

Product Information Bulletin

PlastiSpan® and PlastiSpan HD Insulation Insulating Sheathing NBC 2005 and 2010 Requirements

This bulletin provides a specification for general material and installation requirements using PlastiSpan® and PlastiSpan HD insulating sheathing board in conformance with the National Building Code of Canada (NBC) 2005 and 2010. The table below provides material properties as per CAN/ULC-S701, **Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering**, the National Standard of Canada for moulded expanded polystyrene (EPS) insulation.

Material Property	ASTM Test Method ¹	Units	CAN/ULC-S701 ²	
			Type 1	Type 2
Thermal Resistance <i>Minimum per 25 mm (inch)</i>	C518	m ² ·°C/W (ft ² ·h·°F/BTU)	0.65 (3.75)	0.70 (4.04)
Compressive Resistance <i>Minimum @ 10% Deformation</i>	D1621	kPa (psi)	70 (10)	110 (16)
Flexural Strength <i>Minimum</i>	C203	kPa (psi)	170 (25)	240 (35)
Water Vapour Permeance³ <i>Maximum</i>	E96	ng/(Pa·s·m ²) (Perms)	300 (5.0)	200 (3.5)
Water Absorption⁴ <i>Maximum</i>	D2842	% By volume	6.0	4.0
Dimensional Stability <i>Maximum, 7 Days @ 70 ± 2°C (158 ± 4°F)</i>	D2126	% Linear Change	1.5	1.5
Limiting Oxygen Index <i>Minimum</i>	D2863	%	24	24

1. The test methods used to determine material properties in the above table provide a means of comparing different types of cellular plastic thermal insulation. They are intended for use in specifications, product evaluations and quality control. They do not predict end-use product performance.
2. PlastiSpan insulation properties are third party certified under a quality listing program administered by Intertek and are listed by the Canadian Construction Materials Centre (CCMC) under evaluation listing numbers 12424-L (Type 1) and 12425-L (Type 2).
3. WVP values quoted are maximum values for 25-mm thick samples with natural skins intact. Lower values will result for thicker materials.
4. The water absorption laboratory test method involves complete submersion under a head of water for 96 hours. The water absorption values above are applicable to specific end-use design requirements only to the extent that the end-use conditions are similar to test method requirements.

1. Scope:

1.1. NBC 2005:

- 1.1.1. Article 9.23.10.2. – Bracing and Lateral Support
- 1.1.2. Article 9.23.16.1. – Required Sheathing
- 1.1.3. Article 9.23.16.2. – Thickness, Rating and Material Standards
- 1.1.4. Article 9.23.16.3. – Attachment of Cladding to Sheathing
- 1.1.5. Article 9.27.3.4. – Insulating Sheathing in Lieu of Sheathing Membrane
- 1.1.6. Article 9.27.5.1. – Attachment of Cladding
- 1.1.7. Article 9.27.5.7. – Penetration of Fastener

1.2. NBC 2010:

- 1.2.1. Article 9.23.10.2. – Bracing and Lateral Support
- 1.2.2. Article 9.23.17.1. – Required Sheathing
- 1.2.3. Article 9.23.17.2. – Thickness, Rating and Material Standards
- 1.2.4. Article 9.23.17.3. – Attachment of Cladding to Sheathing
- 1.2.5. Article 9.27.3.4. – Insulating Sheathing in Lieu of Sheathing Membrane
- 1.2.6. Article 9.27.5.1. – Attachment of Cladding
- 1.2.7. Article 9.27.5.7. – Penetration of Fasteners

2. Materials:

2.1. Insulation Materials:

- 2.1.1. PlastiSpan insulating sheathing does not provide bracing and lateral support required in Article 9.23.10.2. Where bracing is required, it shall be provided as per Sentence 9.23.10.2.(3).
- 2.1.2. PlastiSpan insulation meets the requirements of CAN/ULC-S701, Type 1 and is listed with the Canadian Construction Materials Centre (CCMC) under evaluation listing 12424-L.
- 2.1.3. PlastiSpan HD insulation meets the requirements of CAN/ULC-S701, Type 2 and is listed with the CCMC under evaluation listing 12425-L.
- 2.1.4. When required to provide solid backing for exterior cladding per NBC 2005, Article 9.23.16.1. or NBC 2010, Article 9.23.17.1 the minimum thickness of insulating sheathing must be 38 mm (1 ½”) per NBC 2005, Table 9.23.16.2.A or NBC 2010, Table 9.23.17.2.A.
- 2.1.5. Sentence 9.27.3.4.(1) states where non-wood-based rigid exterior insulating sheathing, or exterior insulating sheathing with an integral sheathing membrane is installed, a separate sheathing membrane is not required.
- 2.1.6. Sentence 9.27.3.4.(2) state that the joints of rigid insulating sheathing panels must be lapped or detailed to ensure drainage of water to the exterior of the wall or all joints must be sealed.

2.2. Other Materials:

- 2.2.1. Caulking adhesives shall be compatible with polystyrene insulation conforming to CSGB 71-GP-24M, Adhesive, Flexible, for Bonding Cellular Polystyrene Insulation.
- 2.2.2. Sheathing tape used shall be any commercially available sheathing tape such as 3M, Tuck Tape, Tyvek or equivalent.
- 2.2.3. Foam-in-place non-expanding polyurethane foam shall be commercially available material compatible with polystyrene insulation.

2.2.4. Fasteners must be minimum 3.2 mm (1/8") diameter with heads or washers at least 12.7 mm (1/2") in diameter, where the cladding is applied directly against the insulation, and at least 25.4 mm (1") diameter, where an air space between the insulation and the cladding exists.

3. Installation:

3.1. General:

- 3.1.1. Framing, cavity insulation and vapour barrier on the inside of framing (warm side) are all to be installed following normal construction practices and in conformance with the applicable section of the NBC 2005 and 2010.
- 3.1.2. Install PlastiSpan insulating sheathing on the exterior of wood stud construction with the horizontal joints tightly butted together. Vertical joints shall be made over the studs.
- 3.1.3. Install PlastiSpan insulating sheathing using fasteners as per section 2.2.4 that extend not less than 25 mm (1") into the framing.
- 3.1.4. When used as backing for an exterior cladding, PlastiSpan insulating sheathing shall be fastened to framing at not more than 150 mm (6 in) centers along vertical edges.
- 3.1.5. Use a suitable material as per section 2.2.3, to seal joints which have been damaged or cut. Typical locations where the insulating sheathing may be cut include at corners or around windows and doors.
- 3.1.6. As stated in NBC 2005, Sentence 9.23.16.3.(1) and NBC 2010, Sentence 9.23.17.3.(1), rigid insulating sheathing shall not be used for the attachment of cladding materials.
- 3.1.7. Cladding material shall be nailed to the framing members, furring members or to blocking between the framing members as stated in Sentence 9.27.5.1.(1).
- 3.1.8. Cladding materials attached on the exterior side of PlastiSpan insulating sheathing are to be installed following normal construction practices with all fasteners penetrating through the insulating sheathing into framing members in conformance with the applicable section of the NBC 2005 and 2010 with fastener penetration as per Article 9.27.5.7.