

SECTION 07 21 00  
BUILDING INSULATION

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

1.2 SECTION INCLUDES

- A. The Work of this Section includes all labor, materials, equipment and services necessary to complete the building insulation as shown on the drawings and/or specified herein, including but not limited to the following:
  - 1. Concealed semi-rigid building insulation behind drywall at exterior walls
  - 2. Miscellaneous blanket insulation.
  - 3. Attachment devices.

1.3 RELATED SECTIONS

- A. Section 07 84 46 - Firestops and smoke seals
- B. Division 1

1.4 SUBMITTALS

- A. Submit product data for each type of product indicated.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for insulation products.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the site ready for use in the manufacturer's original and unopened containers and packaging, bearing labels as to type and brand. Delivered materials shall be identical to approved samples.
- B. Store materials under cover in a dry and clean location, off the ground. Remove materials which are damaged or otherwise not suitable for installation and replace with acceptable materials.

- C. Take every precaution to prevent the insulation from becoming wet, cover with tarps or other weather/watertight sheet goods.

## 2.1 CONCEALED SEMI-RIDGID BUILDING INSULATION BEHIND DRYWALL

Provide semi-rigid mineral wool insulation equal to "Thermafiber FS-25" made by U.S. Gypsum Co. or equal made by Fibrex or Owens Corning conforming to ASTM C-612, Type 1A and 1B faced on one side with foil scrim Kraft vapor retarder, maximum flame spread and smoke developed indices of 25 and 5 respectively. Insulation shall have an R value of not less than 4/inch with a nominal density of 4 lbs./cu. ft. Insulation shall be 2" thick unless otherwise noted on the drawings.

## 2.2 BLANKET INSULATION

- A. Provide flexible glass fiber blankets/batts equal to "Fiberglass Flame Spread 25 Insulation". Acceptable manufacturers:

1. Owens Corning
2. Manville
3. Certainteed

Blankets to conform with ASTM C612, Type 1A or ASTM C665, Type III, Class A, faced on one side with foil reinforced Kraft vapor retarder; maximum flame spread and smoke developed indices 25 and 50 respectively.

- B. Insulation shall have an R value of not less than 3.7/inch and shall be 6" thick unless otherwise noted on the drawings.

## 2.3 ACCESSORIES

- A. Clips for Securing Insulation to Encountered Surfaces: Spindle anchor and washer type consisting of perforated metal plates with spindle welded to center and snap on washers. Spindle and washers shall receive a corrosion resistant electro-zinc plating. Adhesives for securing clips in place shall be recommended by the approved clip manufacturer.

1. Acceptable Manufacturers
  - a. Miracle Adhesives Corp.
  - b. Stic-Klip Mfg. Co., Inc.
  - c. Midwest Fasteners

- B. Adhesive for Bonding Insulation: The type recommended by the insulation manufacturer, and complying with fire-resistance requirements.

1. For bonding rigid polystyrene insulation to masonry or concrete, provide adhesive equal to "Foamgrab PS" made by Dacor Products Co. or equal made by ChemRex Inc. or Miracle Adhesives.

- C. Protection Board: Premolded, semi-rigid asphalt/fiber composition board, 1/4" thick, formed under heat and pressure, standard sizes.

## PART 3 EXECUTION

### 3.1 INSPECTION

- A. Examine the areas and conditions where building insulation is to be installed and correct any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work.

### 3.2 INSTALLATION

- A. General

1. Cooperate in the coordination and scheduling of the work of this section with the work of other sections so as not to delay job progress.
2. Install insulation in as large components as practical and to cover entire areas indicated on the drawings, closely butted together at sides and ends, and against walls, beams, etc. Neatly fit and cut insulation around all projections such as pipes, conduits, hangers and all other elements encountered in the field, which will result in complete coverage of the scheduled areas.
3. Discard, off the site insulation which becomes damaged during the course of installation, or is no longer in a physical condition to function for use intended, and replace with new material.
4. Clean surfaces on which adhesives are used to secure the insulation in place of dirt, grime, grease, oil and other foreign materials, to assure that the surfaces are properly prepared to accept the bond of the approved adhesives.
5. Exercise extreme care to avoid damage and soiling of faces on insulation units which will be exposed to view. Align joints accurately, with adjoining surfaces set flush.
6. Set vapor barrier faced units with vapor barrier to inside of construction, except as otherwise shown. Do not obstruct ventilation spaces. All joints in vapor barriers shall be sealed with 4" wide, foil faced duct tape to prevent vapor and air migration.
7. Tape joints and ruptures in vapor barriers, using tape specified above, and seal each continuous area of insulation to surrounding construction so as to ensure vapor tight installation of the units.
8. Where insulation is impaled on stick clips, provide clips not less than 3" from corners or edges and not more than 12" o.c.
9. Comply with manufacturer's instructions for the particular conditions of installation in each case. If printed instructions are not available or do not apply to

the project conditions, consult the manufacturer's technical representative for specific recommendations before proceeding with the work.

10. Extend insulation full thickness as shown over entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections which interfere with placement.
11. Apply a single layer of insulation to the required thickness, unless a double layer is required, to make up the total thickness shown.
12. Furnish mason trades rigid insulation to be installed within masonry cavity.

### 3.3 INSTALLATION OF BLANKET OR BATT FIBERGLASS INSULATION

- A. Install blanket fiberglass insulation in largest pieces as practical with edges closely butted. Cut and fit insulation to closely fit intersecting or penetrating surfaces.
  1. Face vapor barrier towards warm side, tape joints with 4" wide vaporproof aluminum tape applied over vapor barrier.

### 3.4 INSTALLATION OF SEMI-RIGID MINERAL WOOL INSULATION

- A. Install wall insulation with edges closely butted, with joints square, straight and in alignment (no staggered), and with vapor barrier facing on warm side of building, and with exposed faces flush and in the same plane without warp or twist. Cut and fit insulation to closely fit intersecting or penetrating surfaces. Seal joints between insulation, between insulation and intersecting or penetrating surfaces and between insulation and perimeter surfaces with 4" wide vaporproof aluminum tape applied on the vapor barrier side. Insulation shall be friction fit between furring channels or studs.
- B. Where insulation is installed directly below structural deck, fasten to deck using stick clips as specified herein. Space clips 12" o.c. both direction and impale insulation on clips. Insulation shall be installed with vapor barrier facing down. Butt ends and edges of insulation together and tape joints using 4" wide vaporproof aluminum tape over vapor barrier.

### 3.5 PROTECTION

- A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation will be subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 07 21 00