

Part 1 General

1.1 REFERENCES

- .1 ASTM International
 - .1 ASTM C39/C39M-14a, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - .2 ASTM C67-14, Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
 - .3 ASTM C192/C192M-16a, Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory.
 - .4 ASTM C270-14, Standard Specification for Mortar for Unit Masonry.
 - .5 ASTM C482-02 (2014), Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement Paste.
 - .6 ASTM C847-14a, Standard Specification for Metal Lath.
 - .7 ASTM C979/C979-16, Standard Specification for Pigments for Integrally Colored Concrete.
 - .8 ASTM C1063-16c, Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster.
 - .9 ASTM C1670-13, Standard Specification for Adhered Manufactured Stone Masonry Veneer (AMSMV) Units.
 - .10 ASTM C1780-13, Standard Practice for Installation Methods for Adhered Manufactured Stone Masonry Veneer.
 - .11 ASTM D226/D226M-09, Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
- .2 Canadian Standards Association (CSA)
 - .1 CSA A371-14, Masonry Construction for Buildings.

1.2 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data: Provide manufacturer's printed product literature, specifications and data sheets.
- .3 Manufacturer's Instructions: Provide manufacturer's written installation instructions.
- .4 Shop Drawings:
 - .1 Provide drawings stamped and signed by professional engineer registered or licensed in Alberta.
 - .2 Indicate stone patterns, coursing and arrangement of joints.
- .5 Samples: Manufacturer's samples of masonry units, illustrating shapes, colours, and finishes.

- .1 Provide blended grouping of samples indicative of product size range and colour blend.

1.3 QUALITY ASSURANCE

- .1 Mock-ups:
 - .1 Construct mock-ups in accordance with Section 01 45 00 - Quality Control, supplemented as follows:
 - .1 Construct mock-up panel of exterior stone construction 1200 x 1800 mm, to illustrate cultured stone bonding and mortar joints.
- .2 Delivery, Storage, and Handling:
 - .1 Deliver, store and handle stone veneer masonry cladding in accordance with manufacturer's recommendations, supplemented as follows:
 - .1 Stack units on timbers or platforms at least 75 mm above grade.
 - .2 Place polyethylene or plastic film between wood and other finished surfaces of units when stored for extended periods of time.
 - .3 Do not use salt or calcium-chloride to remove ice from masonry surfaces.

1.4 AMBIENT CONDITIONS

- .1 Meet or exceed requirements of CAN/CSA A371.
 - .1 Maintain mortar temperature within manufacturer's recommended range until used.
- .2 Maintain materials and surrounding air temperature to minimum 10°C prior to and 48 hours after completion of masonry work.
- .3 Cold Weather Requirements: IMI - All Weather Council: Recommended Practices and Specifications for Cold Weather Masonry Construction.

Part 2 Products

2.1 MANUFACTURED UNITS

- .1 Solid Building Stone Units: To ASTM C1670, manufactured stone veneer.
 - .1 Compressive Strength (ASTM C192 and ASTM C39): Minimum 12.4 MPa (1800 psi).
 - .2 Shear bond (ASTM C482): 345 kPa (50 psi), using Type S mortar.
 - .3 Freeze/Thaw (ASTM C67): 50 cycles – no disintegration and < 3% mass loss.
 - .4 Density (ASTM C1670): Maximum 73 kg/m³ (15 psf).
 - .5 Colour blend: River rock appearance, as selected by Departmental Representative from manufacturer's standard range.
- .2 Trims: Same material as manufactured stone units.

- .1 Water table: Formed with sloped top surface and drip edge.
 - .1 Colour: As selected by Departmental Representative from manufacturer's standard range.
- .2 Corner pieces: Matched to manufactured units used in field of installation.
- .3 Skimmer stones: Smaller fill stones, matched to manufactured units.

2.2 ACCESSORIES

- .1 Weep screeds: Galvanised steel, 0.55 mm (0.0217 inch) thick, G60 galvanising.
- .2 Weather resistive barrier: To ASTM D226, No. 15 Type I asphalt saturated felt paper.
- .3 Drainage mat: Polypropylene, spun into three-dimensional, randomly oriented, geometric patterned monofilament mat, then laminated to non-woven water permeable fabric.
 - .1 Nominal thickness: 10 mm (0.40 inch).
- .4 Metal lath: To ASTM C847, galvanised expanded metal lath, self-furring, 1.4 kg/m² (2.5 lb/yd²).
- .5 Fasteners: To ASTM C1063, galvanised nails, shank diameter minimum 3 mm (1/8 inch).
- .6 Joint sealants: Non-staining type, as specified in Section 07 92 00 - Joint Sealants.

2.3 MORTAR

- .1 Mortar: To ASTM C270, premixed Type N, Type S or as recommended by masonry manufacturer; integral colour selected by Departmental Representative.
- .2 Colour Pigment: To ASTM C979, natural oxide pigment.
- .3 Water: Potable, clean and free of deleterious amounts of acids, alkalis, or organic materials.

Part 3 Execution

3.1 EXAMINATION

- .1 Verify that site conditions are ready to receive Work.
- .2 Inspect materials for fit and finish prior to installation. Do not set unacceptable units.

3.2 PREPARATION

- .1 Verify items provided by other sections of work are properly sized and located.

3.3 INSTALLATION

- .1 Place drainage mat against exterior wall, fabric side out, entangled core to the building interior. Starting at the bottom of the wall, position the first piece of drainage mat where the bottom edge of the stone will meet the ledger board.
- .2 Mechanically fasten with a staple hammer, large head nail or washer and screw one fastener for each square foot (0.1 sq. m). When installing over concrete or block back-up walls that do not accept mechanical fasteners hold in place with small dabs of glue every 2.0 feet (0.61 m). Do not fasten through flashing.
- .3 Seam adjacent piece with the selvage edge overlapping the top of the lower drainage mat piece.
- .4 Install expanded metal lathe over the drainage mat according to the stone manufacturer's recommendations.
- .5 Install manufactured stone masonry in accordance with ASTM C1780 and manufacturer's written instructions.
- .6 Provide a weep method for ventilation and drainage mat.
- .7 Trim drainage mat around all penetrations, windows and doors so that the material is flush to the flashing.

3.4 COURSING

- .1 Place building stone to lines and levels indicated.
- .2 Lay units in random bond.
- .3 Make vertical and horizontal joints equal and of uniform thickness.

3.5 CLEANING

- .1 Clean in accordance with Section 01 74 00 - Cleaning.
- .2 Clean building stone as Work progresses. Allow mortar droppings on masonry to partially dry then remove by means of brushing with stiff fibre brush.
- .3 Waste Management: Remove waste materials in accordance with Section 01 74 19 - Construction/Demolition Waste Management and Disposal.

3.6 PROTECTION

- .1 Protect building stone from damage resulting from subsequent construction operations.
- .2 Use protection materials and methods which will not stain or damage building stone units.
- .3 Remove protection materials upon Substantial Performance of Work, or when risk of damage is no longer present.

END OF SECTION