

Philadelphia VA Medical Center
Replacement of AC-19 and Laboratory
Renovation
Philadelphia, PA 19104

April 12, 2012
Issued for Bid
VA Project No. VA244-P-1786
Array Project No. 3515

SECTION 07 21 13

THERMAL INSULATION

PART 1 - GENERAL

1.1 DESCRIPTION:

- A. This section specifies acoustical insulation for buildings.
- B. Acoustical insulation is identified by thickness and words "Acoustical Insulation".

1.2 RELATED WORK

- A. Insulating concrete systems:[Section 03 52 00, LIGHTWEIGHT CONCRETE ROOF INSULATION].
- B. Insulation in connection with roofing and waterproofing: Section 07 22 00, ROOF AND DECK INSULATION.
- C. Safing insulation: Section 07 84 00, FIRESTOPPING.

1.3 SUBMITTALS:

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES .
- B. Manufacturer's Literature and Data:
 - 1. Insulation, each type used
 - 2. Adhesive, each type used.
 - 3. Tape
- C. Certificates: Stating the type, thickness and "R" value (thermal resistance) of the insulation to be installed.

1.4 STORAGE AND HANDLING:

- A. Store insulation materials in weathertight enclosure.
- B. Protect insulation from damage from handling, weather and construction operations before, during, and after installation.

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 basic designation only.
- B. American Society for Testing and Materials (ASTM):
 - 1. C552-07 Cellular Glass Thermal Insulation.
 - 2. C553-08 Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications
 - 3. C665-06 Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing
 - 4. C954-07 Steel Drill Screws for the Application of Gypsum Panel

Products or Metal Plaster Base to Steel Studs From 0.033 (0.84 mm) inch
0.112 inch (2.84 mm) in thickness

5. C1002-07 Steel Self-Piercing Tapping Screws for the Application
of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel
Studs
6. E84-08 Surface Burning Characteristics of Building
Materials
7. F1667-05 Driven Fasteners: Nails, Spikes and Staples.

PART 2 - PRODUCTS

2.1 INSULATION - GENERAL:

- A. Where "R" value is not specified for insulation, use the thickness shown
on the drawings.
- B. Where more than one type of insulation is specified, the type of insulation
for each use is optional, except use only one type of insulation in any
particular area.
- C. Insulation Products shall comply with following minimum content standards
for recovered materials:

Material Type	Percent by Weight
Perlite composite board	23 percent post consumer recovered paper
Polyisocyanurate/polyurethane	
Rigid foam	9 percent recovered material
Foam-in-place	5 percent recovered material
Glass fiber reinforced	6 percent recovered material
Phenolic rigid foam	5 percent recovered material
Rock wool material	75 percent recovered material

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

2.2 ACOUSTICAL INSULATION:

- A. Mineral Fiber boards: ASTM C553, Type II, flexible, or Type III, semirigid
(4.5 pound nominal density).
- B. Mineral Fiber Batt or Blankets: ASTM C665. Maximum flame spread of 25 and
smoke development of 450 when tested in accordance with ASTM E84.
- C. Thickness as shown; of widths and lengths to fit tight against framing.

2.3 FASTENERS:

- A. Screws: ASTM C954 or C1002, size and length best suited for purpose with
washer not less than 50 mm (2 inches) in diameter.

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2.4 ADHESIVE:

- A. As recommended by the manufacturer of the insulation.

2.5 TAPE:

- A. Pressure sensitive adhesive on one face.
- B. Perm rating of not more than 0.50.

PART 3 - EXECUTION

3.1 INSTALLATION - GENERAL

- A. Install batt or blanket insulation with tight joints and filling framing void completely. Seal cuts, tears, and unlapped joints with tape.
- B. Fit insulation tight against adjoining construction and penetrations, unless specified otherwise.

3.2 ACOUSTICAL INSULATION:

- A. Fasten blanket insulation between metal studs and wall furring with continuous pressure sensitive tape along edges or adhesive.
- B. Pack insulation around door frames and windows and in cracks, expansion joints, control joints, door soffits and other voids. Pack behind outlets, around pipes, ducts, and services encased in wall or partition. Hold insulation in place with pressure sensitive tape or adhesive.
- C. Do not compress insulation below required thickness except where embedded items prevent required thickness.
- D. Where acoustical insulation is installed above suspended ceilings install blanket at right angles to the main runners or framing. Extend insulation over wall insulation systems not extending to structure above.

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