SECTION 07 21 00

THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Provide insulation with accessories as required for complete installation.

1. Provide thermal batt insulation with integral vapor retarder.
2. Provide extruded polystyrene insulation.

B. Related Work:

1. Section 07 53 00: Insulation integral with PVC roofing.
2. Section 07 81 00: Applied fireproofing.
3. Section 07 84 00: Firestopping.
4. Section 09 21 00: Acoustical insulation concealed in gypsum board systems.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Interior Vapor Retarders: Where specifications require foil faced vapor retarders as part of building thermal insulation system, intent is to prevent migration of spores from mold and mildew into interior building spaces.

1. Intent is to provide air barrier and vapor retarder on interior surface while allowing vapor to move through exterior wall vapor permeable surfaces, while vapor permeable water barriers are maintained at exterior side of wall.

1.3 SUBMITTALS

A. Product Data: Furnish manufacturer's literature for each type of insulation.

1. Submit Underwriter's Laboratory approval numbers for required fire ratings; approvals of other laboratories contingent upon acceptance of applicable authorities.

1.4 QUALITY ASSURANCE

A. Sustainability Requirements: Comply with *CAL*Green requirements including those relative to energy efficiency.

PART 2 - PRODUCTS

2.1 MATERIALS

A. System Description: Provide thermal batt insulation with integral vapor retarder and accessories.

B. Thermal Batt Insulation: Preformed slag mineral or glass fiber with thermosetting resin binders, conforming to ASTM C665; formaldehyde-free.

1. Manufacturers:

a. Owens-Corning Fiberglas Corp./EcoTouch Pink Fiberglas Insulation.
b. Johns Manville/FSK-25 Thermal-Shield Insulation.
c. CertainTeed/Thermafiber FS25 Insulation.
d. Substitutions: Refer to Section 01 25 00.

2. R-Value: Minimum R-21 at walls, R-38 at horizontal surfaces, unless otherwise indicated.

3. Flame Spread/Smoke Density Rating: Maximum 25/450, ASTM E84.

4. Vapor Retarder: Type III, aluminum vapor retarder on one side.

C. Extruded Polystyrene (XPS) Insulation: ASTM C578 Type X, extruded polystyrene insulation with skin surface; square edges; "K" factor of 0.20.

1. Manufacturers:

a. Owens Corning/Foamular.
b. Dow Chemical Company/Styrofoam RM.
c. Pactiv Building Products/GreenGuard Insulation Board.
d. Substitutions: Refer to Section 01 25 00.

2. Basis of Design: Owens Corning/Foamular 150, with minimum compressive strength of 15 psi.

3. Thicknesses: As indicated on Drawings.

D. Penetration Type Insulation Supports: Galvanized or electroplated steel penetration supports with adhesive attachment to substrate and support disc.

E. Vapor Retarder Tape: Minimum 2" wide self-adhering type designed to maintain vapor retarder integrity and complying with fire resistance ratings as required by applicable codes.

F. Accessories: Furnish adhesives and other accessories as recommended by insulation manufacturer for insulation types, substrates, and conditions involved.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify substrate and adjacent materials are dry and ready to receive insulation; beginning installation signifies acceptance of conditions.

B. Ensure mechanical and electrical items affecting work are properly placed, complete, and have been inspected by Architect prior to commencement of installation.

3.2 INSTALLATION

A. Install insulation in accordance with manufacturer's instructions with vapor retarder toward inside of building.

B. Cut and trim insulation neatly, to fit spaces.

1. Backed Insulation: Use insulation free of ripped backs and edges.

C. Fit insulation tight within spaces and tight to and behind mechanical and electrical services within insulation plane; leave no gaps or voids; maintain integrity of thermal barrier.

D. Friction fit in place; use tape or penetration supports as necessary to assure permanent installation.

1. Taping: Tape perimeters, joints, and tears in vapor retarder, including joints between insulation and surrounding construction, to ensure vapor-tight installation.

2. Penetration Supports: Cut or bend pins in locations accessible to maintenance personnel, to eliminate potential hazards from exposed pin points.

END OF SECTION