



Composites for Today's Challenges

Franklin Fibre - Lamitex Corp.

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Lamitex® G10-CR Tube

Lamitex® G10-CR epoxy convolute wrapped tubes are reinforced with a fine weave woven glass fabric. It is primarily used for mechanical, electrical and electronic applications where high mechanical strengths are required at high and cryogenic temperatures. Lamitex G11CR meets or exceeds NEMA G10 specifications, has excellent resistance to chemicals, retains its dimensional and electrical properties in high humidity environments and is a preferred material for neck tube and straw tube cryogenic applications.

<u>Mechanical Properties</u>	<u>Standard</u>	<u>Test Specimen</u>	<u>Values</u>	
Flexural Strength	ISO 178	id > 100 mm	350 MPa / 50,760 psi	*1
Compressive Strength, Axial	ISO 604		250 MPa / 36,260 psi	*1
Cohesion between layers	EN 61212-2	id < 100 mm	480 MPa / 69,610 psi	*1
Compressive Strength, perpendicular to lamination	ASTM D348		395 MPa / 57,290 psi	*1

Electrical Properties

Electric Strength in oil @ 90°C:

Perpendicular to Laminations	IEC 243-1		11.0 kV/mm / 280 Vpm	*2
Parallel to Laminations	IEC 243-1	≥ 3 mm wall thk, ID > 8 mm & or OD > 10 mm	60 kV/25 mm / 61 kV/in.	*2
Insulation resistance after immersion in water	IEC 167		10,000 10 M Ω	*4
Permittivity:	50Hz		4.5	*3
	1 MHz		4.5	*3
Dissipation Factor:	50Hz		0.01	*3
	1 MHz		0.01	*3

Physical and Thermal Properties

Thermal Conductivity			7.0×10^{-4} calories/second/cm ² /(°C/cm)	
Thermal endurance index @ 20,000 hrs	IEC 216		180° C.	
Density	IEC 1183-A	All	1.8 g/cm ³	*1
Water Absorption (maximum)	ASTM D229		0.15%	*4

Standards: NEMA G10 Grade G10
Mil-I-24768 / 2 Type GEE
EN 61212-3-1: EP GC 22
Din 7735 Hgw 2375.4

IEC Conditioning: 1: 24h @ 23°C & 50%RH
2: 24h @ 23°C & 50%RH + 1hr in oil at 90°C
3: 96h @ 105°C + 1hr @ 23°C & 20%RH
4: 24h @ 50°C + 24hr in water at 23°C

All information and suggestions pertaining to the properties and uses of the materials described herein are based upon tests and data believed to be accurate; however, the final determination regarding the suitability of any material for such use is the sole responsibility of the user. No warranty is expressed or implied, including, without limitation, warrant of merchantability or fitness for a particular purpose. Under no circumstances shall Franklin Fibre - Lamitex Corp be liable for incidental or consequential loss or damage.

Composite Tubes • Bearings • Molded Shapes • Rotary Vanes • Fabricated Parts • Vulcanized Fibre • High Temp Insulation

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