GENERALPLASTICS MANUFACTURING COMPANY

LAST-A-FOAM® FR-7100 RIGID POLYURETHANE FOAM (Metric Units)

Property	Test Method	FR-7104	FR-7105	FR-7106	FR-7108	FR-7110	FR-7112	FR-7115	FR-7118	FR-7120	FR-7125	FR-7130	FR-7135	FR-7140
Density (kg/m^3)	ASTM D-1622	64	80	96	128	160	192	240	288	320	400	481	561	641
Compressive Strength (kPa)														
Parallel to Rise														
24°C	ASTM-D-1621	750	900	1,050	1,650	2,150	2,750	3,500	4,550	7,300	12,100	16,300	23,100	29,100
71°C		300	400	550	850	1,150	1,450	1,850	2,750	4,000	6,400	8,200	11,700	14,700
Perpendicular to Rise														
24°C	ASTM-D-1621	500	900	1,150	1,650	2,100	2,600	3,450	3,800	6,950	11,700	15,400	22,800	29,400
71°C		300	500	600	950	1,200	1,500	2,000	2,200	3,650	6,100	7,800	11,700	15,100
Compressive Modulus (kPa)														
Parallel to Rise														
24°C	ASTM-D-1621	16,200	24,800	29,300	51,400	69,300	86,200	112,000	239,000	257,000	423,000	624,000	686,000	786,000
71°C		11,000	16,200	19,700	33,100	44,500	55,800	73,000	117,000	137,000	225,000	241,000	379,000	379,000
Perpendicular to Rise														
24°C	ASTM-D-1621	13,100	25,900	36,500	49,600	64,100	81,400	105,000	113,000	194,000	325,000	436,000	627,000	800,000
71°C		9,000	16,500	23,800	33,400	43,100	55,800	72,500	88,000	110,000	172,000	229,000	293,000	359,000
Tensile Strength (kPa)														
Parallel to Rise	ASTM D-1623 Type A Specimens	600	850	1,050	1,400	1,700	2,150	2,700	3,850	5,150	7,600	9,650	13,100	16,000
Perpendicular to Rise		600	850	1,100	1,400	1,650	2,000	2,500	3,050	4,900	7,200	8,700	13,100	17,100
Shear Strength (kPa)														
Parallel to Rise	ASTM C-273 in Compression *Modified sample size = 0.64cm x 2.54cm x 7.62cm	300	450	700	1,050	1,400	1,650	2,750	3,800	4,300	6,550	8,800	10,700	11,900
Shear Modulus (kPa)														
Parallel to Rise	ASTM C-273 in Compression *Modified sample size = 0.64cm x 2.54cm x 7.62cm	19,300	30,300	41,400	65,500	87,600	100,000	155,800	180,000	221,000	263,000	331,000	372,000	414,000
Flexural Strength (kPa)														
Rise Parallel to Test Span	ASTM D-790 Method 1-A	700	1,050	1,150	2,050	2,750	3,450	4,550	5,140	7,050	10,700	13,400	18,600	23,400
Rise Parallel to Beam Thick.		700	1,050	1,150	2,050	2,850	3,500	4,600	4,750	6,850	10,700	13,400	19,300	24,100
Flexural Modulus (kPa)														
Rise Parallel to Test Span	ASTM D-790 Method 1-A	21,000	33,400	42,700	62,700	80,000	101,000	131,000	154,000	229,000	382,000	495,000	710,000	896,000
Rise Parallel to Beam Thick.		21,000	33,400	42,700	62,400	79,300	101,000	130,000	151,000	229,000	380,000	487,000	703,000	896,000
Hardness, Shore-D (cut foam surface)	ASTM D-2240	3.5	5.5	7.5	11.6	15.7	19.7	25.8	31.9	36.0	46.1	56.3	66.4	77.0
Water Absorption (kg/m^2)	ASTM D-2842	0.091	0.087	0.084	0.076	0.070	0.064	0.056	0.049	0.045	0.036	0.029	0.023	0.018
Thermal Conductivity: (W/m·K)	ASTM C-518 at 24°C mean temp.	2.7×10^{-2}	2.9×10^{-2}	3.1×10^{-2}	3.4×10^{-2}	3.8×10^{-2}	4.2×10^{-2}	4.7×10^{-2}	5.2×10^{-2}	5.6×10^{-2}	6.5×10^{-2}	7.4×10^{-2}	8.3×10^{-2}	9.2×10^{-2}
Coefficient of Thermal Expansion: (m/m-K)	From -46 to +93°C, GP Method	56×10^{-6}												
Poisson's Ratio:	Literature (Gibson & Ashby)	~ 0.3												
Glass Transition Temperature, Tg (°C)	ASTM E-1824	116												
Max Use Temperature (°C)		104												
Fire Safety	Self-extinguishing via FAR 25.853 (A) App. F (a)(1)(i) & (ii) tested vertically on 1.27cm thick specimen using 12- and 60- second ignition with a Bunsen burner													

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