

SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. **When accessible** ceilings in conditioned spaces shall contain blown insulation with a minimum value of R-30.
- B. **When accessible** wood framed exterior walls shall contain batt insulation with a minimum value of R-11 for 4" walls.
- C. **See NSP Green Building Practices Handbook, Section 3.1 – Insulation for further requirements.**
 - 1. **Improve the insulation properties of the home to minimize heat transfer and thermal bridging.**
 - 2. **Exterior doors \geq R-5; Ceiling/Attic \geq R-30; Interior Wall \geq R-11; Ducts \geq R-8.**

PART 2 - PRODUCTS

2.1 INSULATION PRODUCTS

- A. Surface-Burning Characteristics: ASTM E 84, and as follows:
 - 1. Flame-Spread Index: 25 or less where exposed; otherwise, as indicated in Part 2 "Insulation Products" Article.
 - 2. Smoked-Developed Index: 450 or less.
- B. Extruded-Polystyrene Board Insulation: ASTM C 578, Type V, with flame-spread index of 75 or less.
- C. Molded-Polystyrene Board Insulation: ASTM C 578, Type II, with flame-spread index of 75 or less.
- D. Foil-Faced Polyisocyanurate Board Insulation: ASTM C 1289, Type I, Class 1 or 2, faced on both sides with aluminum foil, with flame-spread index of 75 or less for unfaced core material.
- E. Flexible Glass-Fiber-Board Insulation: ASTM C 612, Type IA or ASTM C 553, Types I, II, and III; unfaced or foil faced; nominal density of 1.5 lb/cu. ft., with flame-spread index of 25 or less.
- F. Glass-Fiber-Board Insulation: ASTM C 612, Type IA or Types IA and IB; unfaced nominal density of 4.25 lb/cu. ft. with flame-spread index of 25 or less.
- G. Slag-Wool-Fiber/Rock-Wool-Fiber Board Insulation: ASTM C 612, unfaced nominal density of 4 lb/cu. ft. or greater with flame-spread index of 25 or less.

- H. Mineral-Fiber-Blanket Insulation: ASTM C 665, Type I, unfaced with fibers manufactured from glass, slag wool, or rock wool, with flame-spread index of 25 or less.
- I. Cellulosic-Fiber Loose-Fill Insulation: ASTM C 739; chemically treated for flame-resistance, processing, and handling characteristics.
- J. Glass-Fiber Loose-Fill Insulation: ASTM C 764, Type 1, pneumatic or Type 2, poured application, with flame-spread index of 25 or less.

2.2 ACCESSORIES

- A. Sheet Radiant Barrier: ASTM C 1313, foil on one side or foil on both sides flame-spread index of 25 or less, and water-vapor transmission of 1 perm, maximum.
- B. Vapor Retarder: Polyethylene, Reinforced polyethylene, or Fire-retardant, reinforced polyethylene, minimum of 6 mils thick.
- C. Eave Ventilation Troughs: Preformed, rigid fiberboard or plastic sheets designed to fit between roof framing members and to provide cross-ventilation between attic spaces and vented eaves.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install insulation in areas and in thicknesses indicated or required to produce R-values indicated. Cut and fit tightly around obstructions and fill voids with insulation.
- B. Except for loose-fill insulation and insulation that is friction fitted in stud cavities, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
- C. Place loose-fill insulation to comply with ASTM C 1015.
 - 1. Comply with the CIMA's Special Report #3, "Standard Practice for Installing Cellulose Insulation."
- D. Extend vapor retarder to extremities of areas to be protected from vapor transmission. Secure in place with adhesives or other anchorage. Locate seams at framing members, overlap, and seal with tape.

END OF SECTION 072100