



Composites for Today's Challenges

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Lamitex® XX Tube Technical Data

Lamitex® XX paper phenolic convolute wrapped tubes are a mechanical grade composite with good electrical properties in moderate humidity conditions. It is frequently used in transformer designs, as winding tubes in the metal foil industries and as carrier tubes for polishing brushes.

<u>Mechanical Properties</u>	<u>Standard</u>	<u>Test Specimen</u>	<u>Conditioning</u>	
			<u>IEC 212</u>	<u>Values</u>
Flexural Strength	ISO 178	id>3.937 inch	1	18,850 psi
Compressive Strength, Axial	ISO 604		1	20,300 psi
Cohesion between layers	EN 61212-2	id<3.937 inch	1	23,200 psi
 <u>Electrical Properties</u>				
Electric Strength in oil @ 194°F:				
Perpendicular to Laminations	IEC 243-1	.118" wall thk	2	211 kVpm
Parallel to Laminations	IEC 243-1	>.118" wall thk	2	25.4 kV/inch
Insulation resistance after immersion in water	IEC 167	id>.315" and or od>.394"	4	10 M ohm
Permittivity 50 Hz	IEC 250		3	5.0
Dissipation Factor 50 Hz	IEC 250		3	0.04
 <u>Physical and Thermal Properties</u>				
Thermal endurance index @ 20,000 hrs	IEC 216		-	248°F
Density	IEC 1183-A	All	1	1.25 g/cm ³
Maximum Water Absorption	ASTM D348	.125" wall	D ₁ -24/23	2.0%

- Conditioning: 1: 24h @ 23°C(73°F) & 50%RH
 2: 24h @ 23°C(73°F) & 50%RH + 1hr in oil @ 90°C(194°F)
 3: 96h @ 105°C(221°F) + 1hr @ 23°C(73°F) & 20%RH
 4: 24h @ 50°C(122°F) + 24hr in water @ 23°C(73°F)

The standard length(s) for inside diameters .118" - .331" is 59", .335" - .394" is 53.1", IDs >.394 to 3.937 is 53.1", 59" or 65" and >3.937 - 49.2" is 48", 53.1, or 65".

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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