

Part 1 General**1.1 RELATED SECTIONS**

- .1 Division 01– General Requirements.
- .2 Section 07 52 00 - Modified Bituminous Membrane Roofing.
- .3 Section 31 23 33.01 - Excavating, Trenching and Backfilling.

1.2 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM C578-12a, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
- .2 ASTM E96/E96M-10, Standard Test Methods for Water Vapour Transmission of Materials.
- .3 Canadian General Standards Board (CGSB)
 - .1 CGSB 71-GP-24M-77(R1983), Adhesive, Flexible, for Bonding Cellular polystyrene Insulation.
- .4 Underwriters Laboratories of Canada (ULC)
 - .1 CAN/ULC-S701-11, Standard for Thermal Insulation Polystyrene, Boards and Pipe Coverings.
 - .2 CAN/ULC-S704-11, Standard for Thermal Insulation Polyurethane and Polyisocyanurate, Boards, Faced.
- .5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).

1.3 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 00 10 – General Instructions.
 - .2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 35 29.06 – Health and Safety Requirements. Indicate VOC's insulation products and adhesives.
- .2 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.

1.4 QUALITY ASSURANCE

- .1 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.

- .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3 Prior to beginning work of this Section and on-site installations:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Review manufacturer's installation instructions and warranty requirements.
- .4 Health and Safety Requirements: construction occupational health and safety to be in accordance with Section 01 35 29.06 – Health and Safety Requirements.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 00 10 – General Instructions.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene and corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.

Part 2 Products

2.1 INSULATION

- .1 Description 1: Extruded polystyrene (XPS) under slab insulation to CAN/ULC-S701.
 - .1 Type: 4, rigid, closed cell type.
 - .2 Thickness: as indicated on drawings.
 - .3 Size: use full boards where ever possible.
 - .4 Compressive Strength: 414 kPa.
- .2 Description 2: Extruded polystyrene (XPS) foundation wall drainage insulation to CAN/ULC-S701.
 - .1 Type: 4.
 - .2 Thickness: as indicated on drawings.
 - .3 Size: use full boards where ever possible.

2.2 ACCESSORIES

- .1 Insulation clips: impale type, perforated 50 x 50mm cold rolled carbon steel 0.8mm thick, adhesive back, spindle of 2.5mm diameter annealed steel, length to suit insulation, 25mm diameter washers of self locking type.

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 Install insulation under slab for thickness, and distance as indicated on the drawings.
- .4 Fit insulation tight around electrical boxes, plumbing and heating pipes and ducts, around exterior doors and windows and other protrusions.
- .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 Departmental Representative.
- .8 Provide stay-in place low expansion urethane foam insulation in perimeter voids of window/door frames.

3.3 EXAMINATION

- .1 Examine substrates and immediately inform Departmental Representative 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 UNDER SLAB ON GRADE

- .1 Description 1, Insulation Board: Under slab application: extend boards as indicated. Lay boards on level compact fill.

3.5 FOUNDATION INSULATION

- .1 Description 2, Insulation Board: Below grade application installed on outside face of perimeter foundation walls as indicated.

3.6 ROOF INSULATION

- .1 Refer to Section 07 52 00 - Modified Bituminous Membrane Roofing .

3.7 CLEANING

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

END OF SECTION