

SECTION 044313 - ADHERED STONE MASONRY VENEER

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Stone masonry adhered to pre-cast concrete wall panels and metal framing and sheathing.

1.2 FIELD CONDITIONS

- A. Protection of Stone Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work.
- B. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until masonry has dried.
- C. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

1.4 SUBMITTALS

- A. Submit following in accordance with Section 013300.
- B. Product Data: Manufacturer's specification and data sheets for each product used, including:
 - 1. Preparation instructions.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation guidelines.
 - 4. Cleaning and maintenance methods.
- C. Shop Drawings: Submit elevations and cross-section details showing proper installation methods.
- D. Sample Selection
 - 1. Standard sample board with selected stone profile and color should be submitted for each product specification.
 - 2. Selection of approved grout colors and styles (if applicable).
- E. Sample Verification: A field panel sample with the minimum size of 3' x 3' should be installed for every product selection showing: styles, colors, textures and grout colors.

- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- G. Closeout Submittals: Provide manufacturer's warranty and maintenance recommendations.

PART 2 - PRODUCTS

2.1 MANUFACTURED STONE VENEER

- A. Material: As indicated on Drawings.

2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I or Type II, except Type III may be used for cold-weather construction; natural color or white cement may be used as required to produce mortar color indicated.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Mortar Admixtures: Comply with ASTM C1384
- D. Bonding Agents: Comply with ASTM C1059 or C932.
- E. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C979/C979M. Use only pigments with a record of satisfactory performance in stone masonry mortar.
- F. Aggregate: ASTM C144 and as follows:
 - 1. For pointing mortar, use aggregate graded with 100 percent passing No. 16 sieve.
 - 2. Colored Aggregates: Natural-colored sand or ground marble, granite, or other sound stone; of color necessary to produce required mortar color.
- G. Latex Additive: Manufacturer's standard water emulsion, serving as replacement for part or all of gaging water, of type specifically recommended by latex-additive manufacturer for use with field-mixed portland cement mortar bed, and not containing a retarder.
- H. Water: Potable.

2.3 EMBEDDED FLASHING MATERIALS

- A. Metal Flashing: Provide metal flashing, where flashing is exposed or partly exposed and where indicated, complying with SMACNA's "Architectural Sheet Metal Manual".

2.4 MISCELLANEOUS MASONRY ACCESSORIES

- A. Expanded Metal Lath: 3.4 lb/sq. yd., self-furring, diamond-mesh lath complying with ASTM C847. Fabricate from structural-quality, zinc-coated (galvanized) steel sheet complying with ASTM A653/A653M, G60.
- B. All lath products must be self-furred, or use furring fasteners, to provide ¼" clearance between lath and substrate, for the purposes of mortar embedded encapsulating lath.
- C. Drainage mat:
 - 1. Product: Driwall Rainscreen 013-1 as manufactured by Keene Building Products.
 - 2. Physical Characteristics: Three-dimensional mat heat laminated to a non-woven lightweight, vapor permeable fabric. The monofilament mat is heat welded at the junctions to form a resilient structure that isolates veneer from the back-up.
 - a. 0.13 inches (3.8 mm) thick.
 - b. 9.0 oz/sq. yd. (213.3 g/sq m) total weight.
 - c. 48 inches (122 cm) wide.
 - d. 150 feet (45.9 m) roll length.
 - 3. Performance: Drainage of moisture and ventilation between veneer and back-up support.
 - a. Material: UV stabilized polypropylene.
 - b. Class A flame spread per ASTM E84.
 - c. ASTM ASTM E2273 - Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies.
 - d. Hydrophobic compound.
 - e. Resistant to chemicals.
 - f. Does not support mold growth.

2.5 MORTAR MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.
 - 1. Do not use calcium chloride.
 - 2. Use portland cement-lime or masonry cement mortar unless otherwise indicated.
- B. Mortar for Stone Masonry: Comply with ASTM C270, Proportion Specification.
 - 1. Mortar for Setting Stone: Type S or Type N.
 - 2. Mortar for Pointing Stone: Type N.
- C. Latex-Modified Portland Cement Setting Mortar: Proportion and mix portland cement, aggregate, and latex additive to comply with latex-additive manufacturer's written instructions.
- D. Cement-Paste Bond Coat: Mix either neat cement and water or cement, sand, and water to a consistency similar to that of thick cream.

1. For latex-modified portland cement, setting-bed mortar, substitute latex admixture for part or all of water, according to latex-additive manufacturer's written instructions.
- E. Mortar for Scratch Coat over Metal Lath: 1 part portland cement, 1/2 part lime, 5 parts loose damp sand, and enough water to produce a workable consistency.
- F. Pigmented Mortar: Use colored cement product.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared in conformance with ASTM C 1780 for the backup wall system indicated on the Drawings.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 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.

3.3 INSTALLATION OF ADHERED STONE MASONRY VENEER

- A. Install in accordance with manufacturer's instructions.
- B. Install manufactured stone masonry veneer in accordance with MVMA Installation Guide for Adhered Manufactured Stone Veneer, ASTM C 1780 and applicable Codes.
- C. Install/Apply Related Materials in accordance with type of substrate and manufactured stone veneer manufacture's installation instructions.
- D. General:
 1. Walls: Provide with Blended Color / Texture specified.
 2. Mortar Joints
 - a. Style:
 - 1) Tight Fit joints.
 - b. Tool all grout joints.
 3. Stone Direction:
 - a. Horizontal placement
 4. Windows, Doors & Wall Openings:
 - a. Butt field stones to wall opening.
 5. Sills: Install Sills where located on the Drawings.
 6. Caps: Install Capstones where located on the Drawings.

- E. Seal all joints at wall openings and penetrations with a sealant approved for use with masonry products.
- F. Flashing: Coordinate with Flashings indicated on Drawings and per manufacturer.

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services: Provide periodic site visits as requested by Architect. Report any discrepancies to the Contractor with copies to the Architect within 24 hours of each visit.

3.5 CLEANING

- A. Clean manufactured masonry in accordance with manufacturer's installation instructions

3.6 PROTECTION

- A. Protect finished work from rain and work on either side of the wall during and for 48 hours following installation.
- B. Protect installed products until completion of project.
- C. Clean prior to project closeout.
- D. Touch-up, repair or replace damaged products before Substantial Completion.

3.7 EXCESS MATERIALS AND WASTE

- A. Excess Stone: Stack excess stone where directed by Owner for Owner's use.

END OF SECTION 044313