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SECTION 07 42 45

CEMENT MORTARLESS STONE SYSTEM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Cement Based Mortarless stone panel system and accessories.

1.02 RELATED REQUIREMENTS

A. Section 05 40 00 - Cold-Formed Metal Framing.
B. Section 06 10 00 - Rough Carpentry: Sheathing.
C. Section 06 11 00 – Wood Framing.
D. Section 07 25 00 - Weather Barriers.
E. Section 07 62 00 - Sheet Metal Flashing and Trim.
F. Section 07 92 00 – Joint Sealants.
G. Section 09 21 16 - Gypsum Board Assemblies: Sheathing.

1.03 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2021.
B. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
C. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
D. ASTM C1354 - Standard Test Method for Strength of Individual Stone Anchorages in Dimension Stone.
E. ASTM C1670 - Standard Specification for Adhered Manufactured Stone Masonry Veneer Units.
F. ICC (IBC) - International Building Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Evaluation report: Submit a copy of the ICC-ES Evaluation Service Report
C. Product Data: Provide manufacturer's data sheets on each product to be used including, but not limited to, materials, dimensions, accessories, and fasteners.
D. Shop Drawings: Indicate layout, panel locations, and configuration.
   1. Indicate size, spacing, and location of support and attachment components, connections, types and locations of fasteners.

2. Indicate necessary provisions for structural and thermal movement between wall panel system and adjacent materials.
3. Indicate locations and sizes of penetrations through wall panel system for Architect's approval.

E. Manufacturer's Instructions: Include instructions for storage, handling, preparation, and installation of product.

F. Manufacturer's Field Reports: Submit weekly site inspection reports of site inspection conducted by manufacturer's qualified installer including photographs to verify acceptable quality of this work.

G. Test Report: Applicable model code authority evaluation report.

H. Evaluation Service Reports: Show compliance with specified requirements.

I. Manufacturer's Qualification Statement.

J. Installer's Qualification Statement.

K. Maintenance Data: Periodic inspection recommendations and maintenance procedures.

L. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

M. Warranty Documentation for Installation of Building Rainscreen Assembly: Submit installer warranty and ensure that forms have been completed in Owner's name and registered with installer.

1.05 MOCK-UP

A. Provide a mock-up for evaluation of substrate preparation, detailing trim and workmanship.

B. Locate mock-up in an area acceptable to the Architect and Owner.

C. Modify mock-up as required until accepted by Architect.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with at least ten years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified in this section with minimum three years of documented experience and approved by manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Store products under waterproof cover and elevated above grade, on a flat surface.

1.08 WARRANTY

A. Provide manufacturers standard warranty against defects in manufacturing.

B. Installation Warranty for Assembly: Provide limited lifetime warranty.

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PART 2 PRODUCTS

2.01 MORTARLESS STONE PANEL SYSTEM

A. Manufacturer: Silvermine Stone Company 2728 Davey Street, Eau Claire WI 54703. Web: www.silverminestone.com

2.02 PERFORMANCE

A. ICC-ES Evaluation Service Report Number: ESR-4787.

B. Hanging and Flashing:
   1. Flashing system to prevent water from getting behind stone.

2.03 PRODUCTS

A. Belterra Stone:
   1. Description: Molded stone-shaped veneer panels that interlock with a tongue and groove system, with patented hanging and flashing system. embedded nailing strip for attaching to framing and exterior sheathing. Over fifty unique ledgestone panels for each color to prevent repeat look.
      a. Products:
         1) Pillar Stone: 6 High x 1.75” thick; 18” or 24” Wide.
         2) Flats: 6” High x 1.75” Thick; 24” Long.
         3) Uni-Lock Corners: 6” High x 1.75” Thick; 24” or 18” Wide.
      b. Colors:
         1) Evening Gray.
         2) Dover Cliff.
         3) Dakota Sunset.
         4) Marin Fog.
         5) Monument Valley

B. Mid-Century Modern Stone: Paintable solution.
   1. Flats: 6” High x 1.75” Thick; 23.5” Wide .
   2. Uni-Lock Corners: 6” high x 1.75” Thick; 16” or 7” Wide.

2.04 ACCESSORIES

A. Sills:
   1. 36” Long x 2.75” High x 3.875” Wide.
   2. Colors: Slate, Brownstone, and Sand.

B. Flat Caps:
   1. 22” Flat Cap; Honed Flat Top with Rock Face.
   2. 28” Flat Cap; Honed Flat Top with Rock Face.
   3. Colors: Slate, Brownstone, and Sand.

C. Outlet Boxes:
   1. 5.375” Wide x 7.125” High x 1.75” Deep.
   2. Opening Size: 4.25” x 2.25”.
   3. Colors: Slate, Brownstone, and Sand.

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D. Light Boxes:
   1. 9.25” Wide x 11.25” High x 1.75” Deep; Opening size – 4” Diameter.
   2. Colors: Slate, Brownstone, and Sand.

E. Peaked Cap:
   1. 22” Peaked Cap; Honed Peaked Top with Rock Face.
   2. 22” Peaked Quad Split Cap; Honed Peaked Top with Rock Face; supplied in 4 pieces; provides a 6” x 6” post opening.
   3. Colors: Slate, Brownstone, and Sand.

F. Fasteners:
   1. Masonry Screw: S28J8056SM, 14 X 1-3/4” TRUSS SOCKET HI-LO CONCRETE SCREW, JS1000 & BAKE, Packed 100 pcs./bag.
   2. Screws: T71G3040-1GI,8-18X1-1/4” OVAL WASHER QUAD, TYPE AB, 304 SS, JS60.

G. Flashing: Sheet aluminum, see Section 07 62 00.

H. Flashing: Manufacturer's standard sheet aluminum, finish and color to match wall panels.

2.05 PHYSICAL PROPERTIES

A. ICC-ES AC 90 - Section 3.1.

B. Dimensions and Tolerances: Within manufacturer’s specifications.

C. Flexural Strength: Greater than 700 PSI.

2.06 WEATHER-RESISTIVE PROPERTIES

A. ICC Test Report ASTM C1670 AC 90 - Section 3.0.
   1. Compressive Strength: 2880 PSI.
   2. Freeze-Thaw Durability: No mass loss.
   3. Water Absorption: 13.88 lb/ft^3 or 15.3 percent.
   4. Saturated Density: 104.39 lb/ft^3.

2.07 SURFACE BURNING CHARACTERISTICS

A. ICC-ES ASTM E84 - Section 3.0:
   1. Flame Spread Index = 0.
   2. Smoke Developed Index = 10.
   3. ASTM E 84, Class A.

2.08 WATER PENETRATION RESISTANCE

A. ICC-ES ASTM E 331 – System shall have performance test showing it allows no water penetration.

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PART 3 EXECUTION

3.01 EXAMINATION

A. Examine substrate, clean and repair as required to eliminate conditions that would be detrimental to proper installation.

B. Verify that water or weather-resistant barrier has been installed.

C. Inspect products thoroughly prior to installation. Do not install any product which may have been damaged in shipment or appears to have a damaged or irregular finish.

D. Do not begin until unacceptable conditions have been corrected.

E. If substrate preparation is responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 INSTALLATION

A. Sheet Metal Flashing: Install in accordance with wall panel manufacturer's instructions and as indicated on drawings.

B. Install weather resistant barrier over wall behind panels.

C. Panels:
   1. Install in accordance with manufacturer's instructions.
   2. Install panels with manufacturer's recommended exposed attachment system.

D. Install control and expansion joints as detailed on drawings.
   1. Vertical Joints: Install at locations and with spacings recommended by wall panel manufacturer.
   2. Horizontal/Compression Joints: Install at locations and with spacings recommended by wall panel manufacturer.
      a. Wood Framed Buildings: At walls of three or more floors high, install a compression joint at each floor.
      b. Steel Framed Buildings: At walls higher than 45 feet or more than three floors, install compression joint at floor lines, with maximum vertical spacing of 25 feet.

E. Install electrical fixtures where required.

F. Conceal fasteners or gaps where required.

G. After installation, seal joints including, but not limited to, around penetrations, and between wall panels and adjacent construction.

3.03 PROTECTION

A. Protect installed products until Date of Substantial Completion.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION