**1 GENERAL**

**1.1 SUMMARY OF WORK**

A. This Section specifies mineral fiber batt and blanket thermal insulation and stone fibre batt and blanket
acoustical insulation with no added formaldehyde.

**1.2 RELATED REQUIREMENTS**

A. Section [07 92 19 - Acoustical Joint Sealants].

**1.3 REFERENCE STANDARDS**

A. ASTM International (ASTM).

1. ASTM C167 - [2009], Standard Test Method for Thickness and Density of Blanket or Batt
Thermal Insulations.

2. ASTM C423 - [2009a], Standard Test Method for Sound Absorption and Sound Absorption
Coefficients by the Reverberation Room Method.

3. ASTM C518 - [2010], Standard Test Method for Steady-State Thermal Transmission Properties
by Means of the Heat Flow Meter Apparatus.

4. ASTM C553 - [2011], Standard Specification for Mineral Fiber Blanket Thermal Insulation for
Commercial and Industrial Applications.

5. ASTM C665 - [2011], Standard Specification for Mineral-Fiber Blanket Thermal Insulation for
Light Frame Construction and Manufactured Housing.

6. ASTM C795 - [2013], Standard Specification for Thermal Insulation for Use in Contact with
Austenitic Stainless Steel.

7. ASTM C1104/C1104M - [2000(2006)], Standard Test Method for Determining the Water Vapor
Sorption of Unfaced Mineral Fiber Insulation.

8. ASTM E84 - [2012b], Standard Test Method for Surface Burning Characteristics of Building
Materials.

9. ASTM E90 - [2009], Standard Test Method for Laboratory Measurement of Airborne Sound
Transmission Loss of Building Partitions and Elements.

10. ASTM E136 - [2011], Standard Test Method for Behavior of Materials in a Vertical Tube Furnace
at 750 degrees C.

11. ASTM E413 - [2010], Classification for Rating Sound Insulation.

12. ASTM E1050 - [2012], Standard Test Method for Impedance and Absorption of Acoustical
Materials Using a Tube, Two Microphones and a Digital Frequency Analysis System.

C. Underwriters' Laboratories (UL).

1. UL 181 - [2005], Factory-Made Air Ducts and Connectors.

**1.4 ADMINISTRATIVE REQUIREMENTS**

A. Co-ordination: Co-ordinate work of this Section with roofing or deck work and with work of other trades
for proper time and sequence to avoid construction delays.

B. Pre-installation Meeting: Convene pre-installation meeting after Award of Contract and [one week] before
starting work of this Section to verify project requirements, substrate conditions and coordination with other
building sub-trades, and to review manufacturer’s written installation instructions.

1. Comply with Section 01 31 19 - Project Meetings and co-ordinate with other similar
pre-installation meetings.

2. Notify attendees 2 weeks prior to meeting and ensure meeting attendees include as minimum:

a. Owner;

b. Consultant;

3. Ensure meeting agenda includes review of methods and procedures related to insulation
installation including co-ordination with related work.

4. Record meeting proceedings including corrective measures and other actions required to ensure
successful completion of work and distribute to each attendee within 1 week of meeting.

**1.5 ACTION AND INFORMATIONAL SUBMITTALS**

A. Make submittals in accordance with Contract Conditions and Section 01 33 00 - Submittal Procedures.

B. Product Data: Submit product data including manufacturer’s literature for insulation materials and
accessories, indicating compliance with specified requirements and material characteristics.

1. Submit list on insulation manufacturer’s letterhead of materials and accessories to be incorporated
into Work.

2. MSDS report.

3. Include product name.

4. Include preparation instructions and recommendations, installation methods, and storage and
handling requirements.

5. Include contact information for manufacturer and their representative for this Project.

C. Samples:
1. Submit [5.5 x 7.5] inches minimum sample of insulation in thickness used on Project.

2. Submit letter verifying insulation installer’s experience with work similar to work of this Section.

**1.6 CLOSEOUT SUBMITTALS**

**A. Operation and Maintenance Data:** Supply maintenance data for insulation materials for incorporation into
manual specified in Section 01 78 00 - Closeout Submittals.

1. Provide calculations on end-of-project recycling rates, salvage rates, and landfill rates for work of
this Section demonstrating percentage of construction wastes which were recycled.

2. Submit verification from recycling facility showing receipt of materials.

**B. Record Documentation:** In accordance with Section 01 78 00 - Closeout Submittals.

1. List materials used in insulation work.

2. Warranty: Submit warranty documents specified.

**1.7 QUALITY ASSURANCE**

**A. Batt and Blanket Insulation Installer Quality Assurance:** Work experience of [5] years minimum with work
similar to work of this Section.

**1.8 DELIVERY STORAGE AND HANDLING**

**A. Delivery and Acceptance Requirements:**

1. Deliver material in accordance with Section 01 61 00 - Common Product Requirements.

2. Deliver materials and accessories in insulation manufacture’s original packaging with
identification labels intact and in sizes to suit project.

3. Ensure insulation materials are not exposed to moisture during delivery.

4. Replace wet or damaged insulation materials.

**B. Storage and Handling Requirements:** Store materials off ground in dry location and protected from
exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.

1. Store in original packaging until installed.

**1.9 WARRANTY**

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

**B. Manufacturer’s warranty:** Submit, for Owner’s acceptance, manufacturer’s standard warranty document
executed by authorized company official. Manufacturer’s warranty is in addition to and not intended to limit other
rights Owner may have under Contract Conditions.

**C. Warranty period:**[1] years commencing on Date of Substantial Performance of Work.

**2 PRODUCTS**

**2.1 MANUFACTURER**
1. Manufacturer: ROCKWOOL™, 4594 Cayce Road, Byhalia, MS 38611-7550, Phone: 905-878-8474, Toll
Free: 1-800-265-6878, e-mail: contactus@rockwool.com, URL: www.rockwool.com.

**2.2 DESCRIPTION**
A. Non-combustible, lightweight, mineral wool batt insulation to ,ASTM C665 Type 1, that provides fire
resistance to ASTM E136 and sound control to ASTM C423.

**2.3 PERFORMANCE CRITERIA**

**A. Acoustical and fire batt insulation for walls and floors** to ASTM C665, Type 1.

1. Fire performance:

a. Non-combustibility: To ASTM E136.

b. Surface Burning Characteristics: To ASTM E84.

1) Flame spread: 0.

2) Smoke developed: 0.

2. Acoustical Performance:

a. Airborne sound transmission loss: To ASTM E90.

b. Rating sound insulation: To ASTM E413.

c. Sound absorption co-efficients: To ASTM C423.
Sound Absorption Co-efficiences at Frequencies
Thickness
(inches)
125 Hz 250 Hz 500 Hz 1000 Hz 2000 Hz 4000 Hz NRC
1 0.14 0.25 0.65 0.90 1.01 1.01 0.70
1 1/2 0.18 0.44 0.94 1.04 1.02 1.03 0.85
2 0.28 0.60 1.09 1.09 1.05 1.07 0.95
3 0.52 0.96 1.18 1.07 1.05 1.05 1.05
4 0.86 1.11 1.20 1.07 1.08 1.07 1.10

d. Impedence and absorption of acoustic materials: To ASTM E1050.

3. Air erosion velocity: 1,000 ft/m maximum to UL 181.

4. Thermal resistance: To ASTM C518.

5. Corrosive resistance: To ASTM C665, Corrosive to steel - Pass.

6. Stainless steel stress corrosion: To ASTM C795.

7. Density: To ASTM C167, 2.5 lbs/ft3
(thicknesses ≥ 3”), 2.8 lbs/ft3
(thicknesses < 3”)

8. Recycled content: [40] [16] % minimum.

**2.4 MATERIALS**

**A. Non-combustible, lightweight, mineral wool batt insulation** to ASTM C665, Type 1, that provides fire
resistance to ASTM E136 and a sound control to ASTM E90 and ASTM C423.

1. Size: [16] [24] x 48 inches.

2. Thickness: [1] [1.5] [2] [2.5] [3] [3.5] [4] [5] [6] inches.

3. R value/1 inch at 75 ºF: [\_\_\_\_\_\_] h ft2
ºF/Btu.

4. Acceptable Material: ROCKWOOL™
ROCKWOOL AFB evo™  or pre-approved equivalent
.
**2.5 ACCESSORIES**

A. Mechanical fasteners in accordance with insulation manufacturer’s written recommendations.

B. Acoustical sealant in accordance with Section [07 92 19 - Acoustical Joint Sealants].

**2.6 SOURCE QUALITY CONTROL**
A. Ensure insulation components and accessories are supplied or approved in writing by single manufacturer.

**2.7 PRODUCT SUBSTITUTIONS**

**A. Substitutions:** [In accordance with Section 01 23 13 - Product Substitution Procedures] [No substitutions
permitted].

**3 EXECUTION**

**3.1 INSTALLERS**

A. Use only installers with [5] years minimum experience with work similar to work of this Section.

**3.2 EXAMINATION**

**A. Verification of Conditions:** Verify that conditions of substrate previously installed under other Sections or
Contracts are acceptable for insulation installation in accordance with manufacturer’s written recommendations.

1. Visually inspect substrate in presence of Consultant.

2. Ensure surfaces are free of snow, ice, frost, grease and other deleterious materials.

3. Proceed with installation only after unacceptable conditions have been remedied and after receipt
of written approval to proceed from Consultant.

**B. Start of insulation installation** indicates installer’s acceptance of substrate installation conditions.

**3.3 INSTALLATION**

**A. Install insulation** in accordance with manufacturer’s written recommendations.

**B. Install insulation**to maintain continuity of thermal protection to building elements and spaces.

**C. Do not compress insulation** to fit into spaces.

**D. Fit insulation closely around electrical boxes,** pipes, ducts, frames and other objects in or passing through
insulation.

**E. Keep insulation minimum [3] inches from heat emitting devices**such as recessed light fixtures, and
minimum [2] inches from sidewalls of chimneys and vents.

**F. Seal joints with acoustical joint sealant** in accordance with Section [07 92 19 - Acoustical Joint Sealants].

**G. Do not enclose insulation until before inspection and receipt of Construction Manager's written approval**.

**3.4 FIELD QUALITY CONTROL**

**A. Field Inspection:** Coordinate field inspection in accordance with Section [01 45 00 - Quality Control].

1. Schedule site visits to review work at stages listed:

a. After delivery and storage of drainage sheet and accessories, and when preparatory work
on which Work of this Section depends is complete, but before installation begins.

b. Twice during progress of work at 25% and 60% complete.

c. Upon completion of Work, after cleaning is carried out.

d. Obtain reports within three days of review and submit immediately to Construction Manager.

**3.5 CLEANING**

**A. Progress Cleaning**: Perform cleanup as work progresses [in accordance with Section 01 74 00 - Cleaning
and Waste Management].

1. Leave work area clean at end of each day.

**B. Final Cleaning:** Upon completion, remove surplus materials, rubbish, tools, and equipment [in accordance
with Section 01 74 00 – Cleaning and Waste Management].

**3.6 PROTECTION**

**A. Protect installed products and accessories from damage during construction.**

**B. Repair damage to adjacent materials caused by insulation installation.**

**END OF SECTION 07 2116 – ACOUSTICAL  INSULATION**