



TECHNICAL NOTE #104

ASTM C578 & ASTM D6817 SPECIFICATIONS

A **Comparison Table** of some primary physical properties of **Cellofoam®** Expanded Polystyrene (EPS) in accordance with **ASTM C578 - Standard Specification for Rigid Cellular Polystyrene Thermal Insulation** and **Cellofoam®** Geofoam EPS in accordance with **ASTM D6817 - Standard Specification for Rigid Cellular Polystyrene Geofoam**.

Cellofoam® EPS			ASTM C578 TYPE (INSULATION)							ASTM D6817 TYPE (GEOFOAM)						
Physical Property	Test Method	Units	XI	I	VIII	II	IX	XIV	XV	EPS12	EPS15	EPS19	EPS22	EPS29	EPS39	EPS46
Density, Min. ^{1,2}	ASTM C303 or ASTM D1622	lb/ft ³ (kg/m ³)	0.70 (12)	0.90 (15)	1.15 (18)	1.35 (22)	1.80 (29)	2.40 (38)	3.00 (48)	0.70 (12)	0.90 (15)	1.15 (18)	1.35 (22)	1.80 (29)	2.40 (38)	2.85 (46)
Flexural Strength, Min. ^{1,2}	ASTM C203	psi (kPa)	10.0 (70)	25.0 (173)	30.0 (208)	35.0 (240)	50.0 (345)	60.0 (414)	75.0 (517)	10.0 (70)	25.0 (173)	30.0 (208)	35.0 (240)	50.0 (345)	60.0 (414)	75.0 (517)
Compressive Resistance @1% Strain, Min. ²	ASTM D1621	psi (kPa)								2.2 (15)	3.6 (25)	5.8 (40)	7.3 (50)	10.9 (75)	15.0 (103)	18.6 (128)
Compressive Resistance @10% Strain, Min. ^{1,2,3}	ASTM D1621 or ASTM C165	psi (kPa)	5.0 (35)	10.0 (69)	13.0 (90)	15.0 (104)	25.0 (173)	40.0 (276)	60.0 (414)	5.8 (40)	10.2 (70)	16.0 (110)	19.6 (135)	29.0 (200)	40.0 (276)	50.0 (345)
R-Value: Thermal Resistance / Inch, Min. ^{1,4}	ASTM C518	°Fft ² /Btu (°Cm ² /W)	3.1 (0.55)	3.6 (0.63)	3.8 (0.67)	4.0 (0.70)	4.2 (0.74)	4.2 (0.74)	4.3 (0.76)							
Oxygen Index, Min. ^{1,2}	ASTM D2863	Volume %	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Water Absorption By Total Immersion, Max. ¹	ASTM C272	Volume %	4.0	4.0	3.0	3.0	2.0	2.0	2.0							

1. See ASTM C578 specification for more information

2. See ASTM D6817 specification for more information

3. Compressive properties shown for Geofoam EPS are for comparison only. CAUTION: Compression resistance @ 10% strain may be beyond the elastic limit for Geofoam EPS.

4. At mean temperature of 75 ± 2° F (24 ± 1° C)

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