



LAST-A-FOAM® FR-4500 RIGID POLYURETHANE FOAM (English Units)

Property	Test Method	FR-4510	FR-4512	FR-4515	FR-4518	FR-4520	FR-4530	FR-4540	FR-4550
Density (lbs/ft <sup>3</sup> )	ASTM D-1622	10	12	15	18	20	30	40	50
<b>Compressive Strength (psi)</b>									
Parallel to Rise									
75°F	ASTM-D-1621	300	360	600	1,000	1,250	2,100	3,600	4,500
160°F		230	280	430	680	810	1,400	2,200	2,800
Perpendicular to Rise									
75°F	ASTM-D-1621	300	360	600	1,050	1,300	2,250	3,900	4,900
160°F		220	270	420	700	850	1,450	2,400	3,050
<b>Compressive Modulus (psi)</b>									
Parallel to Rise									
75°F	ASTM-D-1621	9,350	11,500	16,900	22,800	26,600	41,000	67,600	83,400
160°F		8,300	10,000	15,100	20,600	24,100	37,000	62,300	76,900
Perpendicular to Rise									
75°F	ASTM-D-1621	8,900	11,700	16,900	23,900	27,900	46,700	69,900	88,900
160°F		7,450	10,100	14,000	20,900	24,500	43,300	60,100	78,700
<b>Tensile Strength (psi)</b>									
Parallel to Rise	ASTM D-1623 Type A Specimens	260	290	425	730	880	1,500	2,500	3,100
Perpendicular to Rise		250	280	430	720	860	1,400	2,500	3,050
<b>Flexural Strength (psi)</b>									
Rise Parallel to Test Span	ASTM D-790 Method 1-A	380	410	670	1,100	1,350	2,100	3,900	4,800
Rise Parallel to Beam Thick.		390	410	670	1,100	1,350	2,150	4,000	4,900
<b>Flexural Modulus (psi)</b>									
Rise Parallel to Test Span	ASTM D-790 Method 1-A	16,700	18,700	27,500	42,700	50,700	80,900	138,000	171,000
Rise Parallel to Beam Thick.		15,700	18,400	26,600	42,000	49,800	82,600	133,500	168,000
Surface Roughness, sanded (µin)	SJ-201P per JIS B0601-1982	1,500	1,130	805	610	519	280	180	128
Thermal Conductivity: (BTU-in/ft <sup>2</sup> ·°F·h)	ASTM C-518 at 75°F (24°C) mean temp.	0.263	0.295	0.343	0.391	0.423	0.584	0.744	0.904
Coefficient of Thermal Expansion: (in/in-°F)	From -50 to +200°F, GP Method	29 x 10 <sup>-6</sup>							
Poisson's Ratio:	Literature (Gibson & Ashby)	~ 0.3							
Glass Transition Temperature, Tg (°F)	ASTM E-1824	220							
Max Use Temperature (°F)		200							
Fire Safety	Self-extinguishing via FAR 25.853 (A) App. F (a)(1)(i) & (ii) tested vertically on 1/2" thick specimen using 12- and 60- second ignition with a Bunsen burner								

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This data is subject to revision and changes due to development of and changes to the material. The data is derived from tests and historical usage. The data is averaged data and should be treated as such. These values do not constitute a sales specification. Calculations should be verified by actual tests. The data is furnished without liability for the company and does not constitute a warranty or representation in respect to the material or its use. The company reserves the right to release new data sheets in replacement.

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