

SECTION 047314 - MANUFACTURED ARCHITECTURAL STONE MASONRY

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Architectural stone masonry veneer units for full-bed masonry installations.
- B. Related Sections include the following:
 - 1. Section 042000 "Unit Masonry" for installing units in unit masonry, including ties and anchors, cavity insulation, and drainage materials.
 - 2. Section 055000 "Metal Fabrications" for loose steel lintels and shelf angles for supporting masonry.
 - 3. Section 072726 "Fluid Applied Membrane Air Barriers" for air barriers applied to cavity face of backup wythe of cavity walls.

1.3 PERFORMANCE REQUIREMENTS

- A. Provide architectural stone masonry veneer that meets the following test results:
 - 1. Compressive Strength, ASTM C 140: 2,000 psi (13789.52 kPa).
 - 2. Absorption, ASTM C 140: 13 lbs/cu. ft. by wt.
 - 3. Density, ASTM C 140: 125 lbs/cu ft. or greater.

1.4 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for masonry units.
- B. Samples for Initial Selection: For colored mortar and architectural stone masonry units.
- C. Samples for Verification:
 - 1. For each color and texture of units required, 10 inches (254 mm) square in size.
 - 2. For colored mortar. Make Samples using same sand and mortar ingredients to be used on Project. Label Samples to indicated types and amounts of pigments used.
- D. Mockup Samples: Furnish full-size sample units for each color and texture of units required, for installation in mockups.
- E. Material Certificates: Include statements of material properties indicating compliance with requirements including compliance with standards and type designations within standards.
- F. Mortar: Provide mortar submittals in accordance with Section 4 "Unit Masonry Assemblies."
- G. Ties and Reinforcement: Provide submittals for ties and reinforcement in accordance with Section 4, "Unit Masonry Assemblies."

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer of architectural stone masonry units meeting the requirements indicated for this Project, with sufficient production capacity to manufacture required units.
- B. Testing Agency Qualifications: An independent testing agency qualified according to ASTM E329 for testing indicated, as documented according to ASTM E 548.
- C. Source Limitations for Architectural Stone Masonry Units: Obtain units through one source from a single manufacturer.

- D. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color, from one manufacturer for each cementitious component and from one source or producer for each aggregate.
- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Build mockup of typical wall area as indicated in Section 042000 "Unit Masonry."

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Coordinate delivery of architectural stone masonry units with unit masonry work to minimize the need for on-site storage and to avoid delaying the Work.
- B. Pack, handle, and ship units in suitable packs or pallets.
 - 1. Lift skids with proper and sufficient long slings or forks with protection to prevent damage to units. Protect edges and corners.
 - 2. Store units on wood skids or pallets with nonstaining, waterproof covers. Arrange to distribute weight evenly and to prevent damage to units. Ventilate under covers to prevent condensation.
- C. Store installation materials on elevated platforms, under cover, and in a dry location.
- D. Store mortar aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

1.7 PROJECT CONDITIONS

- A. Protect materials and comply with project conditions indicated in Section 4 "Unit Masonry Assemblies."

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 ARCHITECTURAL STONE MASONRY UNITS

- A. Basis-of-Design Products: Subject to compliance with requirements, provide Old Castle; Echelon Waterford Stone manufactured architectural stone masonry units.
- B. Colors: Waterford Pewter by Echelon Masonry.
- C. General: Comply with ASTM C90:
- D. Shapes: Provide special shapes for corners, jambs, movement joints, headers, bonding, and other special shapes and conditions indicated on Drawings.
- E. Sizes: Provide units in the following size:
 - 1. 4 inches (101.6 mm) in depth with face dimensions selected from a minimum of 15 face sizes to match Ashlar pattern approved in mock-up
- F. Tolerances: Fabricate units to the following tolerances:
 - 1. Unit Length: +/- 1/16"
 - 2. Unit Height: +/- 1/16"
 - 3. Deviation from square with the measurement taken using longest as the base: +/- 1/16"

2.3 MORTAR MATERIALS

- A. Provide mortar materials that comply with Section 042000 "Unit Masonry."
 - 1. Color: To be selected from manufacturer's full range. Color will not be the same as for unit masonry.

2.4 ACCESSORIES

- A. Anchors and Ties: Provide anchors and ties in accordance with Section 4 "Unit Masonry Assemblies."
- B. Cleaner: Provide a cleaner recommended by unit manufacturer for cleaning new masonry surfaces without discoloring or damaging masonry surfaces; expressly approved for intended use by unit manufacturer and expressly approved by cleaner manufacturer for use on calcium silicate units and adjacent masonry materials.

2.5 MORTAR MIXES

- A. Comply with requirements in Section 042000 "Unit Masonry" for mortar mixes.
- B. Comply with ASTM C270, Proportion Specification.
 - 1. For setting mortar, use Type N.
 - 2. For pointing mortar, use Type N.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of architectural stone masonry units.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Install architectural stone masonry units to comply with requirements in Division 4 Section "Unit Masonry Assemblies."
- B. Placing and Bonding: Lay masonry in full bed of mortar with full head joints, properly jointed with other work. Buttering corners of joints, deep or excessive furrowing of mortar joints is not permitted. Back-bevel bed joints to remove excess mortar droppings in cavity as work progresses. Fully bond intersections and external corners. Isolate masonry partitions from vertical structural framing members with a control joint as indicated. Provide for expansion and control joints as indicated on the drawings. Do not adjust masonry units after placing. Where resetting of masonry is required, remove clean units and reset in new mortar. Leave joints under shelf angles and elsewhere as indicated or required open to receive sealant.
- C. Coursings: Install masonry construction anchored solidly to backing, properly aligned, plumb, and true in required layout, making straight, level courses, unless otherwise indicated. Place varying sizes of stones to provide a random Ashlar pattern as approved. Maintain mortar joint thickness of 3/8 inch (9.52 mm) to 3/4 inch (19.05 mm) either horizontally or vertically.
- D. Tool exposed joints recessed when thumbprint hard, using a jointer larger than joint thickness, unless otherwise indicated.
- E. Provide expansion, control, and pressure-relieving joints of widths and at locations indicated. Keep joints free of mortar and other rigid materials.
 - 1. Form open joint of width indicated, but not less than 3/8 inch (9.52 mm).
- F. Prepare joints indicated to receive sealant and apply sealant of type and at locations indicated to comply with applicable requirements in Section 079200 "Joint Sealants."

3.3 ADJUSTING AND CLEANING

- A. Remove and replace stained and otherwise damaged units and units not matching approved Samples.
- B. In-Progress Cleaning: Clean units as work progresses.
 - 1. Remove mortar fins and smears before tooling joints.
 - 2. Remove excess sealant immediately, including spills, smears, and spatter.
- C. Final Cleaning: After mortar is thoroughly set and cured, clean exposed units as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample; leave one sample uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of units.
3. Wet surfaces with water before applying cleaners; remove cleaners promptly by rinsing thoroughly with clear water.
4. Clean units as recommended by manufacturer.

END OF SECTION 047314