

Product Information Bulletin 264

Canadian Building Code Requirements for EPS Insulation

Product Information Bulletin

Canadian Building Code Requirements for EPS Insulation

Page 1 of 2

The purpose of this product information bulletin is to highlight requirements for expanded polystyrene (EPS) insulation as specified in Canadian building codes.

National Building Code of Canada 2010 and 2015 (NBC 2010 and 2015), Alberta Building Code 2014 (ABC 2014) and British Columbia Building Code 2012 (BCBC 2012), Division A, Subsection 1.3.3., provide details of prescriptive application requirements for Part 3 and Part 9 building types. 2012 Ontario Building Code (2012 OBC), Division A, Subsection 1.1.2. provides requirements for Ontario.

Division B, Part 9 of Canadian codes applies to buildings 3 storeys or less in building height, having a building area not exceeding 600 m², and used for major occupancies classified as:

- Group C, residential occupancies,
- Group D, business and personal services occupancies,
- Group E, mercantile occupancies, or
- Group F, Division 2 and 3, medium and low hazard industrial occupancies.

Division B, Part 3 of Canadian codes applies to building occupancies other than those noted above for Part 9 and buildings exceeding 600 m².

The requirements for EPS insulation used in Part 3 and Part 9 building applications are found in Canadian codes as follows:

- Division B, Part 5 (Environmental Separation) provide thermal design requirements related to Part 3 building applications. Article 5.10.1.1. {NBC 2015, Division B, Article 5.9.1.1.} includes requirements that EPS insulation comply with the National Standard of Canada CAN/ULC-S701, **Thermal Insulation, Polystyrene, Boards and Pipe Covering** as per Table 5.10.1.1. {NBC 2015, Table 5.9.1.1.}.
- Division B, Clause 9.25.2.2.(1)(c) applies to Part 9 buildings and includes requirements that EPS insulation conform to CAN/ULC-S701.

CAN/ULC-S701 provides the following labelling requirements for EPS insulation:

The product, as delivered to the Customer, shall be suitably marked to identify its type number, the ULC Standard number, and the manufacturer's name or trademark. The product shall also be marked with a warning:

CAUTION: *This product is combustible. A protective barrier or thermal barrier is required as specified in the appropriate building code.*

In addition to the requirement that material properties for EPS insulation must conform to CAN/ULC-S701, a flame-spread rating and smoke developed classification is required for some building applications.

Since EPS insulation is a thermoplastic, Division B, Sentence 3.1.12.1.(1) requires that the flame-spread rating and smoke developed classification must be determined in accordance with CAN/ULC-S102.2-M, **Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials and Assemblies**. EPS insulation tested per CAN/ULC-S102.2M has a flame spread rating greater than 25, but less than 500. The requirements for foamed plastic insulation with a flame-spread rating within this range used as a component in wall, roof or floor assemblies in noncombustible construction are found in Canadian codes under Division B, Sentences 3.1.5.12.(3) to 3.1.5.12.(7) {NBC 2015 Division B, Articles 3.1.5.7. and 3.1.5.15}.

Product labeling for EPS insulation must provide the information as previously noted from CAN/ULC-S701. In addition, flame-spread rating and smoke developed classification determined per CAN/ULC-S102.2-M must be provided where applicable.

Although participation in a third party product certification program to confirm compliance with the above requirements is not required by Code, the presence of the logo of an accredited certification body on product labeling assures Code officials and end users of compliance with the referenced standards. Plasti-Fab EPS insulation is labeled under a third party certification program provided by Intertek.

The Canadian Construction Materials Centre (CCMC) provides the construction industry with a national evaluation service for materials, products, systems and services complying with Canadian Code requirements. CCMC product evaluation listings for EPS insulation are provided based upon participation in an accredited 3rd party certification program.

In addition, Plasti-Fab EPS insulation complying with CAN/ULC-S701 is addressed by CCMC Evaluation Listings, 12424-L, 12425-L and 12426-L. Canada Mortgage and Housing Corporation (CMHC) permit the use of product evaluated by CCMC in construction financed or insured under the National Housing Act.

ASTM C578, **Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation**, is the EPS insulation specification referenced in US Codes. **It is important to note that ASTM C578 is not referenced in Canadian building codes therefore product labeled indicating compliance with C578 does not confirm compliance with Canadian Code requirements.**

ASTM E84, **Standard Test Method for Surface Burning Characteristics of Building Materials**, is the test method referenced in US Codes for determining flame-spread rating and smoke developed classification. **It is important to note that ASTM E84 is not referenced in Canadian building codes therefore product labeling indicating surface burning characteristics per ASTM E84 does not confirm compliance with Canadian Code requirements.** For reference, the flame spread rating for EPS insulation tested using ASTM E84 would typically be less than 25.

In summary, compliance with Canadian building code requirements requires labeling as noted above to confirm compliance with CAN/ULC-S701 and, where applicable, CAN/ULC-S102.2. Inclusion of the logo of an accredited third party certification body on the label ensures that the product meets these requirements.