



ASTM C578, Types and Physical Properties for Foamular® Extruded Polystyrene

This table outlines the basic physical property requirements of ASTM C578* and Foamular compliance.
For complete details on properties and other quality requirements see the actual ASTM standard.

Polystyrene Board Type	EPS	EPS	EPS	Foamular 150, XPS	EPS	Foamular 250, XPS	EPS	Foamular 400, XPS	EPS	Foamular 600, XPS	Foamular 1000, XPS
ASTM C578 Classification	Type XI	Type XI	Type VIII	Type X	Type II	Type IV	Type IX	Type VI	Type XIV	Type VII	Type V
Compressive resistance at yield or 10 % deformation, whichever occurs first (with skins intact) min, psi (kPa)	5.0 (35)	10.0 (69)	13.0 (90)	15.0 (104)	15.0 (104)	25.0 (173)	25.0 (173)	40.0 (276)	40.0 (276)	60.0 (414)	100.0 (690)
Density, min, lb/ft ³ (kg/m ³)	0.70 (12)	0.90 (15)	1.15 (18)	1.30 (21)	1.35 (22)	1.55 (25)	1.80 (29)	1.80 (29)	2.40 (38)	2.20 (35)	3.00 (48)
Thermal resistance of 1.00-in. (25.4-mm) thickness, min, F-ft ² -h/Btu (K-m ² /W) Mean temperature: 75 2°(24 1°C)	3.10 (0.55)	3.60 (0.63)	3.80 (0.67)	5.00 (0.88)	4.00 (0.70)	5.00 (0.88)	4.20 (0.74)	5.00 (0.88)	4.20 (0.74)	5.00 (0.88)	5.00 (0.88)
Flexural strength, min, psi (kPa)	10.0 (70)	25.0 (173)	30.0 (208)	40.0 (276)	35.0 (240)	50.0 (345)	50.0 (345)	60.0 (414)	60.0 (414)	75.0 (517)	100.0 (690)
Water vapor permeance of 1.00-in. (25.4-mm) thickness, max, perm (ng/Pa-s-m ²)	5.0 (287)	5.0 (287)	3.5 (201)	1.5 (86)	3.5 (201)	1.1 (63)	2.5 (143)	1.1 (63)	2.5 (143)	1.1 (63)	1.1 (63)
Water absorption by total immersion, max, volume	4.0	4.0	3.0	0.3	3.0	0.3	2.0	0.3	2.0	0.3	0.3

*ASTM C578, “Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation”; published by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959