



SECTION 042100
AFC TerraSlat by Tonality

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Terracotta Slats
- B. Cladding attachment system.

1.2 RELATED SECTIONS

- A. Section 01300 Submittals.
- B. Section 04150 – Terra Cotta Repair.
- C. Section 05400 - Cold-Formed Metal Framing.
- D. Section 06100 - Rough Carpentry.
- E. Section 07210 - Building Insulation.
- F. Section 072113 – Continuous Insulation XCI Ply Class A Wall Panels.
- G. Section 07250 - Air Barriers.
- H. Section 07280 – Water-resistive Barriers

1.3 REFERENCES

References are product specific. See specific product in Part 2 to see which testing applies.

- A. ASTM - ASTM International:
 - 1. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750-degree C. Determination of Non-Combustibility.
- B. DIN – National Standard of Germany / EN – European Standard / ISO – International Standards
 - 1. DIBt National Technical Approval
 - 2. EN ISO 539 – Clay roofing tiles for discontinuous laying - Determination of physical characteristics
 - 3. EN ISO 10545 – Ceramic Tiles
 - 4. EN 60672 – Ceramic and Glass Insulating Materials
 - 5. 105 – Clay Masonry Units
 - 6. EN 13501 - Fire classification of construction products and building elements

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300 - 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. Installation methods.
- C. Shop Drawings: Provide detailed drawings of non-standard applications of fiber cement materials which are outside the scope of the standard details and specifications provided by the manufacturer.
- D. Attachment System Engineered Drawings:
 - 1. Provide engineered design for attachment and back-up framing to support exterior cladding.
 - 2. Provide static calculations verifying sizing of members, attachment devices and fasteners to support the exterior cladding with a safety factor required by Authority Having Jurisdiction (AHJ).
 - 3. Provide Installation drawings and details.
- E. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- F. Verification Samples: For each finish product specified, two samples, minimum size 3 inches (76 mm) x 5.5" (140mm), representing actual product color.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum of 2 years experience with installation of similar products.
- B. 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 and color are approved by Architect.
 - 3. Remodel mock-up area as required to produce acceptable work.

1.6 FABRICATION, DELIVERY, STORAGE, AND HANDLING

- A. All cladding materials to be finished and fabricated in the United States with backup inventory in residence in the United States to support job in-progress. Some on-site fabrication will be required.
- B. Store products in manufacturer's unopened packaging until ready for installation in accordance with manufacturer's recommended guidelines.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 WARRANTY

- A. Warranty: Manufacturer warrants that its products are manufactured in accordance with its

applicable material specifications and are free from defects in materials and workmanship.

1. Only products that are installed and used in accordance with applicable manufacturer's instructions and specifications are warranted.
2. The warranty is applicable only to claims made in writing and received by the manufacturer within thirty days after the defect was covered and within fifteen years after the date of the shipment of the product by the manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURER/SUPPLIER

- A. Basis of Design: AFC TerraSlat by Tonality as supplied by American Fiber Cement Corporation (AFC); 6901 S. Pierce St. Suite 180, Littleton, CO 80128. ASD. Tel: (303) 972-5107. Email: house@afcccladding.com. Web: <http://www.americanfibercement.com>.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600 - Product Requirements.

2.2 TERRACOTTA SERIES:

1. Product: AFC TerraSlat (by Tonality) as manufactured/supplied by AFC
 - a. Application: Exterior.
 - b. Application: Interior.
 - c. Thickness: 7/8 inch (22 mm).
 - d. Finish: Matte finish with a unique weather-proof treatment which makes it water, frost, scratch, stain, UV, and graffiti resistant.
 - e. Color: Black Matte (70025).
 - f. Color: Dark Grey (70005).
 - g. Color: Medium Grey (70014).
 - h. Color: White Matte (70018).
 - i. Color: Crème (70004).
 - j. Color: Brick Red (70019).
 - k. Physical Characteristics:
 - 1) Length: 1240mm (48.8") Nominal: 1250mm (49.2")
 - 2) Width: 140mm (5.5") Nominal: 150mm (5.9")
 - 3) Bulk Density: 2.24 g/cm³
 - 4) Mass Per Unit Area: 30 ± 2 kg/m²
 - 5) Bending Compression: min. 1.05 kN (DIN EN ISO 10545 Part 4)
 - 6) Flexural Tension: min. 1.75 kN (DIN EN ISO 10545 Part 4)
 - 7) Thermal Conductivity: Lambda Value: 1.17 W/mK (DIN EN 60672-2 (90°)
 - 8) Water Absorption: Brick red: 3-5% / Crème, Grey: 2-4% (DIN EN ISO 539-2)
 - 9) Linear Thermal Expansion: < 0.4mm / 1m [$\Delta t=100^{\circ}C$] (DIN EN ISO 10545 Part 8)
 - 10) Frost Resistance: complied (DIN EN 539-2 (E)
 - 11) Efflorescence and Soluble Salts: complied (DIN 105 Part 1)
 - 12) Chemical Resistant: complied (DIN 105 Part 4)
 - l. Fire Testing:
 - 1) ASTM E136: Noncombustible
 - 2) EN 13501-1: A1
2. DIBt – National Technical Approval
 - a. No. Z-10.3-796

2.3 MISCELLANEOUS CLADDING MATERIALS

- A. Water-resistive Barrier: DELTA®- FASSADE S by Dörken Systems Inc. See Section 07280

- Water-resistive Barriers. (As supplied by AFC)
- B. Air Barrier: DELTA®-VENT SA by Dörken Systems Inc. See Section 07250 - Air Barriers (As supplied by AFC)
- C. External Corner Profiles: Not Required (Supplied by others)
- D. Vertical Joint Spacer: Needed for vertical panel orientation. (As supplied by AFC)

2.4 ATTACHMENT SYSTEMS

- A. (Recommended) Horizontal Slat Orientation Attachment System w/o Insulation:
 1. Layer 1: 3/4" Plywood or 3/4" Hunter XCI Ply Class A (Supplied by others)
 2. Layer 2: UV Protective Membrane (As supplied by AFC)
 - a. For open joint ventilated rain screen systems.
 3. Layer 4: PAN Profile (As supplied by AFC)
 - a. Material: 5754-H22 Powder Coated Aluminum
 - b. Orientation: Running Vertically
- B. (Recommended) Vertical Slat Orientation: Attachment System w/o Insulation:
 1. Layer 1: 3/4" Plywood or 3/4" Hunter XCI Ply Class A (Supplied by others)
 2. Layer 2: UV Protective Membrane (As supplied by AFC)
 - a. For open joint ventilated rain screen systems.
 3. Layer 4: PAN Profile (As supplied by AFC)
 - a. Material: 5754-H22 Powder Coated Aluminum
 - b. Orientation: Running Vertically
- A. Horizontal Slat Orientation Attachment System w/ Insulation:
 1. Layer 1: Product: AFC Hat-profile (Supplied by AFC)
 - a. Material: 6061-T6 Black Ano
 - b. Orientation: Running Horizontally
 2. Layer 2: UV Protective Membrane (As supplied by AFC)
 - a. For open joint ventilated rain screen systems.
 3. Layer 3: Hat-Profile (As supplied by AFC)
 - a. Material: 16-Gauge G90 Steel or 6005A-T61 2mm Aluminum
 - b. Orientation: Running Vertically
 4. Layer 4: PAN Profile (As supplied by AFC)
 - a. Material: 5754-H22 Powder Coated Aluminum
 - b. Orientation: Running Vertically
- B. Vertical Slat Orientation: Attachment System w/ Insulation:
 1. Layer 1: Product: AFC Hat-profile (Supplied by AFC)
 - a. Material: 6061-T6 Black Ano
 - b. Orientation: Running Vertically
 2. Layer 2: UV Protective Membrane (As supplied by AFC)
 - a. For open joint ventilated rain screen systems.
 3. Layer 3: Hat-Profile (As supplied by AFC)
 - a. Material: 16-Gauge G90 Steel or 6005A-T61 2mm Aluminum
 - b. Orientation: Running Horizontally
 4. Layer 4: PAN Profile (As supplied by AFC)
 - a. Material: 5754-H22 Powder Coated Aluminum
 - b. Orientation: Running Horizontally

3.2 FIXING ACCESSORIES FOR ATTACHMENT SYSTEMS

- A. Concealed Attachment: PAN Profile (Hook and rail system)

1. As supplied by AFC

3.3 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.

3.4 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.

3.5 INSTALLATION

- A. Install in accordance with manufacturer's instructions and approved submittals.
- B. For exterior applications, comply with local codes and structural engineer's fastening calculations along with manufacturer's recommendations for fastener spacing.

3.6 EXTERIOR CLADDING FOR RAINSCREEN APPLICATIONS

- A. Detailing Requirements:
 1. Air space at top and bottom of building or wall termination shall be 3/4 inch (20 mm) to facilitate airflow from behind the panels. Do not block vertical airflow at windows, doors, eaves, or at the base of the building.
 2. See AFC standard details at www.americanfibercement.com.
- B. Slat Layout/Pattern: Comply with manufacturer's installation requirements.
 1. Horizontal Orientation & Stacked.
 2. Horizontal Orientation & 1/2 offset vertical joints (Brick pattern).
 3. Horizontal Orientation & 1/3 offset vertical joints.
 4. Vertical Orientation & Stacked.
 5. Vertical Orientation & 1/2 offset vertical joints (Brick pattern).
 6. Vertical Orientation & 1/3 offset vertical joints.
- C. Rain Screen Installation: Comply with manufacturer's installation requirements and support framing system.

3.7 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION