

LAST-A-FOAM FR-4700 Series High-Temp Tooling Board

400' F

FR-4718

FR-4730

FR-4740

## FR-4700 Product Data Sheet

### Product Description

The FR-4700 is a rigid, high-temperature, hybrid tooling board that is designed for prototype machining, prepreg composite layup tooling, vacuum form tooling, tool proofing, pattern making, and master model making.

### Application

FR-4700 Tooling Board is non-abrasive and can be machined and cut with HSS cutters, or any standard cutting tool.

It can be bonded to itself or other substrates using urethane and epoxy adhesives.

### Key Performance Benefits

- Applications up to 400°F peak temperature
- High-temperature continuous use up to 350°F
- Compatible with commercial pre-pregs
- No out gassing or cure inhibition
- Dimensionally stable
- Large block sizes available
- Reduced bond lines
- Reduced bonding labor
- Excellent surface finish
- Easy machinability

Product	Thickness (max)	Size (max)
FR-4718	14 inches	48" x 96"
FR-4730	12 inches	24" x 96"
FR-4740	10 Inches	24" x 80"

## Technical Data

	FR-4718	FR-4730	FR-4740	Test Method
Density, pcf (kg/m <sup>3</sup> )	18 (290)	30 (480)	40 (640)	ASTM D-1622
Compressive Strength, psi (mPa)				ASTM D-1621
Parallel to rise @ 75°F (24°C)	1,350 (9.29)	3,350 (23.1)	4,950 (34.1)	
Parallel to rise @ 350°F (177°C)	665 (4.59)	1,640 (11.3)	2,700 (18.6)	
Perpendicular to rise @ 75°F (24°C)	1,060 (7.34)	2,790 (19.2)	5,000 (34.5)	
Perpendicular to rise @ 350°F (177°C)	387 (2.67)	930 (6.41)	2,750 (18.9)	
Compressive Modulus, psi (mPa)				ASTM D-1621
Parallel to rise @ 75°F (24°C)	46,400 (320)	71,200 (491)	110,000 (758)	
Parallel to rise @ 350°F (177°C)	26,100 (180)	44,700 (308)	72,800 (502)	
Perpendicular to rise @ 75°F (24°C)	31,800 (219)	59,300 (409)	106,000 (733)	
Perpendicular to rise @ 350°F (177°C)	10,000 (69.2)	23,000 (158)	68,600 (473)	
Flexural Modulus, psi (mPa)	14,200 (98)	67,700 (467)	153,000 (1050)	ASTM D-790
Flexural Strength, psi (mPa)	282 (1.94)	1,280 (8.83)	2,170 (15.0)	ASTM D-790
Tensile Strength, psi (mPa)	290 (2.0)	690 (4.8)	2300 (16.0)	ASTM D-1623
Coefficient of Thermal Expansion (CTE)	75°F-400°F, 25x10 <sup>-6</sup> in/in*°F (24°C-205°C, 46x10 <sup>-6</sup> m/m*K)			ASTM E831 (modified-temp range)
Glass Transition Temperature [T <sub>g</sub> ], °F (°C)	425 (218)			ASTM E1545
Thermal Conductivity, BTU*in/ft <sup>2</sup> *°F*h (W/m*K)	0.34 (0.05)	0.53 (0.08)	0.71 (0.10)	ASTM C-518 AT 75°F (24°C) mean temp



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