

# Product Information Bulletin 221

## **PlastiSpan 30 Insulation Material Property Data**

# Product Information Bulletin

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## PlastiSpan® 30 Insulation Material Property Data Sheet

**PlastiSpan® 30** insulation is a closed cell expanded polystyrene (EPS) insulation that meets or exceeds requirements for CAN/ULC-S701.1 (formerly CAN/ULC-S701), Type 3 and ASTM C578, Type IX.<sup>1</sup> **PlastiSpan 30** insulation compressive resistance is ideal for use in applications where moderately heavy loads are expected such as low temperature freezer floors.

Material Property	Test Method	Units	Values
<b>Compressive Resistance</b> <sup>2</sup> <i>Minimum @ 10% strain</i>	ASTM D1621	kPa (psi)	210 (30)
<b>Compressive Resistance</b> <sup>3</sup> <i>Minimum @ 1% strain</i>		kPa (psi)	75 (10.9)
<b>Thermal Resistance</b> <sup>4</sup> <i>Minimum per 25 mm (1 inch) thickness</i>	ASTM C518	m <sup>2</sup> •°C/W (ft <sup>2</sup> •h•°F/BTU)	0.74 (4.3)
<b>Flexural Strength</b> <i>Minimum</i>	ASTM C203	kPa (psi)	345 (50)
<b>Water Vapour Permeance</b> <i>Maximum</i>	ASTM E96	ng/(Pa•s•m <sup>2</sup> ) (Perms)	130 (2.26)
<b>Water Absorption</b> <sup>5</sup> <i>Maximum</i>	ASTM D2842	% By volume	2.0
<b>Dimensional Stability</b> <i>Maximum, 7 Days @ 70 ± 2°C (158 ± 4°F)</i>	ASTM D2126	% Linear Change	1.5
<b>Limiting Oxygen Index</b> <i>Minimum</i>	ASTM D2863	%	24
<b>Additional Material Properties for Reference</b>			
<b>Compressive Resistance</b> <i>Minimum @ 5% strain</i>	ASTM D1621	kPa (psi)	170 (25.0)
<b>Thermal Resistance</b> <sup>6</sup> <i>Minimum per 25 mm (1 inch) thickness</i>	ASTM C518	Mean Temperature, °C (°F)	-3.9 (25)   -10 (14)
		m <sup>2</sup> •°C/W (ft <sup>2</sup> •h•°F/BTU)	0.84 (4.8)   0.87 (5.0)

- PlastiSpan 30** insulation meets or exceeds requirements for CAN/ULC-S701.1, Standard for Thermal Insulation, Polystyrene, Boards, and ASTM C578, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
- Compressive resistance @ 10% strain exceeds minimum required for CAN/ULC-S701.1 and ASTM C578.
- Compressive resistance at 1% strain is within the elastic limit for **PlastiSpan 30** insulation and is accepted as the design compressive resistance to limit long-term deformation under structural load.
- Thermal resistance is at a mean temperature of 24 °C (75 °F) as per CAN/ULC-S701.1 and ASTM C578.
- The water absorption laboratory test method involves complete submersion under a head of water for 96 hours. The water absorption value above is applicable to specific end-use design requirements only to the extent that the end-use conditions are similar to test method requirements.
- Thermal resistance values at additional mean temperatures of -3.9 °C (25 °F) and -10 °C (14 °F) are provided for reference purposes where applicable.**