



## EPS (Expanded Polystyrene) Insulation and Other EPS Products

Physical Properties <sup>1</sup> (Specification References: ASTM C578, ASTM D1621, and/or ASTM D6817)						
	ASTM Method	English Units	EPS 15 or "TYPE I"	EPS 15 or "TYPE VIII"	EPS 15 or "TYPE II"	EPS 15 or "TYPE VI"
Density, minimum	D 303 or D 1622	lb/ft <sup>3</sup>	0.9	1.15	1.35	1.8
Density Range		lb/ft <sup>3</sup>	0.90 to 1.14	1.15 to 1.34	1.35 to 1.79	1.80 to 2.20
Compressive Strength (1% Deformation)	D 1621	lb/in <sup>2</sup>	>3.6	>5.8	11.30 (7.30 min)	13.00 (10.90 min)
Compressive Strength (5% Deformation)	D 1621	lb/in <sup>2</sup>	>8.0	>13.1	21.50 (16.70 min)	26.50 (24.70 min)
Compressive Strength (10% Deformation)	D 1621	lb/in <sup>2</sup>	>10.2	>16.0	24.20 (19.60 min)	29.70 (29.00 min)
Shear Strength:	C 273	lb/in <sup>2</sup>	18 to 22	23 to 25	26 to 32	33 to 37
Shear Modulus	C 273	lb/in <sup>2</sup>	280 to 320	370 to 410	460 to 500	600 to 640
Modulus of Elasticity	--	lb/in <sup>2</sup>	180 to 220	250 to 310	320 to 360	460 to 500
Tensile Strength:	D 1623	lb/in <sup>2</sup>	16 to 20	17 to 21	18 to 22	23 to 27
Flexural Strength:	C 203	lb/in <sup>2</sup>	>25.0	>30.0	>40.0	>50.0
K-Factor: Thermal Conductivity	C 518	BTU·in/hr·ft <sup>2</sup> ·°F				
25 °F			0.23	0.22	0.21	0.20
40 °F			0.24	0.235	0.22	0.21
75 °F			0.26	0.255	0.24	0.23
R-Factor: Thermal Resistance (at 1 " thick)	C 518	hr·ft <sup>2</sup> ·°F/BTU				
25 °F			4.35	4.54	4.73	5.00
40 °F			4.17	4.25	4.55	4.76
75 °F			3.85	3.92	4.17	4.35
Water Absorption	C 272	% by volume	<4.0	<3.0	<3.0	<2.0
Water Vapor Transmission	E 96	perm-inch	2.0 to 5.0	1.5 to 3.5	1.0 to 3.5	0.6 to 2.0
Capillarity	--	--	None	None	None	None
Coefficient of Thermal Expansion	D 696	in/in·°F	0.000035	0.000035	0.000035	0.000035
Maximum Service Temperature		°F				
Long term exposure			167	167	167	167
Intermittent exposure			180	180	180	180
Oxygen Index	D 2863	%	24	24	24	24

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- These are nominal values obtained from representative product samples, and are subject to normal manufacturing variances. For additional property ranges and specifications, contact Dyplast Products.