

# TYPICAL PHYSICAL PROPERTIES OF EPS INSULATION

TYPICAL PHYSICAL PROPERTIES OF EPS INSULATION SPECIFICATION REFERENCE: ASTM C 578-92						
Property	Units	ASTM TEST	Type I	Type VIII	Type II	Type IX
Density, minimum	pcf	D 303 or D 1622	0.90	1.15	1.35	1.80
Thermal Resistance	at 25° F		4.20	4.40	4.60	4.80
R-Value*	at 40° F		4.00	4.20	4.40	4.60
	at 75° F		3.60	3.80	4.00	4.20
<b>Strength Properties</b>						
Compressive 10% Deformation	psi	D 1621	10-14	13-18	15-21	25-33
Flexural	psi	C 203	25-30	30-38	40-50	50-75
Tensile	psi	D 1623	16-20	17-21	18-22	23-27
Sheer	psi	D 723	18-22	23-25	26-32	33-37
Sheer Modulus	psi	-----	230-320	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	2.0-5.0	1.5-3.5	1.0-3.5	0.6-2.0
Absorption(vol.)	%	C 272	less than 4.0	less than 3.0	less than 3.0	less than 2.0
Capillarity	----	-----	none	none	none	none
<b>Coefficient of Thermal Expansion</b>	in/(in.)(F)	D696	0.000035	0.000035	0.000035	0.000035
<b>Maximum Service Temp</b>	°F	-----				
Long-term exposure			167	167	167	167
Intermittent exposure			180	180	180	180
<b>Oxygen Index</b>	%	D 2863	24.0	24.0	24.0	24.0
<b>Buoyancy</b>	lb/ft <sup>3</sup>		60	60	60	60
* R-value means the resistance to heat flow. The higher the R-value, the greater the insulating power.						