

PART 1 - GENERAL

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| <u>1.1 REFERENCES</u> | .1 | ASTM International
.1 ASTM C 591-13, Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation.
.2 ASTM C 1289-14, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
.3 ASTM E 96/E 96M-13, Standard Test Methods for Water Vapour Transmission of Materials. |
| | .2 | Canada Green Building Council (CaGBC)
.1 LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide. |
| | .3 | Canadian General Standards Board (CGSB)
.1 CGSB 71-GP-24M-AMEND-77(R1983), Adhesive, Flexible, for Bonding Cellular polystyrene Insulation. |
| | .4 | Health Canada/Workplace Hazardous Materials Information System (WHMIS)
.1 Material Safety Data Sheets (MSDS). |
| | .5 | Underwriters Laboratories of Canada (ULC)
.1 CAN/ULC-S704-11, Standard for Thermal Insulation Polyurethane and Polyisocyanurate, Boards, Faced. |
| <u>1.2 ACTION AND INFORMATIONAL SUBMITTALS</u> | .1 | Submit in accordance with Section 01 33 00 - Submittal Procedures. |
| | .2 | Product Data:
.1 Submit manufacturer's instructions, printed product literature and data sheets for board insulation and include product characteristics, performance criteria, physical size, finish and limitations.
.2 Submit electronic copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements. Indicate VOC's during application and curing. |

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .3 Samples:
 - .1 Submit 300 x 300 mm x 25 mm sample of board insulation.
- .4 Certificates:
 - .1 Submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .5 Test Reports:
 - .1 Submit certified test reports showing compliance with specified performance characteristics and physical properties.
- .6 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.
- .7 Sustainable Design Submittals:
 - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.

1.3 DELIVERY,
STORAGE AND
HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
 - .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
 - .3 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.
 - .4 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.
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PART 2 - PRODUCTS

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| <u>2.1 INSULATION</u> | .1 | Urethane (Isocyanurate): faced, to CAN/ULC-S704 foil facing, square edges, RSI 1.05 per 25 mm, total thickness as indicated. Reflective foil both faces. |
| | .2 | Extruded polystyrene (XPS): to CAN/ULC S701 type 3, shiplapped edges, RSI 0.88 per 25 mm, total thickness as indicated. |
| <u>2.2 ADHESIVE</u> | .1 | Adhesive suitable for bonding polystyrene and mineral fibre insulation to substrates as indicated. Use VOC products to limits listed in Section 01 35 21 - LEED Requirements. |
| <u>2.3 ACCESSORIES</u> | .1 | Joint sealing tape: air resistant pressure sensitive adhesive tape as recommended by insulation manufacturer. |
| | .2 | Protection board: insulating fiberboard sheathing. |

PART 3 - EXECUTION

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| <u>3.1 EXAMINATION</u> | .1 | Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for board insulation application in accordance with manufacturer's written instructions.
.1 Visually inspect substrate in presence of Departmental Representative.
.2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative. |
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| <u>3.2 INSTALLATION</u> | <ul style="list-style-type: none">.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..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. |
| <u>3.3 RIGID INSULATION INSTALLATION</u> | <ul style="list-style-type: none">.1 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. |
| <u>3.4 PERIMETER FOUNDATION INSULATION</u> | <ul style="list-style-type: none">.1 Interior application in exterior wall: extend boards vertically as indicated, installed on outside face of sheathing..2 Exterior application: extend boards below finish grade as indicated. Install on exterior face of perimeter foundation wall with adhesive..3 Install protection board. |

- 3.5 CLEANING
- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
 - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
 - .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.