

G-5 Fiberglass Melamine Laminate Sheet

Category : Polymer , Thermoset , Filled/Reinforced Thermoset , Melamine

Material Notes:

This material is very hard, flame resistant, and has excellent electrical properties. G-5 has high arc and heat resistance. It used for switch board panels, arc barriers, circuit breaker parts, and structural electrical parts. Information provided by Boedeker Plastics.

Order this product through the following link:

http://www.lookpolymers.com/polymer_G-5-Fiberglass-Melamine-Laminate-Sheet.php

Physical Properties	Metric	English	Comments
Density	1.85 g/cc	0.0668 lb/in ³	ASTM D792
Water Absorption	0.60 %	0.60 %	24 hrs.; ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	115	115	ASTM D785
Tensile Strength at Break	352 MPa	51100 psi	Crosswise; ASTM D638
	425 MPa	61600 psi	Lengthwise; ASTM D638
Flexural Strength	352 MPa	51100 psi	Crosswise; ASTM D790
	425 MPa	61600 psi	Lengthwise; ASTM D790
Flexural Modulus	11.7 GPa	1700 ksi	Crosswise; ASTM D790
	13.8 GPa	2000 ksi	Lengthwise; ASTM D790
Compressive Strength	448 MPa	65000 psi	ASTM D695
Izod Impact, Notched	4.54 J/cm	8.50 ft-lb/in	Crosswise; ASTM D256
	6.67 J/cm	12.5 ft-lb/in	Lengthwise; ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	14.9 $\mu\text{m/m-}^{\circ}\text{C}$ @Temperature 20.0 $^{\circ}\text{C}$	8.30 $\mu\text{in/in-}^{\circ}\text{F}$ @Temperature 68.0 $^{\circ}\text{F}$	Lengthwise; ASTM D696
CTE, linear, Transverse to Flow	18.0 $\mu\text{m/m-}^{\circ}\text{C}$ @Temperature 20.0 $^{\circ}\text{C}$	10.0 $\mu\text{in/in-}^{\circ}\text{F}$ @Temperature 68.0 $^{\circ}\text{F}$	Crosswise; ASTM D696
Thermal Conductivity	0.288 W/m-K	2.00 BTU-in/hr-ft ² - $^{\circ}\text{F}$	ASTM C177
Maximum Service Temperature, Air	140 $^{\circ}\text{C}$	284 $^{\circ}\text{F}$	
Flammability, UL94	V-0	V-0	

Thermal Properties	Metric	English	Comments
Electrical Properties	Metric	English	Comments
Dielectric Constant	6.3	6.3	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	11.8 kV/mm	300 kV/in	Short Time; 1/8 inch; ASTM D149
Dissipation Factor	0.019	0.019	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	180 sec	180 sec	ASTM D495

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