

SECTION 07210  
BUILDING INSULATION

**PART 1 - GENERAL**

**1.1 SUMMARY**

- .1 Provide thermal and acoustic insulation as indicated and specified.
- .2 Provide unfaced batt insulation at walls, plumbing walls, floor and ceiling assemblies, and ceiling and roof assemblies as indicated and specified.
- .3 Provide rigid insulation at below grade locations and soffits as indicated and specified.
- .4 Provide vapour barrier as indicated and specified.
- .5 Provide spray applied insulation as indicated on drawings and specified.

**1.2 REFERENCES**

- .1 ASTM C518-02, Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- .2 ASTM E84-03, Standard Test Method for Surface Burning Characteristics of Building Materials.
- .3 CAN/ULC-S701-01, Thermal Insulation, Polystyrene, Boards and Pipe Covering.
- .4 CAN/ULC-S702-97, Thermal Insulation, Mineral Fibre, for Buildings.
- .5 CAN/ULC-S705.2-98, Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density, Installer's Responsibilities – Specification.

**1.3 SUBMITTALS**

- .1 Submit in accordance with Section 01330 Submittal Procedures.
  - .1 Product Data: for each type of insulation specified including installation instructions.

**PART 2 - PRODUCTS**

**2.1 RIGID INSULATION**

- .1 Rigid Insulation (Foundation): Extruded Polystyrene, CAN/ULC-S701, Type 4.

**2.2 BATT INSULATION**

- .1 Batt Insulation - Thermal and Acoustic: CAN/ULC-S702, Type 1, formaldehyde-free, "Standard Frame" from Johns Manville or approved alternative.
- .2 Mineral Wool Insulation: in fire rated assemblies mineral wool batt, filling well cavity, conforming to B.C. Building Code requirements for fire rated assemblies, with a mass of 1.22 kg/m<sup>2</sup>, installed per manufacturer's recommendations.
  - .1 Acceptable products: Enertek 1200, Fibrex 1240, Roxul RW40 or approved alternative.

**2.3 BLOWN-IN INSULATION**

- .1 Attic Insulation: Blown-in insulation - thickness as required to meet R value after settlement occurs, formaldehyde-free, "Climate Pro" from Johns Manville or approved alternative.

**2.4 SPRAY APPLIED INSULATION**

- .1 Spray Polyurethane Foam Insulation: for floor joist header insulation to CAN/ULC-S705.2. Provide contractor warranty and Energy Conservation Contractors Warranty Corporation (CWC) warranty. Product to be approved as thermal/air barrier system. Alternative to be Icynene Goldseal 50 spray applied insulation with an approved vapour barrier paint.

**2.5 ACCESSORIES**

- .1 Protection Board: 3.0 mm Elsro or approved alternative.

- .2 Insulation Clips: Use to fastening semi-rigid insulation to wall sheathing and soffits. Impale type, perforated 51 mm x 51 mm (2" x 2") steel, 0.7 mm (0.030" ) thick, adhesive back, spindle of 2.5 mm (0.098" ) diameter annealed steel, 25.4 mm (1" ) diameter self-locking washers, length to suit insulation thickness.

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

- .1 Ensure plumbing and electrical inspections by authorities having jurisdiction are complete and have been approved prior to installing insulation.
- .2 Mask adjacent surfaces to protect against over spray of spray applied insulation where required.

#### **3.2 PERIMETER INSULATION**

- .1 Extend rigid insulation boards to locations as shown on drawings.
- .2 Install perimeter insulation using mechanical fasteners or adhesive. Butt joints tightly, offset horizontal and vertical joints. Use largest possible sheets to reduce number of joints. Do not use chipped or cracked insulation boards.
- .3 Protect insulation with cementitious board and prefinished metal cap flashings, top sloped to drain.

#### **3.3 BATT INSULATION - THERMAL**

- .1 Install insulation full width and length between studs and framing members to fit snugly without buckling, creasing or crushing.
- .2 In walls, install lower batt first; upper batt installed to butt with first, trim extra length of insulation at top.
- .3 Fit insulation tight to electrical boxes, plumbing and heating pipes and ducts, around exterior doors and windows and other protrusions.
- .4 Install insulation in continuous contact with interior sheathing.

#### **3.4 BATT INSULATION - ACOUSTIC**

- .1 Install acoustic insulation in sound insulated partitions. Refer to Wall Type Schedule. Tightly fit insulation between studs to full height of partitions. Fit insulation tight to penetrations through wallboard.
- .2 Install a layer of RSI 2.45 (R-14) batt insulation around and under bathtubs.

#### **3.5 SPRAY APPLIED INSULATION**

- .1 Install in accordance with manufacturer's installation instructions.
- .2 Apply foam insulation/air barrier only when surfaces and ambient temperatures and humidity are within limits prescribed by the material manufacturer.
- .3 Install to form a continuous "infill air seal" at exterior perimeter floor construction framing with exterior building wall stud framing as shown on the drawings.
- .4 Install sprayed polyurethane insulation infill, fully into cavity as shown on the drawing. Ensure the insulation is solidly filled in continuous contact with both sides of the cavity substrate surfaces, and free of voids to produce an air tight and water tight barrier. Ensure lap/contact with poly air/vapour barrier.
- .5 Apply foam insulation/air barrier to within the following tolerances:  $\pm 1/4"$  to  $\pm 1/2"$  thickness indicated on drawings.
- .6 Finished sprayed foam insulation/air barrier shall be free of voids and imbedded foreign materials.
- .7 Do not allow foam insulation to cover or mark adjacent surfaces. Use masking materials if necessary.
- .8 Remove over-spray and masking materials immediately after foam has cured to hard surface film.
- .9 Apply thermal barrier in accordance with manufacturer instructions where required to meet BC Building Code.
- .10 Clean and make good surfaces soiled or damaged by work of this section. Consult with sections of work soiled or damaged prior to cleaning, to ensure methods used will not damage their work.

**3.6 ACCESS HATCHES**

- .1 Insulate access hatches to the same R value and fire resistance rating as the assembly in which they occur.

END OF SECTION