GENERALPLASTICS MANUFACTURING COMPANY

WHERE GREAT IDEAS TAKE SHAPE.

LAST-A-FOAM® RF-2200 DIELECTRIC FOAM SERIES

LAST-A-FOAM® RF-2200 is a series of low-density, closed-cell polyurethane foams that provide an RF-transparent protective layer for radomes and antenna applications requiring optimal performance of insulation materials and extended thermal processing capabilities. It is offered in 3, 4 and 6 pcf. However, custom densities are also available based on dielectric property requirements.

The RF-2200 is a thermoset plastic suitable for composite structures requiring high processing temperatures (up to 350°F). Applications with complex shapes and tight tolerances will benefit from the foam's dimensional stability and uniform cell structure. It does not absorb water, is durable, biologically inert and comes in large blocks – up to 30"x100"x100".

As a low-cost alternative to other commonly used materials such as polymethacrylimide (PMI), polyvinylidene difluoride (PVDF) and polyethersulfone (PESU), the RF-2200 series exhibits high performance with low dielectric interference. It is non-dispersive so customers can be guaranteed complete dielectric performance at every frequency range.

Dielectric properties are predictable based on density (see Fig. 1).

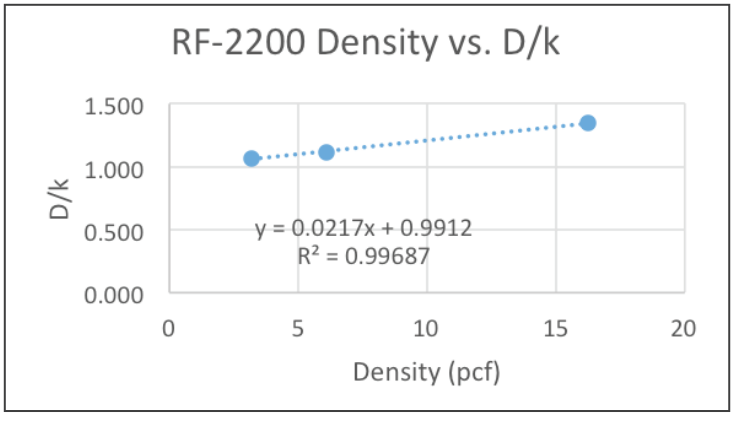

Fig. 1: Linear data trend for dielectric constand of RF-2200. Certifications of performance is available upon request.

FEATURES & BENEFITS

- Provides optimal signal transmission and receipt for antenna and other electronics
- Performs in a large variety of usage temperatures (up to 350°F)
- Does not absorb water
- Highly machinable
- Excellent compressive and electrical insulation properties
- Biologically inert and does not rot or decay
- Compatible with many types of adhesives
- Dimensionally stable
- Comes in large blocks (30"x100"x100")

POTENTIAL APPLICATIONS

- Radomes
- High temperature core material
- Aerospace components
- Automotive components
- Electronic packaging insulation
- Electrical isolators
- Protective structures from weather, dust, and bird strike
- Spacer material in antenna construction
- Core material for resin-transfer molding

CERTIFICATIONS & QUALITY SYSTEMS

ISO 9001:2015/AS9100D
Mil-I-45208A
Boeing Company D6-82473
ITAR-Compliant

PHYSICAL PROPERTY DATA

PROPERTY	UNIT	RF-2203	RF-2204	RF-2206	TEST METHOD
Density	lbs/ft^3	3	4	6	ASTM D-1622
	kg/m^3	48	64	96	
Compressive Strength (75°F)	psi	65	100	190	ASTM D-1621
	kPa	450	690	1,300	
Tensile Strength	psi	50	80	130	ASTM D-1623 Type A Specimens
	kPa	340	550	900	
Shear Strength	psi	50	75	125	ASTM C273 in Compression *Modified sample size - 0.25"x1.0"x3.0"
	kPa	340	520	860	
Flexural Strength	psi	75	110	170	ASTM D-790 Method 1-A
	kPa	520	760	1,150	
Coefficient of Thermal Expansion (CTE)	in/in-°F	32 X 10^{-6}			From -50 to +200°F, GP Method
	m/m-K	58 X 10^{-6}			
Max Use Temperature	°F	340			
	°C	171			
Dielectric Constant		1.060	1.078	1.114	Vector Electromagnetics Free Space Network Analyzer Test Method
Loss Tangent		0.0010	0.0015	0.0030	

Values shown are parallel to the direction of rise and representative values. *rev. 7.27.2018*

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

STANDARD SHEET SIZES

PRODUCT	HEIGHT in (cm)	WIDTH in (cm)	LENGTH in (cm)
RF-2203	24 (61)	20 (122)	80 (244)
RF-2204	24 (61)	20 (122)	80 (244)
RF-2206	24 (61)	20 (122)	80 (244)

GENERALPLASTICS MANUFACTURING COMPANY

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