

Product Description

Acculam® Epoxyglas AC-S121F is a laminate sheet manufactured from woven E-glass fiberglass cloth impregnated with a flame-retardant, brominated bisphenol-A epoxy resin system and cured with a proprietary novolac curing agent. This formulation enhances machinability while improving resistance to thermal cycling and allowing the material to tolerate larger temperature swings than is typical for flame-retardant glass epoxy laminates. The grade conforms to the requirements of NEMA FR-4 and MIL-I-24768/27.

This material exhibits high mechanical strength and excellent electrical insulating properties in both dry and humid environments. These characteristics, combined with its free-machining behavior and improved thermal durability, make Acculam® Epoxyglas AC-S121F suitable for a wide range of demanding electrical and mechanical applications.

Typical Properties

PROPERTY	TYPICAL VALUE	UNITS
PHYSICAL DATA		
Specific Gravity	1.80	
Water Absorption -.500"	<0.1	%
Temperature Index	140 / 284	°C / °F
Rockwell Hardness	110	M scale
Bond Strength	>2,000 / 907	LBS / kgs
Flexural Strength -LW-A-.125"	>55,000 / 379	PSI / MPa
Flexural Strength -CW-A-125"	>45,000 / 310	PSI / MPa
Izod Impact Strength -LW	>7	ft-lbs. / in
Izod Impact Strength -CW	>5.5	ft-lbs. / in
Compressive Strength Flatwise	>60,000 / 413	PSI / MPa
Flame Resistance	94 V0	
ELECTRICAL DATA		

PROPERTY	TYPICAL VALUE	UNITS
Dielectric Breakdown -A	>60	kV
Dielectric Breakdown -D48/50 Arc	>40	kV
Permittivity -A	5.2	
Permittivity -D24/23	5.4	
Dissipation Factor -A	0.025	
Dissipation Factor -D 24/23	0.035	

Accurate provides this data as information only and does not imply any warranty for its use or application.

Acculam Epoxyglas AC-S121F

Acculam offers a complete selection of Epoxyglas FR4 sheets, the worldwide standard in fiberglass-reinforced epoxy laminate & workhorse of the industry for a multitude of applications. This material is also flame self-extinguishing -94 VO. Epoxyglas G10/FR4 possesses unparalleled mechanical strength and insulating properties in both dry and humid conditions. These attributes impart amazing versatility, which makes G10/FR4 the preferred choice for a multitude of applications and is referred to as "The Workhorse of the Industry".

Acculam® Thermoset Plastic Laminate sheets come in a range of sizes and thicknesses (From .005" to > 6.0") to suit every use. Rely on their structural & electrical insulation strength to be:

- Extremely durable reinforced plastic
- High Strength to Weight Ratio
- Lightweight and moisture resistant
- Able to withstand the application of heat and not soften
- Unparalleled Mechanical & Electrical Insulating Properties
- Available in panels, tubing, rod, and angle form
- Extremely high mechanical strength
- Resistant to most chemicals and solvents
- Good dielectric loss properties in moist or dry conditions

G10/FR4 composite has excellent compressive and flexural strength-modulus along with high surface hardness. It offers good chemical and temperature resistance which is ideal for down-hole applications such as – Frac balls, cement plugs, plunger assemblies, load rings, etc. The use of G10/FR4 composites improve well and drilling downtime compared to metal and other materials. It is easily drilled and does not clog drill bits, nor wear them excessively.

G10/FR4 finds many uses in electrical equipment assemblies as spacers, shields, stand-offs, structural supports, arc chutes, switchgear, brush holders, terminal strips, circuitry test boards, casings for impeder tubes, antenna & detection tubing, etc. It provides both insulating & structural functions in both dry & humid along with temperature resistance across wide ranges of applications & industries. It is easily machined into complex parts with conventional milling and turning tools as well as waterjet and laser cutting.

Acculam was established in 1980 and is an ISO 9001 certified manufacturing company. Our thermoset laminate products have taken their place in markets spanning six continents and earned world-class recognition and acceptance as the best. **You Know It's Right . . . When It's Accurate** serves as a continuing reminder that we are committed to produce and deliver the very best products and solutions to the industries we serve.

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