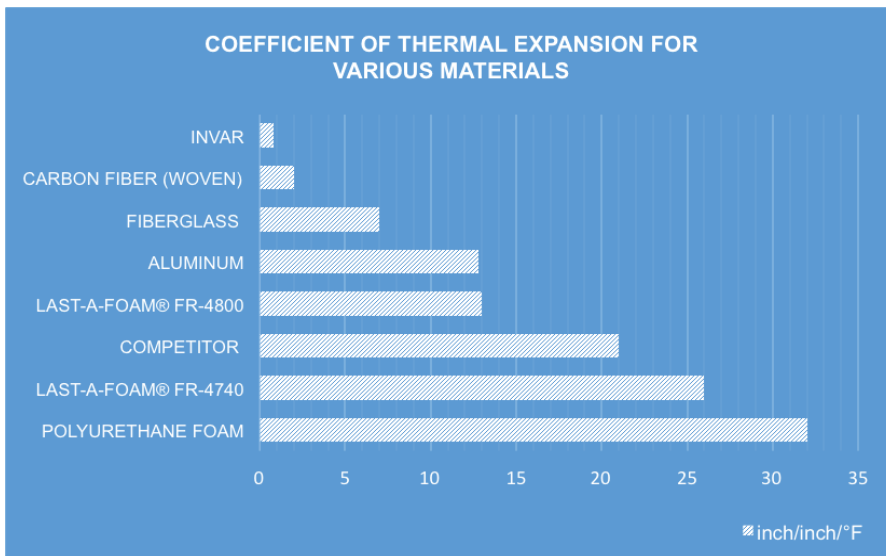


LAST-A-FOAM® FR-4800 TOOLING BOARD SERIES

LAST-A-FOAM® FR-4800 is a dimensionally-stable tooling board with low CTE, ideal for use in applications up to 480°F (249°C) and continuous use temperatures up to 400°F (204°C). It may be used with a variety of high-temperature resin systems (vinyl esters and epoxies to BMIs), in high-pressure autoclaves, and as prepreg composite layup tools.

With its high temperature, low CTE and consistent cool-down rate (1°F to 2°F per minute), it is ideal for use in the production of complex shapes and parts with challenging performance requirements typical in the aerospace, defense, and automotive industries. The CTE is also predictable and repeatable, making it easy to calculate a tooling correction factor, further improving the ability to produce high-tolerance parts.



The thermal performance of the FR-4800 tooling board is significantly better than other plastics in the market as it does not warp or twist and remains dimensionally predictable, even at elevated temperatures. It is a low-cost solution compared to metallic tooling, with a density that is a third of aluminum and has a shorter lead time for machining. This tooling board has a smooth surface finish, is non-abrasive and can be machined with carbide tooling.

FEATURES & BENEFITS

- Peak temperatures up to 480°F (249°C)
- Continuous use temperatures up to 400°F (204°C)
- Low, predictable and repeatable CTE
- Consistent cool-down rate
- Fully-cured, no outgassing
- Dimensionally predictable at elevated temperatures
- Easily machined, doesn't chip out
- Static-dissipative
- Offered at 48 pounds per cubic foot
- Made in USA

POTENTIAL APPLICATIONS

- Fiber-reinforced composites
- High temperature resin systems
- High-pressure autoclave
- Foam masters
- Prepreg composite layup tools
- Vacuum forming
- Short-run tooling
- Pattern making
- Monolithic tools and molds

CERTIFICATIONS & QUALITY SYSTEMS

ISO 9001:2015/AS9100D
NQA-1
Mil-I-45208A
Boeing Company D6-82473
ITAR-Compliant
Nadcap AC7130 Rev C
Nadcap AC7130/1 Rev A.

PHYSICAL PROPERTY DATA			
PROPERTY	UNIT	FR-4800	TEST METHOD
Density	lbs/ft ³	48	ASTM D-1622
	KG/M ³	770	
Compressive Strength (75°F)	psi	4,500	ASTM D-1621
	kPa	31,030	
Flexural Strength	psi	2,000	ASTM D-790 Method 1-A
	kPa	13,790	
Coefficient of Thermal Expansion (CTE)	in/in-°F	12 x 10 ⁻⁶	ASTM E-1824 @104°F - 230°F
	m/m-K	22 x 10 ⁻⁶	
	in/in-°F	13 x 10 ⁻⁶	ASTM E-1824 @248°F - 356°F
	m/m-K	23 x 10 ⁻⁶	
	in/in-°F	13 x 10 ⁻⁶	ASTM E-1824 @356°F - 400°F
	m/m-K	23 x 10 ⁻⁶	
Thermal Conductivity	BTU* in/ ft ² *°F8h	1.45	ASTM C-518 @75°F (24°C) mean temp.
	W/m*°K	0.21	
Max Use Temperature	°F	480	
	°C	249	

Values shown are parallel to the direction of rise and representative values.

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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. This data is averaged data and should be treated as such. 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.

For additional physical property data, please contact our technical sales group at 253.473.5000 or sales@generalplastics.com



All General Plastics' products are manufactured in the United States and are free of CFCs and VOCs.