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| Version | Date | Description of Revisions |
| 1 | August 30, 2006 | Approved final document. |
| 2 | November 13, 2009 | Modified ‘Related Section’ |
| 3 | March 15, 2011 | Minor changes from Legal |
| 4 | June 7, 2012 | Addition of References and Replacement Parts sections to this page. |
| 5 | July 6, 2012 | Change tab settings in page 1-7. |
| 6 | April 23, 2015 | General Formatting |
| 7 | April 7, 2016 | Phase 1 update (AV) |
| 8 | November 30, 2016 | Updated based on Legal’s comments (eDOCs # 6396342) AAM |

NOTE:

This is a CONTROLLED Document. Any documents appearing in paper form are not controlled and should be checked against the on-line file version prior to use.

**Notice:** This Document hardcopy must be used for reference purpose only.

**The on-line copy is the current version of the document.**

# GEneral

## Related Sections

### [Under "Related Sections", identify other Sections that are related to, and/or dependent on, the work results or information specified elsewhere. The list should be limited to Sections with specific information that the reader might expect to find in this Section, but is specified elsewhere. For example, if hardware for aluminum entrances is specified in the aluminum entrance Section, a cross-reference would be appropriate in the finish hardware Section. The purpose of this cross-referencing is for information only, to aid in finding those other requirements—not to define the scope of the Section.

### Cross-referencing here may also be used to coordinate assemblies or systems whose components may span multiple Sections and which must meet certain performance requirements as an assembly or system.

### Contractor is responsible for coordination of the Work.

### This Section is to be completed/updated during the design development by the Consultant. If it is not applicable to the section for the specific project it may be deleted.]

### [List Sections specifying installation of products supplied but not installed under this Section and indicate specific items.]

### Section [\_\_\_\_\_\_ – \_\_\_\_\_\_\_\_\_\_\_\_]: Execution requirements for ... [item]... specified under this Section.

### [List Sections specifying products installed but not supplied under this Section and indicate specific items.]

### Section [\_\_\_\_\_\_ – \_\_\_\_\_\_\_\_\_\_\_\_]: Product requirements for ... [item]... for installation under this Section.

### [List Sections specifying related requirements.]

### Section [\_\_\_\_\_\_ – \_\_\_\_\_\_\_\_\_\_\_\_]: [Optional short phrase indicating relationship].

#### Section 01060 – Regulatory Requirements

#### Section 01300 – Submittals

#### Section 07200 – Insulation

#### Section 07520 – Modified Bitumen Membrane Roofing

#### Section 07900 – Joint Sealers

## References

### Comply with the latest edition of the following statutes, codes, standards, and all amendments thereto:

#### American Society for Testing and Materials International (ASTM)

##### ASTM C208-12, Standard Specification for Cellulosic Fiber Insulating Board.

##### ASTM C591-15, Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation.

##### ASTM C612-14, Standard Specification for Mineral Fiber Block and Board Thermal Insulation.

##### ASTM C726-12, Standard Specification for Mineral Wool Roof Insulation Board.

##### ASTM C728-15, Standard Specification for Perlite Thermal Insulation Board.

##### ASTM C1126-15, Standard Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal Insulation.

##### ASTM C1289-15, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.

##### ASTM E96/E96M-15, Standard Test Methods for Water Vapour Transmission of Materials.

##### ASTM C553-13, Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications.

##### ASTM C665-12, Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

##### ASTM C1320-10, Standard Practice for Installation of Mineral Fiber Batt and Blanket Thermal Insulation for Light Frame Construction.

#### Canadian Gas Association (CGA)

##### CAN/CGA-B149.1-15, Natural Gas and Propane Installation Code.

##### CAN/CGA-B149.2-15, Propane Storage and Handling Code.

#### Sealant and Waterproofer’s Institute – Sealant and Caulking Guide Specifications., *[Consultant to vary guide specifications and applicable organization and amend as required]*

#### Canadian General Standards Board (CGSB) *[Consultant to replace withdrawn CGSB standards with new references as applicable]*

#### Canadian Standards Association (CSA International):

##### CSA B111-1974 (R2003), Wire Nails, Spikes and Staples.

#### Underwriters Laboratories of Canada (ULC)

##### CAN/ULC-S604, Standard for Factory-Built Type A Chimneys.

##### CAN/ULC-S701-11, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.

##### CAN/ULC-S702-14, Standard for Thermal Insulation, Mineral Fibre, for Buildings.

##### CAN/ULC-S704-11, Standard for Thermal Insulation Polyurethane and Polyisocyanurate Boards, Faced.

#### Health Canada/Workplace Hazardous Materials Information System (WHMIS)

##### Material Safety Data Sheets (MSDS).

## Measurement and Payment

*[Choose one of the following payment language provisions that best suits the individual project.*

*If this Section is not specifically referenced by an item in the Bid Form, please use the following language:*

### The work of this Section will not be measured separately for payment. All costs associated with the work of this Section shall be included in the Contract Price.

*OR If this Section is specifically referenced in the Bid Form, use the following language and identify the relevant item in the Bid Form:*

### All costs associated with the work of this Section shall be included in the price(s) for Item No(s). \_\_\_ in the Bid Form.

*If the work of this Section is to be measured and paid for by several different methods, please amend the standard wording given above to reflect the different methods of measurement and payment.*]

## Submittals

### Product Data:

#### Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01300 - Submittals.

#### Submit [two] [\_\_\_] copies of WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01300 - Submittals.

### Manufacturer's Instructions:

#### Submit manufacturer's installation instructions.

# PRODUCTS

## Insulation Type (1)

### [Extruded polystyrene (XPS)] [Expanded polystyrene (EPS)]: to CAN/ULC-S701-11.

#### Type: [2] [4].

#### Compressive strength: [     ].

#### Thickness: [     ] mm [as indicated] [     ].

#### Size: [     ].

#### Edges: [square] [shiplapped] [vented].

#### Acceptable material & manufacturer: [     ].

##### *[Consultant to provide 3 acceptable product names]*

##### Approved Equivalent.

### Adhesive:

#### Adhesive for polystyrene: to *[Consultant to amend with standard that replaces the withdrawn CGSB 7-GP-24M]*, Type \_\_\_\_\_\_, Class \_\_\_\_\_\_, low VOC.

### Accessories:

#### 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.

## Insulation Type (2)

### Batt and blanket mineral fibre: to [ASTM C553-13] [ASTM C665-12] [CAN/ULC S702-14].

#### Type: [1] [2] [3].

#### Thickness: [[     ] mm] [as indicated in the Contract Documents].

### Accessories:

#### Insulation clips:

##### Impale type, perforated 50 mm 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.

#### Nails: galvanized steel, length to suit insulation plus [25] [     ] mm, to CSA B111-1974 (R2003).

#### Staples: [12] [     ] mm minimum leg.

#### Tape: as recommended by the manufacturer.

## Cavity Wall Insulation Type (3)

### [      ]

## Air Barrier

### Sheet Seal [Type [1]]: Self-Adhesive bitumen laminated to high-density polyethylene film, nominal total thickness of [      ] mm.

#### Acceptable material: [    ]

### Sheet Seal [Type [2]]: Thermofusable elastomeric bitumen membrane reinforced with a [non-woven polyester] [glass mat].

#### Acceptable material: [    ]

### Liquid Seal [Type [3]]: [Elastomeric bitumen] [Synthetic rubber], [roller] trowel] [spray] applied, nominal total of thickness of [     ] mm.

#### Acceptable material: [    ]

### Adhesives

#### Mastic Adhesive [Type [1]]: Compatible with sheet seal and substrate, thick mastic of uniform [knife grade] [     ] consistency.

##### Acceptable material: [    ]

#### Adhesive [Type [2]]: Compatible with sheet seal and substrate, permanently non-curing.

##### Acceptable material: [    ]

### Accessories

#### Thinner and cleaner for [Butyl] [Neoprene] Sheet: [As recommended by sheet material manufacturer].

#### Attachments: [Galvanized steel] bars and anchors, [     ] mm.

## Sealants

### Sealants in accordance with Section 07900 – Joint Sealers.

# EXECUTION

## Workmanship

### Install insulation after building substrate materials are dry.

### Install insulation to maintain continuity of thermal protection to building elements and spaces.

### Fit insulation tight around electrical boxes, plumbing and heating pipes and ducts, around exterior doors and windows and other protrusions.

### Keep insulation at a minimum [75] mm from heat emitting devices such as recessed light fixtures, and minimum [50] mm from [sidewalls of CAN/ULC S604 type A chimneys] [and] [CAN/CGA B149.1-15 and CAN/CGA B149.2-15 [type B] [and] [L] vents].

### 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.

### Offset both vertical and horizontal joints in multiple layer applications.

### Do not enclose insulation until it has been inspected and approved by the Consultant.

## Examination

### Examine substrates and immediately inform Consultant in writing of defects.

### Prior to commencement of work ensure:

#### Substrates are firm, straight, smooth, dry, free of snow, ice or frost, and clean of dust and debris.

## Installation (Insulation Type 1)

### Apply Type [\_\_\_\_] adhesive to polystyrene insulation board at rate of [\_\_\_\_] L/m2 in accordance with the manufacturer's recommendations.

### Embed insulation boards into vapour barrier type adhesive, applied as specified, prior to skinning of adhesive.

*[Consultant to modify the following paragraph to suit type of fastener specified.]*

### Leave insulation board joints unbonded over line of expansion and control joints. Bond a continuous 150 mm wide 0.15 mm polyethylene strip over expansion and control joints using compatible adhesive before application of insulation.

## Installation Perimeter Foundation Insulation (Type 1)

### Interior application: extend boards 600 mm vertically below bottom of finish floor slab as indicated in the Contract Documents, installed on inside face of perimeter foundation walls.

### Exterior application: extend boards [\_\_\_\_] mm minimum below finish grade as indicated to top of footing. Install on exterior face of perimeter foundation wall with adhesive.

### Under slab application: extend boards [\_\_\_\_] mm in from perimeter foundation wall as indicated in the Contract Documents. Lay boards on level compacted fill.

### Perimeter heating duct application: compact walls of heating duct trench to form solid backing. Attach insulation boards to perimeter foundation wall extending from underside of finish floor to [100] mm below bottom of heating duct. Lay insulation boards in bottom of heating duct trench, extend to [150] mm beyond heating duct [600] mm minimum from inside face of perimeter foundation wall. Secure insulation in place to prevent displacement.

## Insulation Installation (Type 2)

### Install insulation to maintain continuity of thermal protection to building elements and spaces [and to ASTM C1320-10] [\_\_\_].

### Install insulation with factory applied vapour barrier facing warm side of building spaces [and vapour permeable membrane facing cold side] [\_\_\_]. Lap ends and side flanges of membrane over framing members. Retain in position with [nails] [staples] [insulation clips] [wire ties] installed as recommended by the manufacturer. Tape seal butt ends [and lapped side flanges] [\_\_\_]. Do not tear or cut vapour barrier.

### Fit insulation closely around electrical boxes, pipes, ducts, frames and other objects in or passing through insulation.

### Do not compress insulation to fit into spaces.

### Keep insulation minimum [75] [\_\_\_] mm from heat emitting devices such as recessed light fixtures, and minimum [50] [\_\_\_] mm from [sidewalls of CAN/ULC S604 Type A chimneys] [and] [CAN/CGA B149.1-15 and CAN/CGA B149.2-15 [Type B] [and] [L] vents].

### Do not enclose insulation until it has been inspected and approved by the Consultant.

## Installation Cavity Wall (Type (3))

### Install [polystyrene] [mineral fibre] insulation boards on outer surface of inner wythe of wall cavity [over impaling clips] [on bed of adhesive].

### Place friction fit fasteners against the insulation board surface to securely hold the board in place.

### Replace any damaged insulation boards.

## Installation Air Barrier

### Prime substrate surfaces to receive [adhesive] [and] [sealants] in accordance with the manufacturer’s instructions.

### Install materials in accordance with manufacturer’s instructions.

## Installation Vapour Retarders

### Install vapour retarder where indicated and in accordance with the manufacturer’s specifications.

## Roof Installation

### As specified in Section 07520-Modified Bitumen Membrane Roofing.

## Cleaning

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

**END OF SECTION**