



SECTION 04 73 00 MANUFACTURED STONE VENEER

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Manufactured Stone Units.

1.2 RELATED SECTIONS

- A. Section 04 20 00 - Unit Masonry.
- B. Section 06 10 00 - Rough Carpentry.
- C. Section 05 40 00 - Cold-Formed Metal Framing.
- D. Section 07 27 00 - Air Barriers.
- E. Section 07 28 00 - Underlayment.
- F. Section 07 62 00 - Sheet Metal Flashing and Trim.
- G. Section 07 90 00 - Joint Protection.
- H. Section 10 30 00 - Fireplaces and Stoves.

1.3 REFERENCES

- A. ASTM C 39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
- B. ASTM C 67 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
- C. ASTM C 97 - Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.
- D. ASTM C 270 - Standard Specification for Mortar for Unit Masonry
- E. ASTM C 979 - Standard Specification for Pigments for Integrally Colored Concrete.
- F. ASTM E2556/E2556M – Standard Specification for Vapor Permeable Flexible Sheet Water-Resistive Barriers Intended for Mechanical Attachment.
- G. UL 723 - Standard for Safety for Surface Burning Characteristics of Building Materials.
- H. ICC ES AC 51 Acceptance Criteria for Manufactured Stone Veneer
- I. LEED: US Green Building Council's Leadership in Energy and Environmental Design Green Building Rating System.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Building Code Compliance:
 - 1. Standards Council of Canada (CSA):
 - b. CSA A-165 Series 14.
 - a. UBC Standard No. 14-1, Kraft Waterproof Building Paper.
 - 2. Tested by exp Services, Inc.

Backup Wall System and installation method for manufactured stone units shall meet the requirements of the Manufacturer.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 – Submittal Procedures; Submit Following Items:
- 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 standards and methods.
- C. Shop Drawings: Submit drawings depicting proper installation and flashing techniques. Coordinate locations with those found on the Drawings.
- D. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
 - 1. LEED v 4, Product Data for Credit MR 4: For products having recycled content documentation; indicating percentages by weight of post-consumer and pre-consumer recycled content. Include statement indicating cost for each product having recycled content.
 - 2. LEED v 4, Product Data for Credit EQ 2: For products and materials to comply with low emittance standards, provide documentation substantiating that products comply with requisite low emittance standards.
 - 3. LEED v 4, Product Data for Credit for location and distance from Project of material manufacturer and point of extraction, harvest or recovery for main raw material.
- E. Selection Samples: For each finish product specified, two complete sets of color samples representing manufacturer's full range of available colors and textures.
- F. Verification Samples: For each finish product specified, two samples, minimum size 8 inches square, representing actual product, color, and texture.
- G. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- H. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for cleaning and repair of components.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer who is a current member of Masonry Veneer Manufacturers Association (MVMA) with a minimum of 5 years documented experience manufacturing and marketing all Manufactured Stone products of the type specified in this section.
- B. Installer Qualifications: Company with documented experience in installation of manufactured masonry of the type specified including at least five projects within a 400 mile (650km) radius of the Project.

- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish panel of size and location as designated by Architect.
 - 2. Minimum size 3 foot by 3 foot and showing transition to adjacent materials anticipated.
 - 3. Do not proceed with remaining work until workmanship, color, texture and pattern are approved by Architect.
 - 4. Refinish mock-up area as required to produce acceptable work.

- D. Pre-Installation Conference:
 - 1. Contractor shall arrange a meeting not less than thirty days prior to starting stone veneer work.
 - 2. Attendance: Contractor, Architect/Owner Representative, veneer stone installer and manufacturer's representative.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store and handle products in conformance with the manufacturer's requirements and recommendations.
- B. Store products off the ground on pallets in manufacturer's unopened packaging until ready for installation.
- C. Protect materials from precipitation and freezing temperatures. Product with visible frozen moisture should not be installed.

1.8 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 absolute limits.
- B. Cold weather installations: Maintain materials and ambient temperature at minimum 40 degrees F (4 degrees C) prior to, during, and 48 hours after installation.
- C. Hot weather installations: Mist water on the scratch coated surface and the backs of the masonry veneer for installations that exceed 90 degrees (32 degrees C).

1.9 WARRANTY

- A. Provide manufacturers lifetime limited warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: NG Stone Products Limited, which is located at: 30 Industrial Parkway South; Aurora, Ontario, Canada L4G 3W2; Toll Free Tel: 1-888-786-6358; Email: sales@ngstone.com; Web: www.ngstone.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 MANUFACTURED SOLID MASONRY UNITS - GENERAL

- A. Manufactured High Density Fine Grained Stone Performance Requirements: as follows:
 - 1. Bed Depth: 3 ½" (90mm)
 - 2. Color: See full Range in Ledgestone Series – Brochure.
 - 3. Compressive Strength: 3600 psi (25+ MPa) for individual specimen when tested in accordance with ASTM C 170.
 - 4. Water Absorption: Tested in accordance with ASTM C99 – 7.5% or lower depending on density value, to ASTM C97.
 - 5. Density: Not more than 131 lb/ft³ (2000 kg/m³) to ASTM C97.
 - 6. Surface Burning Characteristics: Not more than the following when tested in accordance with UL 723:
 - a. Flamespread: 25.
 - b. Smoke Development: 450.
- B. Tolerances:
 - 1. Unit Length: +/- 1/16" (1.5mm)
 - 2. Unit Height: +/- 1/16" (1.5mm)
 - 3. Deviation from square: +/- 1/16" (1.5mm)
 - 4. Bed Depth: +/- 1/8" (3mm)
 - 5. Unit Face Deviation: +/- 3/8" (10mm)
- C. Water Repellant: Water Based Silane or Siloxane Masonry Water Repellant.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared as specified on the Drawings for the backup wall system.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Protection: Protect Adjacent Work from Contact with Mortar.
- B. Surface Preparation: Prepare Substrate in accordance with Manufacturer's Installation Instructions for the type of substrate being covered. Clean all surfaces thoroughly prior to installation.
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result under the project conditions.

3.3 INSTALLATION

- A. Install clean stone units in accordance with Manufacturer's installation instructions or guidelines and applicable Standards.
- B. Install Water Repellant if required on Drawings in accordance with Manufacturer's Application Instructions
- C. Install/Apply Related Materials in accordance with manufacture's installation instructions.

- D. General: (Designer to Select Style)
 - 1. Walls: Riviera Series, Ledgestone Series, or Raphael Collection.
 - 2. Walls: Provide quoins or special shapes as specified on Drawings.
 - 3. Mortar Joints:
 - a. Style: (Designer to Select Style)
 - 1) Tight Fit joints.
 - 2) Standard 1/2 inch tooled
 - 3) Wide joint
 - 4) Wide Overgrout
 - b. Strike all grout joints flush.
 - c. Tool all grout joints.
 - d. Overgrout all grout joints.
 - 4. Windows, Doors and Wall Openings:
 - a. Butt field stones to wall opening.
 - b. Install specified trim stones where located on the Drawings.
 - 5. Sills: Install Sills where indicated 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 specified in Section 07 62 00 - Sheet Metal Flashing and Trim.
- G. Infiltration Barrier: Coordinate with Infiltration Barrier specified in Section 07 27 00 - Air Barriers.

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. Remove Protective Coverings from Adjacent Work.
- B. 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.

END OF SECTION