RÖCHLING

Durostone® Glastic® FHT

Durostone® Glastic® SG-200

High-Temperature Laminates

Electrical Industry

Durostone® Glastic® FHT

Flexible High-Temperature Laminate

- Highly flexible
- Excellent dielectric strength
- High heat resistance
- Ideal for dry-type transformers
- Easily fabricated
- Asbestos-free

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 one of the highest UL® temperature indices in the industry for a flexible glass-reinforced polyester in 0.8 mm and 1.6 mm thicknesses:

- 0.8 mm – 190 °C Electrical
- 1.6 mm – 200 °C Electrical
- 0.8 mm – 190 °C Mechanical
- 1.6 mm – 200 °C Mechanical

With its high resistance to heat, 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.

Durostone® Glastic® SG-200

High-Strenght & High-Temperature Laminate

- Extremely strong
- Excellent retention of properties at elevated temperatures
- Ideal for high temperature applications
- Easily fabricated
- Asbestos-free

Grade SG-200 High-Strength & High-Temperature Laminate offers the same high-performance features and benefits as 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, 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.

Grade SG-200 is available in thicknesses of 0.8 mm to 31.8 mm. Special sheet sizes of 1625 x 1625 mm are available for large lifting magnets.

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

Technical data

Technical values		Unit	ASTM/ UL Number	Durostone® Glastic® FHT	Durostone® Glastic® SG-200
General Information	Part Number			1800	1906
	Standard Color			Cream	Tan
Mechanical Properties	NEMA Grade			–	GPO-1
	Tensile Strength	N/mm^2	D638	72	86
	Tensile Modulus	N/mm^2	D638	–	11,720
	Flexural Strength	N/mm^2	D790	–	200
	Compressive Strength	N/mm^2	D695	97	248
	Shear Strength	N/mm^2	D732	–	77
	Impact Strength IZOD (notched)	J/cm	D256	5.3	6.4
	Water Absorption	% by wt.	D570	1.1	0.3
	Specific Gravity	–	D792	1.6	1.7
Electrical Properties	Electrical Strength – Perpendicular S/T in Air	kV/mm	D149	18	20
	Electrical Strength – Perpendicular S/T in Oil	kV/mm	D149	22	25
	Electrical Strength – Parallel S/S in Oil	kV	D149	60	50
	Arc Resistance	Sec.	D495	139	120/180*
	IEC Track Resistance (CTI)	V.	UL746A	500 +	500 +
	Permittivity, 60 Hz	–	D150	6.4	4.6
	Dissipation Factor, 60 Hz	–	D150	0.07	0.37
	Permittivity, MHz	–	D150	4.2	3.7
	Dissipation Factor, MHz	–	D150	0.03	0.013
	Insulation Resistance	Ohm x 10^{12}	D257	–	145
Flame Resistance Properties	UL Subject 94	–	UL94	HB	HB
	UL Hot Wire Ignition	Sec.	UL746A	0.71 mm/49 1.47 mm/102	0.71 mm/35 1.47 mm/39
	UL High Amp Ignition	# Exposure	UL746A	200 +	200 +
	Oxygen Index	% O_2	D2863	21.8	21.8
Thermal Properties	Coefficient of Thermal Expansion	10^{-6}/K	D696	–	20
	Thermal Conductivity	W/m·k	C177	–	0.25
	UL Temperature Index – Electrical	°C	UL 746B	0.71 mm/190 1.47 mm/200	210
	– Mechanical	°C	UL 746B	0.71 mm/190 1.47 mm/200	210
	UL Recognition File Number	–	–	E81928	E81928

Typical average values for testing 1.6 mm thick material. Values will vary somewhat from thickness to thickness within a material grade.

* Post-cured

All of the information, suggestions, and recommendations pertaining to the properties and uses of the Röchling Glastic Composites products described herein are based upon tests and data believed to be accurate; however, the final determination regarding the suitability of any material described herein for the use contemplated, the manner of such use, and whether the use infringes any patents is the sole responsibility of the user. There is no warranty, express or implied, including, without limitation warranty of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.

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06/2018 | 10439-09468