



# FRANKLIN

*Composites for Today's Challenges*

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## Lamitex® Grade MF Tube Technical Data

Grade MF phenolic convolute wrapped tubes are reinforced with a medium weave cotton fabric. Very good mechanicals, high impact resistance and low noise output make it a good choice for mechanical applications and good electrical properties for medium voltage applications.. MF is also well suited as a low-friction/ high wear resistance material in aggressive and dust filled environments MF tubes meet or exceeds requirements specifications for Mil-I-24768/15/16 and NEMA grades C and L.

<u>Mechanical Properties</u>	<u>Test Method:</u>			<u>Conditioning</u>	
	<u>EN 61212-2</u>	<u>Standard</u>	<u>Test Specimen</u>	<u>IEC 212</u>	<u>Values</u>
Flexural Strength	4.1	ISO 178	id>3.937 inches	1	14,500 psi
Compressive Strength, Axial	4.2	ISO 604		1	23,200 psi
Cohesion between layers	4.3	EN 61212-2	id<3.937 inches	1	17,400 psi
 <u>Electrical Properties</u>					
Electric Strength in oil @ 90C:					
Perpendicular to Laminations	5.1	IEC 243-1	.118 inch wall thk	2	50.8 Vpm
Parallel to Laminations	5.1	IEC 243-1	>.118 inch wall thk	2	15.2 kV/ inch
Insulation resistance after immersion in water	5.2	IEC 167	id>.315 inch and or od>.394 inches	4	100 M ohm
 <u>Physical and Thermal Properties</u>					
Thermal endurance index @ 20,000 hrs	6.0	IEC 216		-	248°F T.I.
Density	7.2	IEC 1183-A	All	1	.722 oz/in <sup>3</sup>
Water Absorption	7.1	IEC 62-1		4	6.9 <sup>-6</sup> oz/in <sup>2</sup>

- Conditioning:
- 1: 24h @ 73°F & 50%RH
  - 2: 24h @ 73°F & 50%RH + 1hr in oil at 194°F
  - 3: 96h @ 221°F + 1hr @ 73°F & 20%RH
  - 4: 24h @ 122°F + 24hr in water at 73°F

The standard lengths for inside diameters .256" to 49.2" is 57.1, inches

All values are average test results from typical production material and extensive testing.  
No Warranty is implied or guaranteed and testing is recommended for each application.

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

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