

GENERAL DESCRIPTION

SG200 Polyester Glass Laminate is a high strength and high temperature polyester glass rigid insulation that maintains excellent retention of properties at high temperatures. Similar to FHT, but also offers much higher mechanical strengths with temperature ratings of up to 210°C. Has a UL Temperature Index of 210°C Electrical and 210° Mechanical.

FEATURES & BENEFITS

- High strength
- High heat resistance
- Easily fabricated
- Excellent retention of properties at elevated temperatures

APPLICATIONS

- Dry-type transformer
- Superior replacement for epoxy-bonded mica in layer insulation
- High temperature NEMA GPO-1 products



GENERAL INFORMATION

Material	Fibreglass reinforced polyester resin
Colour	Natural / Tan

TECHNICAL DATA	UNIT	ASTM/UL NUMBER	VALUE
Mechanical Strength			
NEMA Grade Li 1-1989			GPO-1
Tensile Strength	Psi	D638	12,500
Tensile Modulus	Psi X 10 ⁶	D638	1.7
Flexural Strength	Psi	D790	29,000
Compressive Strength	Psi	D695	36,000
Shear Strength	Psi	D732	11,100
IZOD Impact Strength (notched)	ft. lb./in.	D256	12
Water Absorption	% by wt.	D570	0.3
Specific Gravity	-	D792	1.7

TECHNICAL DATA	UNIT	ASTM/UL NUMBER	VALUE	
Electrical Properties				
Electrical Strength - Perpendicular S/T in Air	Vpm	D149	500	
Electrical Strength - Perpendicular S/T in Oil	Vpm	D149	625	
Electrical Strength - Parallel S/S in Oil	kV	D149	50	
Arc Resistance	Sec.	D495	120/180*	
IEC Track Resistance (CTI)	V.	UL746A	>600	
UL High Voltage Track Rate	In./Min.	UL746A	0	
Permittivity, 60 Hz	-	D150	4.6	
Dissipation Factor, 60 Hz	-	D150	0.37	
Permittivity, MHz	-	D150	3.7	
Dissipation Factor, MHz	-	D150	0.013	
Insulation Resistance	Ohm x 10 ¹²	D257	145	
Flame Resistance Properties				
UL Subject 94	-	UL94	HB	
UL Hot Wire Ignition	Sec.	UL746A	0.028 in./35 0.058 in./39	
UL High Amp Ignition	# Exposure	UL746A	200+	
Oxygen Index	%O ₂	D2863	21.8	
Thermal Properties				
Coefficient of Thermal Expansion	In/In/°C x 10 ⁻⁵	D696	2	
Thermal Conductivity	BTU/HR/Ft ² /In/°F	C177	1.7	
UL Temperature Index	Electrical	°C	UL746B	210
	Mechanical	°C	UL746B	210
UL Recognition File Number	-	-	E81928	

Typical average values for testing 0.063" thick material. Values will vary somewhat from thickness to thickness within a material grade. *Post Cured

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.

DIMENSIONS

Standard Width x Length (mm)	1200 x 2440
Standard Nominal Thickness (mm)	0.8 to 50.0
Profiles	Dogbone

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.