

**PART 1      GENERAL**

**1.1            Related Sections**

- .1      Section 03 30 00 – Cast in Place Concrete.
- .2      Section 06 10 00 – Rough Carpentry.
- .3      Section 07 26 00 - Vapour Retarders.

**1.2            References**

- .1      American Society for Testing and Materials International, (ASTM).
  - .1      ASTM C1289, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
- .2      Canadian Gas Association (CGA)
  - .1      CAN/CGA-B149.1, Natural Gas and Propane Installation Code Handbook.
  - .2      CAN/CGA-B149.2, Propane Storage and Handling Code.
- .3      Canadian General Standards Board (CGSB).
  - .1      CGSB 71-GP-24M, Adhesive, Flexible, for Bonding Cellular polystyrene Insulation.
- .4      Underwriters Laboratories of Canada (ULC).
  - .1      CAN/ULC-S701, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Coverings.
  - .2      CAN/ULC-S702, Standard for Thermal Insulation, Mineral Fibre, for Buildings.
  - .3      CAN/ULC-S704, Standard for Thermal Insulation Polyurethane and Polyisocyanurate, Boards, Faced.

**1.3            Submittals**

- .1      Product Data:
  - .1      Submit manufacturer's printed product literature, specifications and data.
  - .2      Submit two copies of WHMIS MSDS - Material Safety Data Sheets. Indicate VOC's insulation products and adhesives.
- .2      Manufacturer's Instructions:
  - .1      Submit manufacturer's installation instructions.

**1.4            Quality Assurance**

- .1      Provide certificate of quality compliance from insulation manufacturer.

**1.5 Measurement For Payment**

- .1 No measurement for payment is to be made under this section. Include costs in unit prices or lump sum for items in which this item is required.

**1.6**

**PART 2 PRODUCTS**

**2.1 Insulation**

- .1 Expanded polystyrene (EPS): for use below grade and exterior walls: to CAN/ULC-S701 Type 2, shiplapped edges, RSI 0.70 per 25 mm, total thickness as indicated on drawings.
- .2 Urethane (Isocyanurate): Faced, to CAN/ULC-S704 foil facing, shiplapped edges, RSI 1.05 per 25 mm, total thickness as indicated on drawings.
- .3 Mineral fibre board: to CAN/ULC-S702, Type 2, semi-rigid, density 17.6 kg/m<sup>2</sup>, flexible spinbonded olefin facing, RSI 0.70 per 25 mm, total thickness as indicated on drawings.
- .4 Extruded polystyrene (XPS): to CAN/ULC S701 Type 3, shiplapped edges, RSI 0.88 per 25 mm, total thickness as indicated on drawings.
- .5 Insulation types not indicated on drawings to be expanded polystyrene (EPS), Type 2 as a default, as per article 2.1.1.

**2.2 Adhesive**

- .1 Adhesive suitable for bonding polystyrene and mineral fibre insulation to substrates as indicated.

**2.3 Accessories**

- .1 Insulation clips: impale type, perforated 50 x 50 mm cold rolled carbon steel 0.8 mm thick, spindle of 2.5 mm diameter annealed steel, length to suit insulation, 25 mm diameter washers of self locking type.
- .2 Joint sealing tape: air resistant pressure sensitive adhesive tape as recommended by insulation manufacturer.

**PART 3 EXECUTION**

**3.1 Manufacturer's Instructions**

- .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions and data sheets.

### **3.2 Workmanship**

- .1 Install insulation after building substrate materials are dry.
- .2 Install insulation to maintain continuity of thermal protection to building elements and spaces.
- .3 Fit insulation tight around electrical boxes, plumbing and heating pipes and ducts, around exterior doors and windows and other protrusions.
- .4 Keep insulation minimum 75 mm from heat emitting devices such as recessed light fixtures, and CAN/CGA-B149.1 and CAN/CGA-B149.2 type B and L vents.
- .5 Cut and trim insulation neatly to fit spaces. Butt joints tightly, offset vertical joints. Use only insulation boards free from chipped or broken edges. Use largest possible dimensions to reduce number of joints.
- .6 Offset both vertical and horizontal joints in multiple layer applications.
- .7 Do not enclose insulation until it has been inspected and approved by Engineer.

### **3.3 Examination**

- .1 Examine substrates and immediately inform Engineer in writing of defects.
- .2 Prior to commencement of work ensure:
  - .1 Substrates are firm, straight, smooth, dry, free of snow, ice or frost, and clean of dust and debris.

### **3.4 Rigid Insulation Installation**

- .1 Apply adhesive to insulation board in accordance with manufacturer's recommendations.
- .2 Imbed insulation boards into vapour barrier type adhesive, applied as specified, prior to skinning of adhesive.
- .3 In addition to adhesive install mineral fibre insulation boards with insulation clips and disk, 2 per 600 x 1200 mm board minimum, fit boards tight, cut off fastener spindle 3 mm beyond disk.
- .4 Leave insulation board joints unbonded over line of expansion and control joints. Bond a continuous 150 mm wide 0.15 mm modified bituminous membrane over expansion and control joints using compatible adhesive and primer before application of insulation.
- .5 Carefully inspect for continuity of air barrier prior to placement of insulation.

**3.5 Perimeter Foundation Insulation**

- .1 Exterior application: extend boards vertically below bottom of finish floor slab to depth as indicated on drawings. Install on exterior face of perimeter foundation wall with adhesive.

**3.6 Cleaning**

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

**END OF SECTION**