



FRANKLIN

Composites for Today's Challenges

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Lamitex® G-5 Tube Data

Lamitex® G-5 melamine convolute wrapped tubes are reinforced with woven glass fabric. They are used for mechanical and electrical applications where arc or arc track resistance is required. G-5 is a self-extinguishing halogen free composite with good flame resistance that meets NEMA G-5 requirements.

<u>Mechanical Properties</u>	<u>Standard</u>	<u>Test Specimen</u>	<u>Values</u>	
Flexural Strength	ISO 178	id>100 mm	300 MPa / 43,500 psi	*1
Compressive Strength, Axial	ISO 604		180 MPa / 26,100 psi	*1
Cohesion between layers	EN 61212-2 5.3	id<100 mm	250 MPa / 36,260 psi	*1

<u>Electrical Properties</u>				
Electric Strength in oil @ 90C:				
Perpendicular to Laminations	IEC 60243-1	3 mm sheet	3.3 kV/mm - 83.8 Vpm	*2
Parallel to Laminations	IEC 60243-1	≥3 mm sheet	30 kV/25mm - 30.5 kV/in.	*2
Insulation resistance after immersion in water	IEC 60167	id>8mm and or od>10mm	100 MΩ	*4
Permittivity:				
50 MHz	IEC 60250		6.0	*3
1 MHz	IEC 60250		6.0	*3
Dissipation Factor:				
50 MHz	IEC 60250		0.020	*3
1 MHz	IEC 60250		0.010	*3
Comparative Tracking Index (CTI)	IEC 60112	≥3 mm wall	600 CTI	

<u>Physical and Thermal Properties</u>				
Thermal endurance index @ 20,000 hrs	IEC 60216	≥3 mm wall	130°C T.I.	
Fire Class	IEC 60295-11-10	≥3 mm wall	V-0	
Density	ISO 1183-A	All	1.8 g/cm ³	*1
Maximum Water Absorption E-24//50 + D-24/23	D348	>0.125" ID w/.095-.125" wall	3.70%	
Thermal Conductivity			1.2 × 10 ⁻⁴ Calories/Second/cm ² /(°C/cm)	

IEC 212 Conditioning:	1: 24h @ 23°C & 50%RH	Standards: NEMA LI-1	Grade G-5
	2: 24h @ 23°C & 50%RH + 1hr in oil at 90°C	Mil-I-24768	/ 8 Type GMG
	3: 96h @ 105°C + 1hr @ 23°C & 20%RH	EN 61212-3-1:	MF- GC 21
	4: 24h @ 50°C + 24hr in water at 23°C	Din 7735	Hgw 2275

Availability: Grade G-5 is manufactured as convolute rolled round tubes, molded rod, sheets and fabricated custom parts.

The standard length(s) for IDs 3 mm to 15 mm is 1220 mm (48") and for IDs >15 mm to 1250 mm is 1220 mm and 1600 mm (63")

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.

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