

**Part 1 General**

**1.1 RELATED SECTIONS**

- .1 Section 09 21 16 - Gypsum Board Assemblies.

**1.2 REFERENCES**

- .1 American Society for Testing and Materials International (ASTM)
  - .1 ASTM C612-14(2019), Standard Specification for Mineral Fibre Block and Board Thermal Insulation.
  - .2 ASTM C1320-10(2016), Standard Practice for Installation of Mineral Fibre Batt and Blanket Thermal Insulation for Light Weight Frame Construction.
  - .3 ASTM E557-12, Standard Practice for Architectural Application and Insulation of Operable Partitions.
- .2 Underwriters Laboratories of Canada (ULC)
  - .1 CAN/ULC-S701-11, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Coverings.
  - .2 CAN/ULC-S702-14, Standard for Thermal Insulation, Mineral Fibre, for Buildings.
  - .3 CAN/ULC-S704.1-17, Standard for Thermal Insulation Polyurethane and Polyisocyanurate, Boards, Faced.
  - .4 CAN/ULC-S710.1-11-R18, Standard for Thermal Insulation –Bead – Applied One Component Polyurethane Air Sealant Foam, Part1 and Part 2

**1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 Submittal Procedures.

**1.4 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with contract requirements and in accordance with manufacturer's written instructions.

**Part 2 Products**

**2.1 RIGID INSULATION**

- .1 Extruded polystyrene (XPS): to CAN/ULC-S701.
  - .1 Type: Type IV
  - .2 Compressive strength: 210 kPa (30 psi)
  - .3 Thickness: to match existing
  - .4 Installation: Multi layers; Maximum 50 mm per layer
  - .5 Edges: ship lapped.

**2.2 SOUND BATT INSULATION**

- .1 Glass Fibre Batt: to CAN/ULC-S702
  - .1 Type: 1.
  - .2 Surfaces: un-surfaced
  - .3 Thickness: 65 mm or as indicated.

### **2.3 ADHESIVE**

- .1 Adhesive: VOC compliant polyurethane construction adhesive, resistant to freezing; VOC limit 70 g/l when tested in accordance with USEPA Method 24 and ASTM D23569.

### **2.4 ACCESSORIES**

- .1 Insulation clips: impale type, perforated 50 x 50 mm cold rolled carbon steel 0.8 mm thick, adhesive back, spindle of 2.5 mm diameter annealed steel, length to suit insulation, 25 mm diameter washers of self-locking type.
- .2 Insulation clips for non-adhesive friendly substrate: steel, concrete screw with 25 mm diameter washer, length to suit insulation.

## **Part 3 Execution**

### **3.1 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.
- .4 Keep insulation minimum 75mm from heat emitting devices such as recessed light fixtures.
- .5 Cut and trim insulation neatly to fit spaces.
  - .1 Butt joints tightly, offset vertical joints.
  - .2 Use only insulation boards free from chipped or broken edges.
  - .3 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 the departmental representative.

### **3.2 EXAMINATION**

- .1 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.

**3.3 RIGID INSULATION INSTALLATION**

- .1 Provide Type IV XPS
- .2 Apply adhesive to insulation board or use plastic insulation fasteners in accordance with manufacturer's recommendations.
- .3 Cut, fit, stagger and butt joints tight.
- .4 Foam fill voids with foam insulation.
- .5 Coordinate work with placement of vapour retarder.

**3.4 BATT AND SOUND INSULATION INSTALLATION**

- .1 Interior application: install where indicated.
- .2 Cut, fit and butt joints tight.
- .3 Secure with insulation clips or other means where required to prevent sagging.
- .4 Stagger Joints.

**END OF SECTION**