

**dP EPS (Expanded Polystyrene) Insulation and Other EPS Products**

Physical Properties <sup>1</sup> (Specification Reference: ASTM C 578-2)	ASTM Method	English Units	TYPE 1	TYPE VIII	TYPE II	TYPE IX
<b>Density, minimum</b>	D 303 or D 1622	lb/ft <sup>3</sup>	0.9	1.15	1.35	1.8
<b>Density Range</b>		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
<b>Compressive Strength</b> (10% Deformation)	D 1621	lb/in <sup>2</sup>	10 to 14	13 to 18	15 to 21	25 to 33
<b>Shear Strength:</b>	C 273	lb/in <sup>2</sup>	18 to 22	23 to 25	26 to 32	33 to 37
<b>Shear Modulus</b>	C 273	lb/in <sup>2</sup>	280 to 320	370 to 410	460 to 500	600 to 640
<b>Modulus of Elasticity</b>	--	lb/in <sup>2</sup>	180 to 220	250 to 310	320 to 360	460 to 500
<b>Tensile Strength:</b>	D 1623	lb/in <sup>2</sup>	16 to 20	17 to 21	18 to 22	23 to 27
<b>Flexural Strength:</b>	C 203	lb/in <sup>2</sup>	25 to 30	30 to 38	40 to 50	50 to 75
<b>K-Factor: Thermal Conductivity</b>	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
<b>R-Factor: Thermal Resistance</b> (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
<b>Water Absorption</b>	C 272	% by volume	<4.0	<3.0	<3.0	<2.0
<b>Water Vapor Transmission</b>	E 96	perm-inch	2.0 to 5.0	1.5 to 3.5	1.0 to 3.5	0.6 to 2.0
<b>Capillarity</b>	--	--	None	None	None	None
<b>Coefficient of Thermal Expansion</b>	D 696	in/in·°F	0.000035	0.000035	0.000035	0.000035
<b>Maximum Service Temperature</b>		°F				
Long term exposure			167	167	167	167
Intermittent exposure			180	180	180	180
<b>Oxygen Index</b>	D 2863	%	24	24	24	24

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1. 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.