

## SECTION 07 21 01

### MINERAL WOOL INSULATION

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Mineral wool insulation for the following applications:
  - 1. Thermal insulation.
  - 2. Fire resistive joint systems in rated assemblies.
  - 3. Firestopping of through penetrations in rated assemblies.
- B. Related Sections:
  - 1. Section 07 10 00 - Damp proofing and Waterproofing Systems:
  - 2. Section 07 21 00 - Insulation
  - 3. Section 07 84 00 – Penetration Firestopping.
  - 4. Section 23 07 00 - HVAC Insulation: Insulation for HVAC ductwork.

##### 1.2 SUBMITTALS

- A. Product Data: Submit product data including manufacturer's literature for insulation, including preparation instructions and recommendations, installation methods, and storage and handling requirements.
- B. Verification Samples: Submit sample of insulation in thickness used on Project.

##### 1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Work experience of 2 years minimum with work similar to work on this Section.

##### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials and accessories in insulation manufacturer's original packaging with identification labels intact and in sizes to suit project. Ensure insulation materials are not exposed to moisture during delivery. Replace wet or damaged insulation materials.
- B. Storage and Handling: Store materials off ground in dry location and protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacture. Store in original packaging until installed.
- C. Packaging Waste Management: Remove waste packaging materials from site and dispose of packaging materials at appropriate facilities.

##### 1.5 WARRANTY

- A. Warranty: Refer to Contract Conditions for project warranty provisions.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

1. ROCKWOOL (US) 4594 Cayce Drive, Byhalia, MS 38611  
1-877-823-9790 or at [www.rockwool.com](http://www.rockwool.com)
2. Substitutions: Comply with Section 01 60 00.

### 2.2 THERMAL INSULATION

#### A. Thermal Insulation:

#### B. Rain Screen / Cavity Wall Continuous Insulation

1. Product: ROCKWOOL Cavityrock semi-rigid stone wool insulation boards designed for exterior cavity wall.
  - a. One (1) layer of 1-1/2" and one (1) layer of 1"R 9.5 minimum
  - b. R-value: 4.3 /inch at 75°F.
  - c. Facing (Cavityrock): Unfaced
  - d. Melting Point – Minimum melting point temperature of 1177°C (2150°F).
  - e. Surface Burning Characteristics: Tested in accordance with ASTM E84
  - f. Unfaced: Flame Spread 0 and Smoke Developed 0
  - g. Faced: Flame Spread 10 and Smoke Developed 25
  - h. Monolithic Density (Thickness: 1", 1.5", 2"): > 4.3 lbs/ft<sup>3</sup> (>69 kg/m<sup>3</sup>), nominal.
  - i. Dual Density (Thickness: ≥ 2.5"): 6.2 lbs/ft<sup>3</sup> (100 kg/m<sup>3</sup>) outer layer and 3.8 lbs/ft<sup>3</sup> (61 kg/m<sup>3</sup>) inner layer, nominal..
  - j. Dual Density: Must have dual densities for all thicknesses greater than or equal to 2.5".
  - k. Moisture Resistance: Absorption of less than 0.03 percent by volume, when tested in accordance with ASTM C1104.
  - l. Corrosion Resistance: Non-corrosive/Passed, when tested in accordance with ASTM C665 for Steel & ASTM C795 for Stress Corrosion Cracking Tendency of Austenitic Stainless Steel.
  - m. Fungi resistance: Zero mold growth to ASTM C1338
  - n. Linear Shrinkage at 1200°F (650°C): Average linear shrinkage in all dimensions not to exceed 0.7% when tested to ASTM C356 at 1200°F (650°C).
  - o. Tumbling Friability: Material loss not to exceed 15% when tested to ASTM C421 – Standard Test Method for Tumbling Friability of Preformed Block-Type Thermal Insulation.
  - p. Recyclability: Material to be capable of being fully recyclable at end of life with the intention of sending zero waste to landfill.
  - q. Environmental Product Declaration (EPD): Material must be included on a UL Certified EPD in accordance with EN 15804 and ISO 14025.
  - r. DECLARE Certified

## 2.3 FIRE RESISTIVE JOINT SYSTEMS IN RATED ASSEMBLIES / FIRESTOPPING OF THROUGH PENETRATIONS IN RATED ASSEMBLIES

### A. Insulation for Joint Packing and Through Penetrations:

1. Product: ROCKWOOL ROXUL Safe™ Insulation. Designated Type Safe in UL Fire Resistance Directory.
  - a. Minimum Thickness and Density as noted in tested and listed design.
  - b. Density: 4.0 lbs/ft<sup>3</sup> (64 kg/m<sup>3</sup>), actual.
  - c. Facing: Unfaced
  - d. Melting Point – Minimum melting point temperature of 1177°C (2150°F).
  - e. Surface Burning Characteristics: Tested in accordance with ASTM E84
    - 1) Unfaced: Flame Spread 0 and Smoke Developed 0
  - f. Non-combustible: classified non-combustible per CAN/ULC S114
  - g. Non-combustible: classified non-combustible per ASTM E136 at 750°C
  - h. Corrosivity: Non-corrosive, when tested in accordance with ASTM C665.
  - i. Moisture Resistance: Absorption of less than 0.05 percent by volume, when tested in accordance with ASTM C1104.
  - j. Corrosion Resistance: Non-corrosive/Passed, when tested in accordance with ASTM C665 for Steel & ASTM C795 for Stress Corrosion Cracking Tendency of Austenitic Stainless Steel.
  - k. Fungi resistance: Zero mold growth to ASTM C1338
  - l. Recyclability: Material to be capable of being fully recyclable at end of life with the intention of sending zero waste to landfill.

### B. Smoke Barrier Sealant: Smoke sealant as listed in the appropriate fire tested assembly.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine the areas and conditions under which work of this section will be installed. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

1. Install insulation in accordance with manufacturer's written recommendations and guidelines.
2. Install insulation to maintain continuity of thermal protection to building elements and spaces.
3. Do not compress insulation to fit into spaces.
4. Co-ordinate installation of firestopping insulation with Section [07 84 00 - Firestopping].
5. Fit insulation closely around electrical boxes, pipes, ducts, frames and other objects in or passing through insulation.
6. Keep insulation minimum 3" from heat emitting devices such as recessed light fixtures, and minimum 2" from sidewalls of chimneys and vents.

### 3.3 PROTECTION

- A. Store the material to protect against weathering and physical damage, including humidity. Unpack the material at the installation site. Open a door or open a window to ensure good ventilation during installation on the construction site. Cover open ventilation ducts to reduce particulate in the ducts.

END OF SECTION