

SECTION 07 21 23
LOOSE-FILL INSULATION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section covers loose fill insulation, and all necessary blocking to install insulation where shown.
- B. Insulation shall be installed in sufficient thickness to provide thermal resistance "R" values as shown.

1.2 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Samples:
 - 1. Loose fill insulation in pint size containers
 - 2. Blocking: 150 mm (6-inch) long strips
- C. Manufacturer's Literature:
 - 1. Submit current copies of the insulation manufacturer's printed fact sheet literature, including descriptive data, insulation characteristics, and instructions for installation and protection of insulation.
 - 2. Submit copy of "Bag Label".

1.3 DELIVERY

- A. Deliver materials to the site in the original sealed containers or packages bearing the manufacturer's name and brand designation.
- B. The containers or packages of insulation shall bear the referenced specification number, type and class as applicable, recommended method of installation (pneumatic or pouring), minimum net weight of insulation, coverage charts, "R" values, and required warning statements.

1.4 STORAGE

- A. Inspect materials delivered to the site for damage and unload and store with a minimum of handling.
- B. Storage spaces shall be dry locations, not subject to open flames or sparks, and permitting easy access for inspection and handling.

1.5 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American Society of Testing and Materials (ASTM):

C612-10.....Mineral Fiber Block and Board Thermal
Insulation
C728-05 (R2010).....Perlite Thermal Insulation Board
C739-08.....Cellulosic Fiber (Wood-Base) Loose-Fill Thermal
Insulation
C764-07.....Mineral Fiber Loose Fill Thermal Insulation
C1015-06.....Installation of Cellulosic and Mineral Fiber
Loose-Fill Thermal Insulation
D4397-10.....Polyethylene Sheeting for Construction,
Industrial, and Agriculture Applications
E84-10.....Surface Burning Characteristics of Building
Materials

C. Federal Regulations:

Code of Federal Regulations 29 CFR 1910, Occupational Safety and Health
Act (OSHA).

D. National Fire Protection Associations (NFPA):

211-10.....Chimneys, Fireplaces, Vents, and Solid Fuel
Burning Appliances

PART 2 - PRODUCTS

2.1 LOOSE FILL INSULATION

- A. Cellulosic or Wood Fiber Loose Fill: ASTM C739.
- B. Mineral Fiber Loose Fill: ASTM C764, Type I or II.

2.2 BLOCKING

- A. Wood, metal, mineral fiber or perlite boards or other materials
approved by the Resident Engineer.
- B. Mineral Fiber Board: ASTM C612, Type IB.
- C. Perlite Board: ASTM C728.

2.3 RECOVERED MATERIAL

- A. Insulation products shall comply with following minimum content
standards for recovered materials:

Material Type	Percent by Weight
Cellulose Loose-fill	75 percent post-consumer recovered paper
Perlite composite board	23 percent post-consumer
Rock wool material	75 percent recovered material

- B. The minimum-content standards are based on the weight (not the volume) of the material in the insulating core only.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Where possible, inspect cavities to receive insulation for conditions which will adversely affect the execution of the work or create a safety hazard. Report unsatisfactory conditions to the Resident Engineer.
- B. Do not install insulation until unsatisfactory conditions have been corrected.
- C. Follow ASTM C1015. The inspection shall include checking for the following:
 - 1. Defects in electrical fixtures, equipment, wiring, junction boxes, receptacles, and switches that will cause hazards.
 - 2. Openings through which the loose fill insulation material may escape.
 - 3. Air ducts which appear to have joints that are not secure or sealed.

3.2 PREPARATION

- A. Prior to the installation of insulation, provide blocking as specified herein and in accordance with ASTM C1015.

3.3 INSTALLATION

- A. Insulation:
 - 1. Install insulation in accordance with ASTM C1015 and the requirements specified.
 - 2. Do not install insulation until the requirements specified in the INSPECTION and PREPARATION paragraphs have been carried out and any defects which were identified have been corrected and their cause eliminated.
 - 3. Pneumatic installation of thermal insulation shall comply with OSHA. Supply and utilize the personnel protective equipment and engineering controls necessary for a safe effective installation. Use only pneumatic equipment in accordance with the manufacturer's instructions.
 - 4. Install the insulation allowing it to settle to its natural density. Do not tamp or rod the insulation.
 - 5. Install insulation in sufficient depth to provide the thermal value specified after settlement of the insulation. To obtain a minimum

- "R" value as shown, install insulation to a minimum thickness as shown, using the number of bags per 90 m² (1000 squares feet) as shown on the manufacturer's "Bag Label".
6. For pneumatic installations, use the least air pressure meeting the manufacturer's instructions.
 7. Do not blow the insulation into electrical devices and vents which open into the attic and other spaces to be insulated.
- B. Post Installation Procedures:
1. In accordance with ASTM C1015.

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