

## SECTION 072100

### CURTAINWALL AND SAFING INSULATION

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section Includes: Mineral wool insulation for the following applications:
1. Curtainwall spandrels, between or over framing members.
  2. Fire-rated seal between curtainwall spandrel panels and floor slabs.
  3. Flame and smoke barrier in openings that penetrate fire-rated assemblies.
  4. Fire-rated wall assemblies.

##### 1.2 RELATED WORK

- A. Refer to the following Sections for related work and insulation not included in this Section:
1. Section 075000 – Membrane Roofing for roofing insulation.
  2. Section 092110 – Gypsum Board Assemblies for acoustic insulation.
  3. Division 22 - Plumbing for plumbing insulation.
  4. Division 23 – HVAC for mechanical insulation.

##### 1.3 REFERENCES

- A. ASTM International (ASTM):
1. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
  2. ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
  3. ASTM C665 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
  4. ASTM C1104 - Standard Test Method for Determining the Water Vapor Sorption of Unfaced Mineral Fiber Insulation.
  5. ASTM C1338 - Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings.
  6. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
  7. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
  8. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 C.
  9. ASTM E814 – Standard Test Method for Fire Tests of Penetration Firestop Systems.
- B. GREENGUARD Environmental Institute: GREENGUARD Certification Program.

##### 1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data sheets including the following:
1. Preparation instructions and recommendations.
  2. Storage and handling requirements and recommendations.
  3. Installation methods.

##### 1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain insulation from a single manufacturer.
- B. Installer Qualifications: Minimum 2 years experience installing similar products.
- C. Pre-Installation Conference: Before installation, conduct conference at Project site. Review methods and procedures related to installation.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver insulation materials to Project site with original packaging unbroken and labeled with manufacturer's name, product brand name and type, and directions for storage.
- B. Store materials in clean, dry area in manufacturer's unopened packaging until ready for installation and in accordance with manufacturer's instructions and temperature recommendations.
- C. Handle and store insulation materials in a manner to avoid damaging materials.

#### 1.7 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit system to be installed according to manufacturer's written instructions.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Manufacturer: Johns Manville; P. O. Box 5108; Denver, Colorado 80217-5108. Toll Free: 800-654-3103. Tel 303-978-4900. Web: [www.jm.com](http://www.jm.com).

#### 2.2 CURTAINWALL INSULATION

- A. Curtainwall Insulation: MinWool Curtainwall as manufactured by Johns Manville complying with the following:
  - 1. Material: Inorganic fibers derived from basalt, with thermosetting resin binder, with high fiber density and low shot content.
  - 2. Emissions: GREENBUARD Indoor Air Quality Certified for low chemical emissions.
  - 3. CW4 Product: Nominal density of 4 lb/cu. ft. (64 kg/cu. m), Types IA and IB, thermal resistivity of 4 deg F x h x sq. ft./Btu x in. at 75 deg F (27.7 K x m/W at 24 deg C).
    - a. Unfaced Type: 1-6 inches (25-152 mm) thickness as indicated on the Drawings.
    - b. Faced Type: 3 inches (76 mm) and greater thickness as indicated on the Drawings.
  - 4. CW6 Product: Nominal density of 6 lb/cu. ft. (96 kg/cu. m), Type II, thermal resistivity of 4.16 deg F x h x sq. ft./Btu x in. at 75 deg F (28.8 K x m/W at 24 deg C).
    - a. Unfaced Type: 1.5-6 inches (38-152 mm) thickness as indicated on the Drawings.
    - b. Faced Type: 2-6 inches (51-152) as indicated on the Drawings.
  - 5. CW8 Product: Nominal density of 8 lb/cu. ft. (128 kg/cu. m), Type III, thermal resistivity of 4.35 deg F x h x sq. ft./Btu x in. at 75 deg F (30.2 K x m/W at 24 deg C).
    - a. Unfaced Type: 1-4.5 inches (25-114 mm) thickness as indicated on the Drawings.
    - b. Faced Type: 1.5-4.5 inches (51-152) as indicated on the Drawings.
  - 6. Installation Accessories: Manufacturer's standard types.
  - 7. Applicable Standards and Building Application:
    - a. ASTM C423 Noise Reduction Coefficient (2 inch [51 mm], Type "A" Mounting), 1.05.

- b. ASTM C612 Material Specification (HH-I-558B), Types 1-4.
- c. ASTM C665 Corrosivity to Steel, Passes.
- d. ASTM C1104 Water Vapor Sorption, less than 1 percent by weight: less than .02 percent by volume at 120 degrees F (49 degrees C), 95 percent RH.
- e. ASTM C1338 Fungi Resistant, Passes.
- f. ASTM E84 Flame Spread/Smoke Developed, Unfaced 5/0 or less; Faced 25/5 or less.
- g. ASTM E96 FSP Facing Permeability, 0.02 Perms, Maximum.
- h. ASTM E136 Noncombustible, Passes.
- i. NFPA 285, 1-3 Hours.
- j. UBC 26-9, 1-3 Hours.
- k. UL 723, CAN/ULC-S102-M, unfaced 5/0 or less; faced 25/5 or less.
- l. City of New York, MEA-346-90.
- m. ICBO (Uniform Building Code), All Building Classification Types.
- n. BOCA (National Building Code), All Building Classification Types.
- o. SBCCI (Standard Building Code), All Building Classification Types.
- p. ICC (International Building Code), All Building Classification Types.

### 2.3 SAFING INSULATION

- A. Safing Insulation: MinWool Safing as manufactured by Johns Manville complying with the following:
  - 1. Material: Inorganic fibers derived from basalt, with thermosetting resin binder, with high fiber density and low shot content.
  - 2. Emissions: GREENBUARD Indoor Air Quality Certified for low chemical emissions.
  - 3. Unfaced Type: 4 inch (100 mm) thickness, 24 inch (610 mm width), 48 inch (219 mm) length. Additional thicknesses special order as required by product configuration.
  - 4. Faced Type: 4 inch (100 mm) thickness, 24 inch (610 mm width), 48 inch (219 mm) length with FSP scrim-reinforced foil-facing vapor retarder on one face. Additional thicknesses special order as required by product configuration.
  - 5. Installation Accessories: Manufacturer's standard types.
  - 6. Applicable Standards and Building Application:
    - a. ASTM C612 Material Specification (HH-I-558B), Type 1-4.
    - b. ASTM C665 Corrosivity to Steel, Passes.
    - c. ASTM E814 Through Penetration Firestopping, Passes.
    - d. ASTM C1104 Water Vapor Sorption, less than 1 percent by weight, less than .02 percent by volume at 120 degrees F (49 degrees C), 95 percent RH.
    - e. ASTM C1338 Fungi Resistant, Passes.
    - f. ASTM E84 Flame Spread/Smoke Developed, Unfaced 5/0 or less; Faced 25/5 or less.
    - g. ASTM E96 FSP Facing Permeability Method A, 0.02 Perms, Maximum.
    - h. ASTM E136 Noncombustible, Passes.
    - i. UL 723, CAN/ULC-S102-M, Unfaced 5/0 or less; Faced 25/5 or less.
    - j. UL 1479 Through Penetration Firestopping, Passes.
    - k. CAN4-S114-M, Passes.
    - l. City of New York, MEA-346-90.
    - m. ICBO (Uniform Building Code), All Building Classification Types.
    - n. BOCA (National Building Code), All Building Classification Types.
    - o. SBCCI (Standard Building Code), All Building Classification Types.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Prepare substrates using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.2 INSTALLATION

- A. Installation: Install products in strict accordance with manufacturer's recommendations and written instructions, including the following:
  1. Fit with edges butted tightly in both directions. Do not over compress insulation.
  2. Install in proper relationship with adjacent construction.

### 3.3 PROTECTION AND CLEANING

- A. Protect materials from damage during installation and subsequent construction. Repair or replace damaged products before Substantial Completion.

END OF SECTION