

Insulect FR4 (Flame Retardant G10)

EPOXY GLASS LAMINATE

Rigid insulation for thermal and electrical applications

FR4
Epoxy Glass
Laminate

GENERAL DESCRIPTION

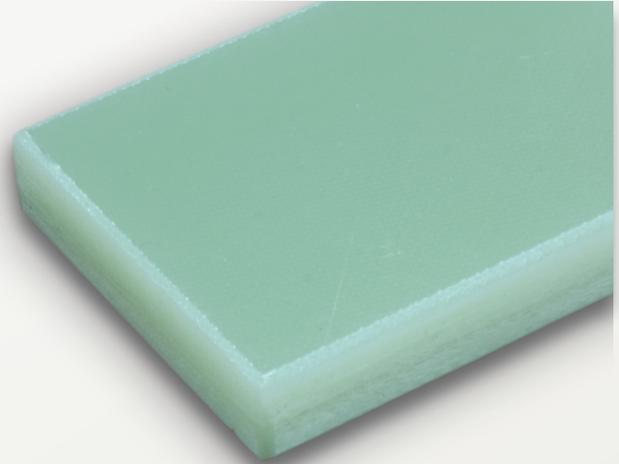
Laminated under high pressure and temperature, Insulect Epoxy Glass Laminate FR4 is an extremely versatile product due to its excellent mechanical, electric and thermal properties. FR4 grade laminate is similar to G10, but is also flame retardant (self extinguishing). It boasts great machinability and moisture and chemical resistance.

FEATURES & BENEFITS

- Similar to G10, but more suited to electro-mechanical applications requiring flame resistance.
- At 150°C it retains 25% of its flexural strength and all of its electrical properties
- Excellent machinability
- Very low moisture absorption

APPLICATIONS

- Insulating components in electrical equipment such as motors, generators, transformers and switchgear
- Suited to corrosive environments
- F-class electrical applications
- Solder frames
- Terminal boards
- Suited to underwater conditions



GENERAL INFORMATION

Material	Woven glass cloth impregnated and bonded with an epoxy thermosetting resin
Colour	Green

TECHNICAL DATA		UNITS	VALUE
Density		g/cm ³	1.7 ~ 1.9
Flexural Strength (perpendicular to laminations)		MPa	≥340
Impact Strength (charpy)		MPa	≥33
Flammability, vertical		Classification	FV0
Insulating Resistance	After 24hr in water	MΩ	≥5.0x10 ²
Dissipation Factor, 1MHz, after 24hr in water		-	≤0.04
Withstand Voltage, parallel to laminations, in transformer oil at 90°±2° for 1 min		kV	40
Dielectric strength, perpendicular to laminations, in transformer oil at 90°±2°	1.0mm	MV/m	14.2
Permittivity (1MHz)			≤5.5
Water Absorption	D-24/23 1.6mm thick	mg	19

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DIMENSIONS

Sheet	Length x Width	mm	1020 x 2040
	Thickness	mm	0.2 to 150.0
Rod	Length	mm	up to 1000
	Diameter	mm	5.0 to 100.0
Tube	Length	mm	up to 1000
	Outer Diameter	mm	12.5 to 190.0
	Inner Diameter	mm	6.35 to 155.0
Washer, nuts, bushes	Assorted sizes available		

SIZING & AVAILABILITY

The above table shows the most commonly requested products in this range. Should you require something outside of these parameters, please contact your local sales representative or our customer service team.

MACHINING & FABRICATION

Insulect's manufacturing capabilities form a key part of the trusted service we offer our customers. Our two modern, well equipped facilities – in Brisbane and Melbourne – work with a wide range of electrical, thermal and mechanical materials – including plastics, composites and cellulose-based products.

We offer short run, specialty or volume based machining and fabrication for almost any application and can produce cut-to-order sheets or finished components. Coupled with our highly-trained and experienced team, we are able to deliver on the most complex of customer requirements.