Grades FHT & SG -200

Grade FHT – Flexible, High-Temperature Laminate

- Highly Flexible
- Excellent Dielectric Strength
- High Heat Resistance
- Ideal For Dry-Type Transformers
- Easily Fabricated
- Asbestos-Free

Glastic® Grade FHT (Flexible High Temperature) Laminate provides numerous high-performance features and benefits, such as high flexibility and excellent dielectric strength at elevated temperatures. It also exhibits the highest UL temperature index in the industry for a flexible glass-reinforced polyester in 1/32 inch and 1/16 inch thicknesses:

- 1/32 inch – 190° C Electrical
- 1/32 inch – 190° C Mechanical
- 1/16 inch – 200° C Electrical
- 1/16 inch – 200° C Mechanical

With its high resistance to heat, Glastic's FHT Laminate offers a cost-effective alternative to aramid paper in 220° C insulation systems. Typical applications include layer and core insulation for dry-type transformers.

Glastic Grade FHT Laminate standard color is tan.

Grade SG-200 – High-Strength & High-Temperature Laminate

- Extremely Strong
- Excellent Retention Of Properties At Elevated Temperatures
- Ideal For High Temperature Applications
- Easily Fabricated
- Asbestos-Free

Glastic Grade SG-200 High-Strength & High-Temperature Laminate offers the same high-performance features and benefits as Glastic's FHT Laminate. In addition, SG-200 offers much higher mechanical strengths than FHT with temperature ratings of up to 210° C.

Because of its capabilities, Glastic SG-200 is ideal for a wide variety of product applications requiring high-temperature NEMA GPO-1 products. Grade SG-200 is also a superior replacement material for epoxy-bonded mica in layer insulation applications. SG-200 has a UL Temperature Index of 210° C Electrical and 210° C Mechanical.

Glastic Grade SG-200 is available in thicknesses of 1/32" to 1-1/4" and in a natural tan color. Special sheet sizes of 64" x 64" are available for large lifting magnets.

Ventilated Dry-Type Transformer Coil. Both Glastic SG-200 and FHT Laminates are used in a wide variety of dry-type transformer applications.

Grades FHT & SG -200

GLASTIC
LAMINATES
PROPERTY TABLE

TYPICAL AVERAGE VALUES[1]

GENERAL INFORMATION	UNIT	ASTM/UL NUMBER	GLASTIC GRADE SG-200	GLASTIC GRADE FHT
Part Number			1906	1800
Color, Standard			Natural/Tan	Natural/Cream
MECHANICAL PROPERTIES				
NEMA Grade	----	----	GPO-1	----
Tensile Strength	Psi	D638	12,500	10,500
Tensile Modulus	Psi x 10^6	D638	1.7	----
Flexural Strength	Psi	D790	29,000	----
Compressive Strength	Psi	D695	36,000	14,000
Shear Strength	Psi	D732	11,100	----
IZOD Impact Strength (notched)	ft.lb./in.	D256	12.0	10.0
Water Absorption	% by wt.	D570	0.3	1.1
Specific Gravity	----	D792	1.70	1.60
ELECTRICAL PROPERTIES				
Electrical Strength - Perpendicular S/T in air	Vpm	D149	500	450
Electrical Strength - Perpendicular S/T in oil	Vpm	D149	625	570
Electrical Strength - Parallel S/S in oil	kV	D149	50	60
Arc Resistance	Sec.	D495	120/180[2]	139
IEC Track Resistance (CTI)	V.	UL746A	500+	500+
UL High Voltage Track Rate	In./Min.	UL746A	0	0
Permittivity, 60 Hz	----	D150	4.6	6.4
Dissipation Factor, 60 Hz	----	D150	0.037	0.070
Permittivity, MHz	----	D150	3.7	4.2
Dissipation Factor, MHz	----	D150	0.013	0.033
Insulation Resistance	Ohm x 10^{12}	D257	145.0	----
FLAME-RESISTANCE PROPERTIES				
UL Subject 94	----	UL94	HB	HB
UL Hot Wire Ignition	Sec.	UL746A	0.028 in./35 0.058 in./39	0.028 in./49 0.058 in./102
UL High Amp Ignition	#Exposure	UL746A	200+	200+
Oxygen Index	$\%O_2$	D2863	21.8	21.8
THERMAL PROPERTIES				
Coefficient of Thermal Expansion	In/In/° C x 10^{-5}	D696	2.0	----
Thermal Conductivity	BTU/Hr/Ft^2/In/° F	C177	1.7	----
UL Temperature Index - Electrical	° C	UL 746B	210	0.028 in./190 0.058 in./200
- Mechanical	° C	UL 746B	210	0.028 in./190 0.058 in./200
UL Recognition File Number	----	----	E81928	E81928

[1] Typical average values for testing 0.063 inch thick material. Values will vary somewhat from thickness to thickness within a material grade.
[2] Post-cured

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