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SECTION 072100

CURTAINWALL AND SAFING INSULATION

PART 1 - GENERAL

* 1. SUMMARY
     1. 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.
  2. RELATED WORK
     1. 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.
  3. REFERENCES
     1. 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.
     2. GREENGUARD Environmental Institute: GREENGUARD Certification Program.
  4. SUBMITTALS
     1. 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.
  5. QUALITY ASSURANCE
     1. Source Limitations: Obtain insulation from a single manufacturer.
     2. Installer Qualifications: Minimum 2 years experience installing similar products.
     3. Pre-Installation Conference: Before installation, conduct conference at Project site. Review methods and procedures related to installation.
  6. DELIVERY, STORAGE, AND HANDLING
     1. 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.
     2. 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.
     3. Handle and store insulation materials in a manner to avoid damaging materials.
  7. PROJECT CONDITIONS
     1. 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

* 1. MANUFACTURERS
     1. 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. CURTAINWALL INSULATION
     1. 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).
           1. Unfaced Type: 1-6 inches (25-152 mm) thickness as indicated on the Drawings.
           2. 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).

1. Unfaced Type: 1.5-6 inches (38-152 mm) thickness as indicated on the Drawings.
2. Faced Type: 2-6 inches (51-152) as indicated on the Drawings.
   * + 1. 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).

1. Unfaced Type: 1-4.5 inches (25-114 mm) thickness as indicated on the Drawings.
2. Faced Type: 1.5-4.5 inches (51-152) as indicated on the Drawings.
   * + 1. Installation Accessories: Manufacturer’s standard types.
       2. Applicable Standards and Building Application:
          1. ASTM C423 Noise Reduction Coefficient (2 inch [51 mm], Type "A" Mounting), 1.05.
          2. ASTM C612 Material Specification (HH-I-558B), Types 1-4.
          3. ASTM C665 Corrosivity to Steel, Passes.
          4. 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.
          5. ASTM C1338 Fungi Resistant, Passes.
          6. ASTM E84 Flame Spread/Smoke Developed, Unfaced 0/0 or less; Faced 25/5 or less.
          7. ASTM E96 FSP Facing Permeability, 0.02 Perms, Maximum.
          8. ASTM E136 Noncombustible, Passes.
          9. NFPA 285, 1-3 Hours.
          10. UBC 26-9, 1-3 Hours.
          11. UL 723, CAN/ULC-S102-M, unfaced 5/0 or less; faced 25/5 or less.
          12. City of New York, MEA-346-90.
          13. ICBO (Uniform Building Code), All Building Classification Types.
          14. BOCA (National Building Code), All Building Classification Types.
          15. SBCCI (Standard Building Code), All Building Classification Types.
          16. ICC (International Building Code), All Building Classification Types.
   1. SAFING INSULATION
      1. 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:
            1. ASTM C612 Material Specification (HH-I-558B), Type 1-4.
            2. ASTM C665 Corrosivity to Steel, Passes.
            3. ASTM E814 Through Penetration Firestopping, Passes.
            4. 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.
            5. ASTM C1338 Fungi Resistant, Passes.
            6. ASTM E84 Flame Spread/Smoke Developed, Unfaced 0/0 or less; Faced 25/5 or less.
            7. ASTM E96 FSP Facing Permeability Method A, 0.02 Perms, Maximum.
            8. ASTM E136 Noncombustible, Passes.
            9. UL 723, CAN/ULC-S102-M, Unfaced 5/0 or less; Faced 25/5 or less.
            10. UL 1479 Through Penetration Firestopping, Passes.
            11. CAN4-S114-M, Passes.
            12. City of New York, MEA-346-90.
            13. ICBO (Uniform Building Code), All Building Classification Types.
            14. BOCA (National Building Code), All Building Classification Types.
            15. SBCCI (Standard Building Code), All Building Classification Types.

PART 3 - EXECUTION

* 1. PREPARATION
     1. Prepare substrates using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
  2. INSTALLATION
     1. 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. PROTECTION AND CLEANING
     1. Protect materials from damage during installation and subsequent construction. Repair or replace damaged products before Substantial Completion.

END OF SECTION