3 Part Specifications

Flex Bricks Canada

PART 1 – GENERAL

A. FlexBricks adhered brick.

1.1 RELATED SECTIONS

A. As per the MasterFormat system published by Construction Specifications Institute and Construction Specifications Canada
    a. Section 04 20 00 – Unit Masonry
    b. Section 05 40 00 – Cold-Formed Metal Framing
    c. Section 06 10 00 – Rough Carpentry
    d. Section 07 27 00 – Air Barriers
    e. Section 07 28 00 – Underlayments
    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

1.2 REFERENCES

A. ASTM C39 / C192 - Measures the compressive strength of concrete and outlines lab curing procedures.
B. ASTM C482 - Evaluates the bond strength between masonry units and cementitious backings.
C. ASTM C1670 / IS 516 - Specifies performance requirements for adhered stone veneer and tests flexural strength.
D. ASTM C177 - Determines thermal conductivity and R-value using a guarded hot plate method.
E. ASTM C67 / AC51 - Assesses freeze/thaw durability, water absorption, and other brick properties.
F. IS 1124 / ASTM C140 - Measures water absorption and density of masonry units.
G. ASTM C1670 - Defines minimum physical properties for adhered manufactured stone veneer units.
H. ASTM E119 - Tests fire resistance of building materials and assemblies under heat exposure.
I. ASTM C423 - Measures sound absorption and calculates the Noise Reduction Coefficient (NRC).

1.3 DESIGN / PERFORMANCE REQUIREMENTS

A. Products tested and validated by:
    1. KCT Consultancy Services® LLP
    2. Ahmedabad Engineering Research Institute
B. Backup wall system and installation method shall comply with ASTM C1780(5th edition) and NBC 2020.
C. FlexBricks products contain up to 80% recycled content and contribute to LEED credits.
D. Veneer system shall be non-loadbearing and anchored per CSA A371 and CSA S304.
E. Drainage cavity, flashing, and weep systems shall be integrated per NBC Part 5.

1.4 SUBMITTALS

A. Submit in accordance with Section 01 30 00 – Administrative Requirements.
B. Product Data:
    1. Manufacturer's technical data sheets
    2. Preparation, storage, and handling instructions
    3. Installation guidelines
    4. Shop Drawings:
        i. Indicate layout, anchorage, flashing, and interface with adjacent materials
    5. LEED Documentation:
        i. Recycled content, regional sourcing, and low-emitting material declarations
    6. Closeout Submittals:

i. Maintenance and cleaning instructions

1.5 QUALITY ASSURANCE

A. Installer Qualifications:
   1. Minimum 5 years experience with adhered masonry veneer
   2. At least 5 completed projects within 650 km of the site

B. Mock-Up:
   1. Minimum 900 mm x 900 mm panel at location designated by Architect
   2. Show transitions, quoins, and adjacent materials
   3. Obtain Architect's approval before proceeding
   4. Refinish mock-up as required for acceptance

C. Pre-Installation Conference:
   1. Convened 30 days prior to installation
   2. Attendees: Contractor, Architect, Installer

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials per manufacturer's instructions.
B. Keep products in original packaging, off the ground, and protected from weather.
C. Do not install materials with visible frozen moisture or damage.

1.7 PROJECT CONDITIONS

A. Maintain environmental conditions within manufacturer's recommended limits.
B. Cold Weather:
   a. Maintain minimum 4°C (40°F) during and 48 hours after installation
C. Hot Weather:
   a. Mist scratch coat and veneer backs when ambient temperature exceeds 32°C (90°F)

1.8 WARRANTY

A. Provide manufacturer's 25-year limited warranty covering material defects and performance under normal conditions.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A. Acceptable Manufacturer: **FlexBricks**
B. Substitutions: Not permitted**.** Only products tested and certified by accredited laboratories shall be accepted.

2.2 MANUFACTURED STONE VENEER – GENERAL

A. Manufactured stone veneer shall conform to **ASTM C1670** and meet the following minimum performance criteria:

Test Parameter	Minimum Requirement	Applicable Standard
Compressive Strength	≥ 1800 psi (12.4 MPa) average; ≥ 2100 psi (14.4 MPa) individual	ASTM C39 / C192
Bond Strength to Mortar and Backing	≥ 50 psi (345 kPa)	ASTM C482

Test Parameter	Minimum Requirement	Applicable Standard
Flexural Strength	≥ 2.0 MPa	ASTM C1670 / IS 516
Thermal Resistance (R-value)	≥ 0.355 per inch (25.4 mm) thickness	ASTM C177
Freeze/Thaw Durability	< 3% weight loss; no disintegration	ASTM C67 / AC51
Water Absorption	≤ 6% typical, depending on density	IS 1124 / ASTM C140
Unit Weight	≤ 15 psf (73 kg/m^2) saturated	ASTM C1670
Fire Resistance	No visual damage at 650°C	ASTM E119
Acoustic Performance	NRC rating of 0.77	ASTM C423

B. Veneer units shall be non-loadbearing and suitable for both exterior and interior applications.
C. All testing shall be performed by accredited laboratories and results shall be available upon request.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Do not commence installation until substrates are verified to be properly prepared in accordance with **CSA A371** and **ASTM C1780(5th edition)**, and conform to the backup wall system specified in the Contract Drawings.
B. If substrate preparation is performed by others, notify the Consultant or Architect of any deficiencies prior to proceeding.

3.2 PREPARATION

A. Clean all surfaces of dust, debris, and contaminants using methods approved by the manufacturer.
B. Prepare substrates using techniques recommended by the manufacturer to ensure optimal adhesion and performance under site-specific conditions.

3.3 INSTALLATION

A. Install cluster stone veneer in strict accordance with the manufacturer's instructions and **ASTM C1780(5th edition)**, ensuring compliance with the **National Building Code of Canada (NBC)** and local jurisdictional requirements.
B. Apply related materials (e.g., lath, mortar, weather-resistant barriers) per substrate type and manufacturer's specifications.
C. General Installation Requirements:
    1. **Wall Finish**:
        i. Uniform colour and texture unless otherwise specified.
        ii. Blended colour/texture as indicated in architectural drawings.
    2. **Corner Treatment**:
        i. Use factory-molded corner stones where shown.
    3. **Mortar Joints**:
        i. Joint styles:
            a) Tight fit
            b) 13 mm (½ inch) tooled
            c) Wide joint
            d) Wide overgrout
        ii. Strike joints flush or tool as specified.

iii. Overgrout where required for aesthetic finish.

4. **Stone Orientation**:
    i. Random, horizontal, or vertical placement as indicated.
5. **Openings (Windows, Doors, Wall Penetrations)**:
    i. Butt stones to openings.
    ii. Install trim stones where specified.
6. **Sills and Caps**:
    i. Install sills and capstones at designated locations.
    ii. Coordinate flashing installation with Section 07 62 00 – Sheet Metal Flashing and Trim.
    iii. Coordinate rainscreen and air barrier systems with Section 07 27 00 – Air Barriers, ensuring continuity and drainage.

3.4 FIELD QUALITY CONTROL

A. Document discrepancies and submit reports to the Contractor and Consultant within 24 hours of each visit.

3.5 CLEANING

A. Clean stone veneer surfaces using non-abrasive methods recommended by the manufacturer.
B. Avoid acidic cleaners or high-pressure washing unless approved.

3.6 PROTECTION

A. Protect installed veneer from moisture, impact, and adjacent construction activities for a minimum of **48 hours post-installation**.
B. Maintain protection until project completion.
C. Perform final cleaning prior to project closeout.