

Property		Units	ASTM Test	Type I	Type VIII	Type II	Type IX
Density (Maximum)		pcf		1.0	1.25	1.5	2.0
Density (Minimum)		pcf	C303 or D1622	0.90	1.15	1.35	1.80
Thermal Conductivity K Factor	at 40F	BTU/(hr.) (sq. ft.)(F/in.)	C177 or C518	0.24	0.235	0.22	0.21
	at 75F			0.26	0.255	0.24	0.23
Thermal Resistance Values (R)*	at 40F	per inch	—	4.17	4.25	4.55	4.76
	at 75F			3.85	3.92	4.17	4.35
Strength Properties							
Compressive 10% Deformation		psi	D1621	10-14	13-18	15-21	25-33
Flexural		psi	C203	25-30	30-38	40-50	50-75
Tensile		psi	D1623	16-20	17-21	18-22	23-27
Shear		psi	D732	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
Moisture Resistance							
WVT		perm. in.	E96	2.0-5.0	1.5-3.5	1.0-3.5	0.6-2.0
Absorption (vol.)		%	C272	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)	D696	0.000035	0.000035	0.000035	0.000035
Maximum Service Temperature							
Long-term		°F	—	167	167	167	167
Intermittent				180	180	180	180
Oxygen Index							
		Minimum %	D2863	24.0	24.0	24.0	24.0
Dimensional Stability							
		% Change	D2126	max. 2.0	max. 2.0	max. 2.0	max. 2.0
Bond Strength, lb/ft² shear							
with Portland Cement				830	830	830	830
with gypsum				510	510	510	510
Sound Absorption							
at 1000 cps			C423	0.36	0.36	0.36	0.36
at 2000 cps				0.54	0.54	0.54	0.54
at 4000 cps				0.38	0.38	0.38	0.38
Buoyancy, lb/ft³							
				60	60	60	60
Toxicity							
			Laboratory Reports	Approximately the same as burning wood, paper or cardboard			
Fungus & Bacterial Resistance							
			F.H.A. Test Procedures	Will not support bacterial or fungus growth; no food value.			
<i>*R' means resistance to heat flow. The higher the 'R' value, the greater the insulating power.</i>							