

## Acculam® Epoxyglas G10 / FR4 Product Data Sheet

Typical Properties	Typical Value	Units
<b>Physical Data</b>		
Specific Gravity	1.85	---
Water Absorption -.25"	<0.1	%
Temperature Index	140 / 284	°C / °F
Rockwell Hardness	100	M scale
Bond Strength	>2,200 / 1,000	LBS / kgs
Flexural Strength -LW -A -.125"	>90,000 / 621	PSI / MPa
Flexural Strength -CW -A -.125"	>65,000 / 448	PSI / MPa
Izod Impact Strength -LW	>12	ft-lbs / in
Izod Impact Strength -CW	>9	ft-lbs / in
Compressive Strength Flatwise	>75,000 / 518	PSI / MPa
Flame Resistance	94 VO	---
<b>Electrical Data</b>		
Dielectric Breakdown -A	>60	kV
Dielectric Breakdown -D48/50 Arc	>60	kV
Permittivity -A	4.8	---
Permittivity -D24/23	4.8	---
Dissipation Factor -A	0.017	---
Dissipation Factor -D 24/23	0.018	---

**Product Description:** Acculam® Epoxyglas G10/FR4, is a laminate sheet comprised of a flame retardant epoxy resin and a woven fiberglass substrate. This grade qualifies to NEMA FR4 and MIL-I-24768/27.

**Typical Applications:** This material has high mechanical strength and excellent electrical insulating qualities in both dry and humid conditions. These attributes along with good fabricating characteristics allow this grade to be used in a wide variety of electrical and mechanical applications.

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

Accurate Plastics offers a complete selection of Epoxyglas FR<sub>4</sub> 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/FR<sub>4</sub> possesses unparalleled mechanical strength and insulating properties in both dry and humid conditions. These attributes impart amazing versatility, which makes G10/FR<sub>4</sub> 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/FR<sub>4</sub> 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/FR<sub>4</sub> 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/FR<sub>4</sub> 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 water-jet and laser cutting.

Accurate Plastics was established in 1980 and is an ISO 9001 certified manufacturing company. Our Acculam 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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