

Product Information Bulletin

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ASTM C578 - PlastiSpan® Insulation Material Properties

PlastiSpan® insulation is a rigid, closed-cell foam plastic insulation that meets the requirements for expanded polystyrene (EPS) insulation manufactured to ASTM C578¹ as noted in the Table 1 below.

Material Properties	Units	PlastiSpan Insulation ASTM C578 Types						
		XI	I	VIII	II	IX	XIV	XV
Nominal Density	pcf	0.75	1.0	1.25	1.5	2.0	2.5	3.0
Compressive Resistance ² <i>Minimum @10% deformation</i> ASTM D1621	psi	5	10	13	15	25	40	60
R-value ³ <i>per inch at mean temperature</i> ASTM C518	$\frac{\text{ft}^2 \cdot \text{hr} \cdot ^\circ\text{F}}{\text{Btu}}$							
	@ 40 °F	3.4	4.2	4.3	4.6	4.8	4.8	4.9
	@ 75 °F	3.2	3.9	3.9	4.2	4.4	4.4	4.5
Flexural Strength <i>Minimum</i> ASTM C203	psi	10	25	30	35	50	60	75
Water Vapor Permeance <i>Maximum</i> ASTM E96	Perm for 1-inch	5.0	5.0	3.5	3.5	2.5	2.5	2.5
Water Absorption ⁴ <i>Maximum</i> ASTM C272	% by volume	4.0	4.0	3.0	3.0	2.0	2.0	2.0
Dimensional Stability <i>Maximum</i> ASTM D2126	% linear change	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Oxygen Index <i>Minimum</i> ASTM D2863	volume %	24	24	24	24	24	24	24
Density <i>Minimum</i> ASTM C303 or D1622	pcf	0.70	0.90	1.15	1.35	1.80	2.40	3.00
Flame Spread ASTM E84	Index	<25						
Smoke-Developed ASTM E84	Index	<450						

Sustainability

As part of its commitment to quality and ongoing sustainability initiatives, Plasti-Fab maintains **GREENGUARD Gold Certification** for **PlastiSpan** insulation with UL Environment, an independent global safety science organization. For more information on **GREENGUARD Gold Certification** for **PlastiSpan** insulation see Plasti-Fab Product Information Bulletin 266.

¹ **PlastiSpan** insulation properties are third party certified under a quality listing program administered by Intertek to ASTM C578, **Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation**.

² Compressive resistance measured at 10 percent strain is not intended for use when **PlastiSpan** insulation will be used to support long-term compressive loads. Contact your Plasti-Fab technical representative for additional information.

³ For additional information on thermal resistance requirements refer to ASTM C578.

⁴ ASTM Test Method C272 water absorption requires 24 hours submersion of specimen under water. 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 requirements stated in the test method.