



## COMPOSITE DECKING

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### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Composite decking.

#### 1.2 RELATED SECTIONS

- A. Section 06-1100 - Wood Framing.

#### 1.3 REFERENCES

- A. ASTM D-1413-99: Test Method for Wood Preservatives by Laboratory Soil-block Cultures, ASTM International.
- B. ASTM D-2565-99: Practice for Operating Xenon Arc-type Light-exposure Apparatus With or Without Water for Exposure of Plastics, ASTM International.
- C. ASTM D-2915-98: Practice for Evaluating Allowable Properties for Grades of Structural Lumber, ASTM International.
- D. ASTM D-2990-95: Test Method for Tensile, Compressive, and Flexural Creep and Creep-rupture of Plastics, ASTM International.
- E. ASTM D-3345-74 (1999): Test Method for Laboratory Evaluation of Wood and Other Cellulose Materials for Resistance to Termites, ASTM International.
- F. ASTM D-5456-99a: Specification for Evaluation of Structural Composite Lumber Products, ASTM International.
- G. ASTM D-6109-97: Standard Test Method for Flexural Properties of Un-reinforced and Reinforced Plastic Lumber, ASTM International.
- H. ASTM D-7031-04: Standard Guide for Evaluating Mechanical and Physical Properties of Wood-Plastic Composite Products, ASTM International.
- I. ASTM D-7032-04: Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite Deck Boards and Guardrail systems (Guards or Handrails), ASTM International.
- J. ASTM E-4-99: Practices for Force Verification of Testing Machines, ASTM International.
- K. ASTM E-84-01: Test Method for Surface Burning Characteristics of Building

Materials, ASTM International.

- L. ASTM E-330-97: Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference, ASTM International.
- M. ASTM F-1679: Standard Test Method for Using a Variable Incidence Tribometer (VIT).

#### 1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Structural Performance:
  - 1. Deck: Uniform Load: 100 lb/sq. ft.
  - 2. Treads of Stairs: Concentrated Load: 750 lb/sq. ft., and 1/8" max. deflection with a concentrated load of 300 lb on area of 4 sq. in
- B. Fire-Test-Response Characteristics per ASTM E-84:

#### 1.5 SUBMITTALS

- A. Product Data: Indicate sizes, profiles, surface style, and performance characteristics.
- B. Samples: For each product specified, one sample, minimum size 4 inches long, representing actual product, color, and finish.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Storage and Handling:
  - 1. Never dump TimberTech materials when unloading.
  - 2. Store on a flat surface and cover with non-translucent material.
  - 3. When carrying TimberTech planks, carry on edge for better support.
  - 4. Refer to installation instructions for additional guidelines on each product.

#### 1.7 WARRANTY

- A. Warranty: Limited Residential Warranty against rot, decay, splitting, checking, splintering, or termite damage for a period of 25 years beginning from date of purchase under normal conditions of use and exposure.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Contract Documents are based on products by: TimberTech Limited, 894 Prairie Avenue, Wilmington, Ohio 45177.
- B. Substitutions: Not permitted under Division 01.

#### 2.2 APPLICATIONS/SCOPE

- A. Wood/Plastic Composite Lumber:
  - 1. Material Description: Composite plank consisting of high density polyethylene (HDPE) and wood flour, extruded into sizes and shapes indicated with the following physical properties:
    - a. ValuPlank, Earthwood, and TwinFinish Decking Boards: 1 inch x 5-7/16 inches wide.
      - 1) Lengths-12, 16, and 20 feet.

- b. Color:
  - 1) ValuPlank- Cedar and Grey.
    - a) Surface texture-Brushed
    - b) Edges are Smooth for face fastening
  - 2) Earthwood- Tropical Rosewood, Tropical Teak, and Tropical Walnut.
    - a) Surface texture- One side serrated, one side embossed
    - b) Edges are Smooth for face fastening, or Grooved for CONCEALoc.
  - 3) TwinFinish- Grey, Cedar, and Rosewood.
    - a) Surface texture- One side brushed, one side embossed
    - b) Edges are Smooth for face fastening, or Grooved for CONCEALoc.
- c. Specific Gravity: 1.2 g/cu. cm. when tested in accordance with ASTM D-792.
- d. Flexural Properties when tested in accordance with ASTM D-6109: Solid Profiles
  - 1) Modulus of Elasticity (MOE): 542,200 psi.- Ultimate
  - 2) Modulus of Rupture (MOR): 3157 psi. - Ultimate
 Floorizon Plank
  - 1) Flexural Stiffness 426,508 lb·in<sup>2</sup>
  - 2) Moment Capacity 3157 in·lb
- e. Hardness when tested in accordance with ASTM D-143: 225 lb (101.25 kg).
- f. Water Absorption when tested in accordance with ASTM D-1037, %vol. <1.35%, %mass <1.29%.
- g. Flame Spread Index when tested in accordance with ASTM E-84: 75
- h. Direct Screw Withdrawal Force when tested in accordance with ASTM D-1761: 787 lbs/in.
- i. Slip resistance when tested in accordance with ASTM F-1679:
  - 1) Vertigrain Dry: 0.63 Wet: 0.55
  - 2) Brushed Dry: 0.77 Wet: 0.56
  - 3) Woodgrain Dry: 0.54 Wet: 0.43
- j. Smoke Development when tested in accordance with ASTM E-84, 200.
- k. Flash Ignition Temperature when tested in accordance with ASTM D-1929, 651 degrees F.
- l. Spontaneous Ignition Temperature when tested in accordance with ASTM D-1929, 788 degrees F.
- m. Coefficient of Linear Thermal Expansion when tested in accordance with ASTM D-696: length  $2.0 \times 10^{-5}$  in/in/°F, width  $3.4 \times 10^{-5}$  in/in/°F.
- n. Fungus Resistance (Brown/White Rot Fungus) when tested in accordance with ASTM D-1413: No decay.

## 2.3 ACCESSORIES

- A. Fasteners:
  - a. Concealed Fasteners: CONCEALoc hidden fasteners
  - b. Screws: No. 8, 2-1/2 inch stainless steel or high quality coated composite deck screws.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Install according to manufactures instructions.
- B. Cut, drill, and rout using carbide tipped blades.
- C. Pre-drill holes located closer than 1 1/2 inches from ends of plank.
- D. Cut ends square.
- E. Do not use composite wood material for structural applications.

### 3.2 CLEANING

- A. Clean surfaces regularly with a composite wood/plastic cleaner such as Corte Clean ([www.corteclean.com](http://www.corteclean.com)) .
- B. Power wash with a fan tipped nozzle in the direction of the grain of the planks with a maximum of 1500 psi.

END OF SECTION