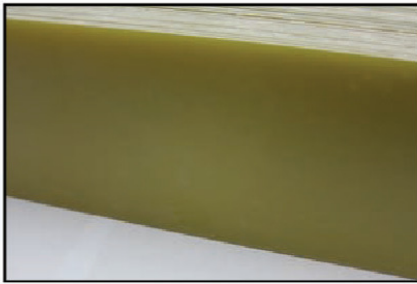




G-11 / FR-5

Epoxy Resin – Glass Fabric Substrates



PRODUCT CAPABILITIES:

STOCK SHAPES
· Sheet : 0.2mm – 50mm

ADVANTAGES:

- Excellent Mechanical Strength
- Easy Machinability
- Good Electrical Properties From Cryogenic To Elevated Temperatures
- Meets Requirement of MIL-I-24768/3, Type GEB

PRODUCT COLORS:

● Light Yellow

APPLICATIONS INCLUDE:

- Low Temperature Thermal Insulation
- Structural Applications
- Cryogenic Applications
- Mechanical & Electrical Applications For Very High or Very Low Temperatures Are Part Of The Environmental Requirement.
- Pipe Shoes And Vacuum Applications

GENERAL PROPERTIES	ASTM or UL Test	G-11 / F5-5 Typical Values
PHYSICAL		
Density (g/cm ³)	D792	-
Water Absorption for 3mm thickness	D570	<20
MECHANICAL		
Tensile Strength (MPa)	D638	-
Flexural Strength (kJ / m ²) r.t.p. / 155+/-2°C	D790	>340 / >170
Flexural Modulus (GPa)	D790	20.7 / 18.6
Compressive Strength (MPa)	D695	499.9
Bonding Strength (Kg)	D229	-
Shear Strength (MPa)	D732	-
Impact Strength Parallel to Lamination (kJ / m ²)	D256	>33
Hardness, Rockwell, Scale M	D785	-
THERMAL		
Coeff. of Thermal Expansion (" / °C x 10 ⁶) (0.125")	IPC-TM 650-2.4.24	-
Temperature Index (°C), Electrical (0.125")	UL Bulletin 746b	-
Temperature Index (°C), Mechanical (0.125")	UL Bulletin 746b	-
Thermal Class	-	G
Flammability Rating (G-11 / FR-5)	UL-94	- / V-0
ELECTRICAL		
Dielectric Strength Perpendicular To Lamination At 90 +/-2°C In Transformer Oil, 2mm (MV / mm)	D149	>11.8
Dielectric Strength Parallel To Lamination (kV)	D149	>35
Dielectric Constant At 1MHz	D149	<5.5
Insulation Resistance After Immersion In Water	-	>1.0 x 10
Loss Factor At 1MHz	-	<0.04

NOTE: The information contained here in is typical values intended for reference only. They should NOT be used as a basis for design specifications or quality control.

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