

## TYPICAL PHYSICAL PROPERTIES OF EPS INSULATION

### Specification Reference: ASTM C578

Property	Units	ASTM Test	Type XI	Type I	Type VIII	Type II	Type IX
Density, Min.	(pcf)	D 303 or D 1622	0.75	0.9	1.15	1.35	1.8
Density Range			0.70	0.90-1.14	1.15-1.34	1.35-1.79	1.80-2.20
Thermal Conductivity	at 25 F	BTU/(hr.)	C177 or C518	0.23	0.22	0.21	0.20
K Factor	at 40 F	(sq. Ft.)(F/in.)		0.24	0.235	0.22	0.21
	at 75 F			0.26	0.255	0.24	0.23
Thermal Resistance	at 25 F			4.35	4.54	4.76	5.00
R-Value*	at 40 F		3.30 - 3.43	4.0 - 4.17	4.20 - 4.25	4.40 - 4.55	4.60 - 4.76
	at 75 F		3.10 - 3.22	3.6 - 3.85	3.9 - 3.92	4.0 - 4.17	4.20 - 4.35
<b>Strength Properties</b>							
Compressive 10% Deformation	psi	D 1621	5.0	10. - 14	13 - 18	15 - 21	25 - 33
Flexural	psi	C 203	10.0	25 - 30	30 - 38	40 - 50	50 - 75
Tensile	psi	D 1623		16 - 20	17 - 21	18 - 22	23 - 27
Shear	psi	D 723		18 - 22	23 - 25	26 - 32	33 - 37
Shear Modulus	psi			280 - 320	370 - 410	460 - 500	600 - 640
Modulus of Elasticity	psi			180 - 220	250 - 310	320 - 360	460 - 500
<b>Moisture Resistance</b>							
WVT	perm. in.	E 96	5.0	2.0 - 5.0	1.5 - 3.5	1.0 - 3.5	0.6 - 2.0
Absorption (vol.)	%	C 272	4.0	less than 4.0	less than 3.0	less than 3.0	less than 2.0
Capillarity				none	none	none	none
Coefficient of Thermal Expansion	in./(in.)(F)	D 696		0.000035	0.000035	0.000035	0.000035
<b>Maximum Service Temperature</b>							
Long-term Exposure			167	167	167	167	167
Intermittent Exposure			180	180	180	180	180
Oxygen Index	%		24.0	24.0	24.0	24.0	24.0
Flame Spread			less than 25	less than 25	less than 25	less than 25	less than 25
Smoke Developed			less than 450	less than 450	less than 450	less than 450	less than 450

Physical Properties chart is reprinted with the permission by The Society of the Plastics Industry, Inc.

This material contains a flame retardant. However, it should be considered flammable and should not be exposed to any source of combustion. This product should be installed in accordance to fire and building codes.



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