. ASTM International (ASTM):
  - 1. C177-04 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
  - 2. D143-94(2000) - Standard Test Methods for Small Clear Specimens of Timber.
  - 3. D198-05 - Standard Test Methods of Static Tests of Lumber in Structural Sizes.
  - 4. D1037-06 - Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.
  - 5. D1413-05 - Standard Test Method for Wood Preservatives by Laboratory Soil-Block Cultures.
  - 6. D1761-06 - Standard Test Methods for Mechanical Fasteners in Wood.
  - 7. D1929-96(2001) - Standard Test Method for Determining Ignition Temperature of Plastics.
  - 8. D2047-04 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine.
  - 9. D2394-05 - Standard Methods for Simulated Service Testing of Wood and Wood-Base Finish Flooring.
  - 10. D2395-06 - Standard Test Methods for Specific Gravity of Wood and Wood-Based Materials.
  - 11. D4761-05 - Standard Test Methods for Mechanical Properties of Lumber and Wood-Base Structural Material.
  - 12. E84-07 - Standard Test Method for Surface Burning Characteristics of Building Materials.
  - 13. F1679-04 Standard Test Method for Using a Variable Incidence Tribometer (VIT).
- B. American Wood Preservers Association (AWPA) E1-06 - Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites.

##### 1.3 SUBMITTALS

- A. Submittals for Review:
  - 1. Product Data: Indicate sizes, profiles, surface finishes, and performance characteristics.
  - 2. Samples: [12] [\_\_\_] inch long decking [and fascia] samples illustrating size, profile, color, and surface finish.

##### B. Sustainable Design Submittals:

1. Recycled Content.
2. Regional Materials.

C. Closeout Submittals:

1. Maintenance Data: Manufacturer's instructions on care and cleaning of composite wood products.

#### 1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, and handle composite wood in accordance with manufacturer's instructions.
- B. Store composite wood level and flat, off ground or floor, with supports at each end and maximum 24 inches on center.
- C. Do not stack composite wood over 12 feet high.
- D. Cover composite wood with waterproof covering, vented to prevent moisture buildup.

#### 1.5 WARRANTIES

- A. Furnish manufacturer's 25 year warranty providing coverage against checking, splitting, splintering, rotting, structural damage from termites, and fungal decay of composite wood.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Contract Documents are based on products by Trex Company, Inc.
- B. Substitutions: [Under provisions of Division 01.] [Not permitted.]

#### 2.2 MATERIALS

A. Composite Wood:

1. Composition: Reclaimed wood and plastic with integral coloring; free from toxic chemicals and preservatives.
2. Profiles:
  - a. Decking: Nominally [5/4 x 5] [5/4 x 6] [2 x 6] inches x [[12] [16] [20] feet long.] [maximum practical length.]
  - b. Fascia, risers, and trim: Nominally [1 x 8] [1 x 12] [2 x 4] inches x [[12] [16] [20] feet long.] [maximum practical length.]
3. Surface texture: [Origins; smooth.] [Accents; reversible woodgrain and smooth surfaces.] [Brasilia.] [Contours; deeply grained.]
4. Color[s]: [Saddle.] [Winchester Grey.] [Madeira.] [Woodland Brown.] [Cayenne.] [Burnished Amber.] [Classic White.] **Espresso**,
5. Characteristics:
  - a. Abrasion resistance: 0.01 inch wear per 1000 revolutions, tested to ASTM D2394.
  - b. Hardness: 1124 pounds, tested to ASTM D143.
  - c. Self ignition temperature: 743 degrees F, tested to ASTM D1929.
  - d. Flash ignition temperature: 698 degrees F, tested to ASTM D1929.
  - e. Flame spread rating: 80, tested to ASTM E84.
  - f. Water absorption, 24 hour immersion, tested to ASTM D1037:
    - 1) Sanded surface: 4.3 percent.
    - 2) Unsanded surface: 1.7 percent.
  - g. Thermal expansion coefficient, 36 inch long samples:
    - 1) Width:  $35.2 \times 10^{-6}$  to  $42.7 \times 10^{-6}$ .
    - 2) Length:  $16.1 \times 10^{-6}$  to  $19.2 \times 10^{-6}$ .
  - h. Fastener withdrawal, tested to ASTM D1761:
    - 1) Nail: 163 pounds per inch.
    - 2) Screw: 558 pounds per inch.
  - i. Static coefficient of friction:

- 1) Dry: 0.53 to 0.55, tested to ASTM D2047.
- 2) Dry: 0.59 to 0.70, tested to ASTM F1679.
- 3) Wet: 0.70 to 0.75, tested to ASTM F1679.
- j. Fungus resistance, white and brown rot: No decay, tested to ASTM D1413.
- k. Termite resistance: 9.6 rating, tested to AWPA E-1.
- l. Specific gravity: 0.91 to 0.95, tested to ASTM D2395.
- m. Compression:
  - 1) Parallel: 1806 PSI ultimate, 550 PSI design, tested to ASTM D198.
  - 2) Perpendicular: 1944 PSI ultimate, 625 PSI design, tested to ASTM D143.
- n. Tensile strength: 854 PSI ultimate, 250 PSI design, tested to ASTM D198.
- o. Shear strength: 561 PSI ultimate, 200 PSI design, tested to ASTM D143.
- p. Modulus of rupture: 1423 PSI ultimate, 250 PSI design, tested to ASTM D4761.
- q. Modulus of elasticity: 175,000 PSI ultimate, 100,000 PSI design, tested to ASTM D4761.
- r. Thermal conductivity: 1.57 BTU per inch per hour per square foot at 85 degrees F, tested to ASTM C177.

## 2.3 ACCESSORIES

- A. Fasteners: [Hot dip galvanized steel] [or] [stainless steel] [composite wood screws] [nails] of length recommended by composite wood manufacturer for profile being fastened.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install composite wood in accordance with manufacturer's instructions.
- B. Cut, drill, and rout composite wood using carbide tipped blades.
- C. Pre-drill fastener holes located closer than 1 inch from edges.
- D. Cut ends square and true.
- E. Do not use composite wood products as structural members.
- F. Do not exceed maximum spans recommended by manufacturer.
- G. Place boards [perpendicular] [diagonal] to supports.
- H. Stagger end joints in adjacent rows at least one support.
- I. Leave expansion spaces between abutting boards and between boards and adjacent construction:
  - 1. End gaps between boards: 1/8 inch at ambient temperatures of 60 degrees F and above and 3/16 inch at ambient temperatures below 60 degrees F.
  - 2. Side gaps between boards: 1/4 inch at ambient temperatures of 60 degrees F and above and 3/8 inch at ambient temperatures below 60 degrees F.
  - 3. Gaps between boards and adjacent construction: 1/4 inch at ambient temperatures of 60 degrees F and above and 1/2 inch at ambient temperatures below 60 degrees F.
- J. Place boards to span three or more supports.
- K. Fasten each board to each support with two fasteners.

### 3.2 CLEANING

- A. Clean composite wood to remove stains:
  - 1. Mold, mildew, and berry and leaf stains: Clean surfaces with conventional deck wash containing detergent or sodium hypochlorite.
  - 2. Rust and ground-in dirt: Clean surfaces with cleaner containing oxalic or phosphoric acid.

3. Oil and grease: Clean surfaces with detergent containing degreasing agent.

END OF SECTION