

## SECTION 09320 – PORCELAIN CERAMIC MOSAIC TILE EXTERIOR CLADDING

### PART 1 - GENERAL

#### 1.01 SUMMARY

- A. Work Included: Provide porcelain ceramic mosaic tile exterior wall and roof cladding in accordance with the Contract Documents. The Contract Documents are as defined in the "AGREEMENT." The "GENERAL CONDITIONS GOVERNING ALL CONTRACTS" shall apply to all work under the Contract. The Work of this Section shall include but not be limited to the following:
1. Porcelain ceramic mosaic tile
  2. Modified epoxy emulsion grout
  3. Latex cement adhesive mortar
  4. Direct-bond waterproof membrane
  5. Latex cement plaster & mortar bed
  6. Elastomeric expansion & control joints
- B. Related Sections:
1. Section 05120 – Structural Steel
  2. Section 05400 – Cold-Rolled Metal Framing
  3. Section 06100 – Rough Carpentry
  4. Section 07210 – Building Insulation
  5. Section 07553 – Single Ply Membrane Roofing
  6. Section 07720 – Roof Accessories
  7. Section 07901 – Joint Sealants

#### 1.02 SYSTEM DESCRIPTION

- A. Porcelain ceramic mosaic tile exterior wall and roof cladding, adhered with latex cement adhesive mortar over a reinforced latex waterproof membrane, adhered to reinforced latex-modified Portland cement plaster / mortar bed, with modified epoxy emulsion grout joints.

#### 1.03 PERFORMANCE REQUIREMENTS

- A. Contractor shall engage an independent test laboratory specializing in testing of exterior wall assemblies to conduct performance testing of a mock-up of the tile clad wall and roof assembly. Mock-up shall be constructed in compliance with 1.05 of this section and tested in accordance with the following standards:
1. ASTM E 283 Standard Test Method for Determining the Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen
    - a. Test criteria: 6.24 psf air pressure
    - b. Performance: 0.06 cfm per sq. ft.
  2. ASTM E 331 Standard Test Method for Water Penetration through Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference
    - a. Test criteria: 6.24 psf air pressure
    - b. Performance: no water leakage
  3. AAMA 501.1 Standard Test Method for Exterior Windows, Curtain Walls and Doors for Water Penetration Using Dynamic Pressure
    - a. Performance: no water leakage
  4. AAMA 501.5 Test Method for Thermal Cycling of Exterior Walls

- a. Test criteria: 180° F temperature range
  - b. Performance: no buckling or cracking of tile assembly, no failure of sealant joints, no visual stress or damage to structural elements
- B. Contractor shall engage an independent test laboratory specializing in testing of ceramic tile assemblies to conduct performance testing of 12 x 12 inch samples of the ceramic tile assembly. Samples shall be tested in accordance with the following standards:
1. ASTM C1026 (Modified) Standard Test for Measuring Frost Resistance of Ceramic tile to Freeze-Thaw Cycling ( 10 samples required )
  2. ASTM C484 (Modified) Standard Test for Thermal Shock Resistance of Glazed Ceramic Tile ( 10 samples required )

#### 1.04 SUBMITTALS

- A. Submit shop drawings and manufacturers' product data under provisions of Section (01300) (01340). Shop drawings shall indicate ceramic mosaic tile sheet layout and expansion / control joint layout.
- B. Submit samples of ceramic mosaic tile under provisions of Section (01300) (01340)
- C. Submit manufacturers' product data and installation instructions under provisions of Section. (01300) (01340)
- D. Submit manufacturer's certification under provisions of Section (01405 ) that the materials supplied conform to ANSI 137.1 and ANSI A 118.1-11.
- E. Submit proof of guarantee under provisions of General Conditions and 1.10 of this section.
- F. Submit sample of installation system demonstrating compatibility/functional relationships between adhesives, mortars, grouts and other components under provision of Section (01300.) (01340.)
- G. Submit list from manufacturer of installation system/adhesive/mortar/grout identifying a minimum of three (3) similar projects, each with a minimum of ten (10) years service.
- H. For alternate materials, submit independent laboratory test results confirming compliance with specifications listed in Part 2 - Products at least thirty (30) days before bid date in accordance with General Conditions
- I. Maintenance Instructions: Submit manufacturer's recommended maintenance practices for porcelain mosaic tile exterior cladding

#### 1.04 QUALITY ASSURANCE

- A. References: Applicable trade association names and titles of general standards are referred to by accepted abbreviations.
- B. Source Limitations for Porcelain Tile: Obtain tile from single source producer specializing in ceramic tile, mosaics, pavers, trim units, and thresholds with (three) (3 ) years minimum experience. Obtain tile from same production run and of consistent color, quality in appearance and physical

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