

SECTION 07 21 00 - BUILDING INSULATION

PART I - GENERAL

1.1 WORK INCLUDES

- A. Board type insulation
- B. Batt type insulation
- C. Vapor retarders
- D. Weather resistive barrier - Building Wrap

1.2 REFERENCE STANDARDS

- A. Building insulation thermal performance shall comply with ASHRAE 90.1.

1.3 WARRANTY

- A. Provide a 2 year Contractor Installation Warranty.

PART 2 - PRODUCTS

2.1 INSULATING MATERIALS

- A. Rigid Foam Insulation: Extruded Polystyrene:
 - 1. For use with masonry and steel construction:
 - a. Rigid, closed-cell, extruded polystyrene boards complying with FS HH-I-524C, Type IV, 25 psi compression strength (min.); 1.0 perm-inch maximum vapor transmission; 0.10 percent maximum water absorption; aged thermal conductivity (k-value at 75 degrees F.) of 0.20; manufacturer's standard sizes, water absorption 0.3 percent by volume maximum.
 - 2. For use below grade, in conjunction with wood frame construction:
 - a. Closed cell polystyrene as above, but manufactured to contain borates to provide resistance to subterranean termites.
 - b. Product/manufacturer: Performn Guard/AFM Corp.
 - 3. Molded Polystyrene Plastic Board Insulation: "Beadboard", is not acceptable.
- B. Mineral Fiber Blanket Insulation (Batt):
 - 1. Glass or other inorganic fibers and resinous binders formed into flexible blankets or semi-rigid sheets, complying with FS HH-I-521; Type I; density of not less than 1.5 lbs. per cu. Ft.; thermal conductivity (k-value at 75 degrees F.) of 0.30; manufacturer's standard sizes.
 - a. Unless otherwise noted, batts shall be encased in a .4 mil polyethylene wrap. Wrap shall be perforated to permit ventilation of moisture. Where vapor retarder is desired, retarder shall be provided separately from insulation.

2.2 VAPOR RETARDERS

- A. Sheet Materials: Polyethylene Film.
 - 1. Vapor Transmission: Maximum per rating of 0.20.
 - 2. Thickness: Not less than 5 mils (0.006 inches).
 - 3. Color: Translucent white or clear.
- B. Tape: Polyethylene, pressure sensitive, self-adhering type, mesh reinforced, 2 inch wide, compatible with sheet metal.
- C. Vapor Retarder: Unless engineering calculations of dew point temperature indicate otherwise, retarder shall be located on the warm side of all exterior walls and ceilings, immediately below the gypsum wall board.

2.3 BUILDING WRAP

- A. Purpose: Provide product intended for use in commercial construction as an air infiltration barrier and secondary weather resistive membrane.
- B. Material: Spin bonded, high density polyethylene fibers bonded by heat and pressure into a durable sheet.
 - 1. Water Vapor Transmission 58 perm (ASTM E96 Method B)
 - 2. Water Penetration Resistance More than 83 in. (AATCC - 127)
 - 3. Breaking Strength (ASTM D882, Method A)
 - a. Machine direction 360plf
 - b. Cross direction 360plf
 - 4. Tear Resistance (Trapezoid ASTM D1117)
 - a. Machine direction 6 lb
 - b. Cross direction 6 lb

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Vapor Barrier:
 - 1. Unless engineering calculations of dew point temperature indicate otherwise, retarder shall be located on the warm side of all exterior walls and ceilings, immediately below the gypsum wall board.

END OF SECTION 07 21 00

This section of the *U of I Facilities Standards* establishes minimum requirements only.
It should not be used as a complete specification.