

**OKLAHOMA STATE UNIVERSITY - BUILDING DESIGN STANDARDS**

PART 1 GENERAL

1.01 SUBMITTALS:

- A. Provide manufacturer's written certification that insulation products meet specified requirements for the use intended.

1.02 1.3 QUALITY ASSURANCE:

A. Performance Limitations:

- 1. Certain cellular plastics used in building construction, though tested in conformance under ASTM and NFPA criteria, have been considered by the Federal Trade Commission as performing differently under actual fire conditions than under test conditions. Such products, if allowed to remain exposed or unprotected, may produce rapid flame spread, quick flashover, toxic or flammable gases, dense smoke and intense and immediate heat and may present a serious fire hazard. Architects are cautioned to thoroughly investigate these materials and their installation prior to specifying insulation products.
- 2. Materials used to insulate and fireproof buildings shall contain no asbestos.

B. Thermal Conductivity:

- 1. Insulation values are for a thermal conductivity (k-value) measured at 75 degrees F.
- 2. Adjust thicknesses as required when using material having a different thermal conductivity or tested at a different temperature.
- 3. Where insulation is specified to have a specific "R" value, furnish manufacturer's standard thickness required to equal or exceed the specified value.

4. Insulation "R" Values:

- a. Walls:
  - i R = 20 minimum above grade.
  - ii R = 12 minimum below grade.
- b. Roofs: R = 35 average.
- c. Soffits: R = 20 minimum.

**OKLAHOMA STATE UNIVERSITY - BUILDING DESIGN STANDARDS**

- d. Above-Grade Slabs over Unheated Spaces: R = 20 minimum.

1.03 DELIVERY, STORAGE AND HANDLING:

- A. Do not deliver plastic insulation materials to the project site prior to time of installation. Protect at all times against ignition. Complete the installation and concealment of plastic materials as rapidly as possible.

PART 2 PRODUCTS

2.01 MANUFACTURERS:

- A. Batt Insulation:
  - 1. Owens-Corning Fiberglass.
  - 2. U.S. Gypsum.
  - 3. Schuller International, Inc.
  - 4. Certain Teed Corp.
  - 5. An approved equal.
- B. Rigid Insulation:
  - 1. Dow Chemical Co.
  - 2. Amoco.
  - 3. Celotex Corp.
  - 4. Schuller International, Inc.
  - 5. U.C. Industries.
  - 6. An approved equal.

2.02 MATERIALS:

- A. Foil Faced Batt Insulation:
  - 1. Resilient glass fibers bonded with thermosetting resin to foil facing.
  - 2. Batts shall have minimum R-Value of 3.0 per inch of insulation thickness.

**OKLAHOMA STATE UNIVERSITY - BUILDING DESIGN STANDARDS**

3. Vapor Transmission: Not more than 0.1 perms.
  4. Comply with ASTM C665, Type III.
  5. Install foil faced insulation in such a way to ensure integrity of vapor barrier. Tape all joints, penetrations and at top and bottom of walls.
  6. Where not covered with a 15 minute thermal barrier, provide batts, including vapor barrier, not exceeding a flame spread of 25 or smoke developed of 50 per ASTM E84; and rated noncombustible per ASTM E136.
- B. Rigid Insulation for Above-Grade Walls and Miscellaneous Locations:
1. Polyisocyanurate, Foil-Faced, Reinforced with Chopped Fiberglass: FS HH-I-1972, Class 2, with an aged R-Value of 6.38 per inch.
- C. Safing Insulation:
1. Conform to ASTM C612, Class 1 and 2, (melt point of over 2,000 degrees F.).  
  
Provide USG "Thermafiber Safing Insulation", or an approved equal, thickness as required.
  2. Contract Documents must clearly show locations and detail.
- D. Spandrel Glass Safing Insulation:
1. Comply with requirements specified above for safing insulation.  
  
Provide USG "Thermafiber" curtain wall insulation, or an approved equal, with melt point of over 2,000 degree F. per ASTM C24.
- E. Closed Cell Extruded Polystyrene:
1. Not an approved product for any application.

**END OF SECTION 07210**