



MoistureShield™
ENVIRONMENTALLY FRIENDLY
COMPOSITE DECKING

COMPOSITE DECKING
Section 06 7300

PART 1-GENERAL

1.1 SUMMARY

A. Section Includes

Composite wood decking

B. Related Sections

Division 01: Administrative, procedural, and temporary work requirements

Section 06 1100-Wood framing and supports

1.2 REFERENCES

A. **ASTM International (ASTM)**

1. ASTM D 7031-04: Standard Guide for Evaluating Mechanical and Physical Properties of Wood-Plastic Composite Products
2. ASTM D 7032-08: Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite Deck Boards and Guardrail Systems (Guards or Handrails)
3. ASTM D 2017: Accelerated Laboratory Test of Natural Decay Resistance of Woods
4. ASTM D 6109: Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastic Lumber and Related Products
5. ASTM E 84-07: Standard Test Method for Surface Burning Characteristics of Building Materials
6. ASTM D 1929: Standard Test Method for Determining Ignition Temperature of Plastic
7. ASTM D 2394: Standard Test Methods for Simulated Service Testing of Wood and Wood-Base Finish Flooring
8. ASTM D 1037-06: Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials
9. ASTM D 1761-06: Standard Test Methods for Mechanical Fasteners in Wood
10. ASTM D 648: Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in Edgewise Position
11. ASTM D 1525: Standard Test Method for Vicat Softening Temperature of Plastic
12. ASTM D 1621: Standard Test Method for Compressive Properties of Rigid

Cellular Plastics

13. ASTM C 518: Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Apparatus

14. ASTM D 143: Standard Test Methods for Small Clear Specimens of Timber

15. ASTM E 4-08: Standard Practices for Force Verification of Testing Machines

16. ASTM D 2990-01: Test Methods for Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics

B. American Wood Preservers Association (AWPA)

1. AWPA E-1: 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 samples illustrating size, profile, color, and surface finish.

B. 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 the ground or floor, with supports at each end.

C. Cover composite wood with waterproof, non-translucent covering, vented to prevent moisture buildup.

1.5 WARRANTIES

A. Furnish Manufacturer's Limited Lifetime warranty providing coverage which warrants the Product to be free from defects in material and manufacture and, when used for its intended purpose and properly installed and maintained according to the manufacturer's published installation instructions to resist rot or fungal decay and resist damage caused by insect or termite attacks.

PART 2-PRODUCTS

2.1 MANUFACTURERS

A. Contract Documents are based on products by A.E.R.T. Inc.

B. Substitutions: not permitted

2.2 MATERIALS

A. Composite Wood

1. Composition: Reclaimed wood and polyethylene plastic with additives for coloring and inhibiting fungal/algal growth; free from toxic chemicals.
2. Profiles: (5/4x6) (1x5) (2x6) inches x (12) (16) (20) feet long
3. Surface texture: Wood grain embossed finish
4. Colors: Seasoned Mahogany; Rustic Cedar; Earthtone; Cape Cod Gray; Desert Sand; Terracotta
5. Characteristics:
 - a. Hardness: 1,352 lbf/6.01kN; ASTM D143
 - b. Self ignition temperature: 741°F/394°C; ASTM D1929
 - c. Flash ignition temperature: 729°F/387°C; ASTM D1929
 - d. Flame spread rating: 100; ASTM E84
 - e. Smoke Developed Index: 350; ASTM E84
 - f. Thermal expansion coefficient: 2.0×10^{-5} in/in/°F (3.6×10^{-5} cm/cm/°C); ASTM D1037
 - g. Fastener withdrawal:
 1. Screw: 474.4 lbf (2.11 kN); ASTM D1761
 - h. Static coefficient of friction:
 1. Dry: 0.59/0.64; ASTM D2394
 2. Wet: 0.92/0.84; ASTM D2394
 - i. Fungus resistance, white and brown rot:
 1. Very Resistant; ASTM D2017
 - j. Termite resistance:
 1. Highly Resistant; AWPA E-1
 - k. Equivalent Specific gravity: 0.50
 - l. Compressive Strength: 962 lb/in² (6,632.8 kPa or 6,632.8 kN/ m²); ASTM D1621
 - m. Compressive Modulus: 21,926 lb/in² (151.2 Mpa or 151.2 MN/m²); ASTM D1621
 - n. Deformation at Maximum Load: 0.1629 in (4.138 mm); ASTM D1621
 - o. Modulus of rupture: 2,500 lb/in² (17.2 Mpa or 17.2 MN/m²); ASTM D7032. Flexural Stress: 250 lb/in² design (1.72 Mpa or 17.2 MN/m²); ASTM D7032
 - p. Modulus of elasticity: 268,000 lb/in² (1,847.8 Mpa or 1,847.8 MN/m²); ASTM D7032. 100,000 lb/in² design.

q. Thermal conductivity: 1.37 Btu-in/hr/ft²·°F (0.198 W/m·°K; ASTM C518-02

r. Vicat Softening Temperature: 242°F (116°C); ASTM D1525

2.3 ACCESSORIES

Fasteners: Composite wood screws, or stainless steel screws of the appropriate length as recommended by the composite wood manufacturer for the specific 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 true and square.
- 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:
- J. End gaps between boards: 1/8 inch.
- K. Side gaps between boards: 1/4 inch
- L. Gaps between boards and adjacent construction: 1/4 inch
- M. Place boards to span three or more supports.
- N. Fasten each board to 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