

Product Information Bulletin

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PlastiSpan HD EFS Insulation Material Properties

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The properties of **PlastiSpan® HD EFS** insulation¹ used as a component in exterior insulation and finish systems meets or exceeds the applicable requirements for expanded polystyrene (EPS) insulation as specified in Annex A of CAN/ULC-S701-11, **Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering** and ASTM E2430-05, **Standard Specification For Expanded Polystyrene (“EPS”) Thermal Insulation Boards For Use In Exterior Insulation and Finish Systems (“EIFS”)**.

Table 1 – PlastiSpan HD EFS Insulation Material Property Values

Material Properties ²	Units	CAN/ULC-S701, Type 2
Density <i>Minimum</i>	<i>g/l</i> <i>(pcf)</i>	Not Specified
Thermal Resistance ³ <i>Minimum</i>	<i>m²•°C/W</i> <i>(ft²•hr•°F/BTU)</i>	0.70 (4.04)
Water Vapour Permeance ⁴ <i>Maximum</i>	<i>ng/Pa•s•m²</i> <i>(perms)</i>	200 (3.5)
Dimensional Stability <i>Maximum</i>	<i>% linear change</i>	1.5
Water Absorption <i>Maximum</i>	<i>% by volume</i>	4.0 ^{Note 5}
Flexural Strength <i>Minimum</i>	<i>kPa</i> <i>(psi)</i>	240 (35)
Compressive Resistance <i>Minimum @ 10% Deformation</i>	<i>kPa</i> <i>(psi)</i>	110 (16)
Limiting Oxygen Index <i>minimum</i>	<i>% volume</i>	24
Additional Material Properties for PlastiSpan HD EFS Insulation		
Water Absorption <i>Maximum</i>	<i>% by volume</i>	2.0
Dimensional Stability <i>Maximum</i>	<i>% linear change</i>	0.5
Tensile Strength <i>Minimum</i>	<i>kPa</i> <i>(psi)</i>	240 (25)
Coefficient of Thermal Expansion	<i>m/m/°C</i> <i>(in/in/°F)</i>	6.3 x 10 ⁻⁵ (3.5 x 10 ⁻⁵)

¹ PlastiSpan EFS insulation is listed in the **CCMC Registry of Product Evaluations** under CCMC Evaluation Listing 12425-L

² Material properties meet or exceed requirements for CAN/ULC-S701, type 2 is third party certified under a quality listing program administered by Intertek Testing Services.

³ Values are minimum per 25-mm (1-inch) of thickness at mean temperature of 24 °C (75 °F).

⁴ Values are maximum for 25-mm (1-inch) thick samples with natural skins intact. Lower values will result for thicker materials.

⁵ CAN/ULC-S701 maximum water absorption is determined using ASTM Test Method D2842.

Table 2 - Dimensions and Dimensional Tolerances

Standard	CAN/ULC-S701-11, Annex A	ASTM E2430-05
Product Dimensions		
Length	1219.2 mm (48)	1219 mm (48 inches)
Width	609.6 mm (24 inches)	610 mm (24 inches)
Thickness	19.1 to 127.0 mm (3/4 to 5 inches)	20 mm (3/4 inch) to as specified
Dimensional Tolerances		
Length	±1.6 mm (±1/16 inch)	
Width	±1.6 mm (±1/16 inch)	
Thickness	Less than 25.4 (1 inch)	
	25.4 to 127.0 mm (1 to 5 inch)	
Squareness	When measured on the large flat face from one corner to the opposing corner, dimensional variations shall not exceed more than 0.8 mm (1/32 in.) in 305 mm (12 in.)	
Edge Trueness	When measured with a straight edge, edges shall not deviate more than 0.8 mm (1/32 in.) in 305 mm (12 inch)	
Face Flatness	When measured across the face with a straight edge, maximum deviation from the straight edge shall not exceed more than 0.8 mm (1/32 in.)	

Table 3 - Block Aging Requirements Prior to Cutting

Storage Condition	Average Temperature	Minimum Storage Period
Low Pentane (<4.5% pentane) Raw Materials and Vacuum Mould Technology		
Plant Aging	Ambient Temperature 20 °C (68 °F) and RH	12 Days
Full Pentane (nominal 6% pentane) Raw Materials and Vacuum Mould Technology		
Plant Aging	Ambient Temperature 20 °C (68 °F) and RH	18 Days
Full Pentane (nominal 6% pentane) Raw Materials and Non-Vacuum Mould Technology		
Plant Aging	Ambient Temperature 20 °C (68 °F) and RH	42 Days
Heat Aging	Elevated Temperature 60 °C (140 °F)	5 Days

Table 4 - Flame-Spread Rating and Smoke Developed Classification¹

Material Properties	CAN/ULC-S102.2-07 ²	ASTM E84-07 ³
Flame Spread Rating	290	20
Smoke Developed Classification	Over 500	300

Notes to Table 4:

¹ Flame spread and smoke developed classifications are third party certified under a quality listing program administered by Intertek Testing Services.

² Flame spread and smoke developed classifications determined in accordance with CAN/ULC-S102.2-M as per **National Building Code of Canada** 2005 and 2010, Sentence 3.1.12.1.(2).

³ Flame spread and smoke developed classifications determined in accordance with ASTM E84 as per 2006 and 2009 **International Building Code**, Section 2603.3.