

## 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>IEC 212</u>	<u>Conditioning</u>	<u>Values</u>
Flexural Strength	ISO 178	id>100 mm	1	130 Mpa	
Compressive Strength, Axial	ISO 604		1	140 MPa	
Cohesion between layers	EN 61212-2	id<100 mm	1	160 MPa	
<b><u>Electrical Properties</u></b>					
Electric Strength in oil @ 90°C:					
Perpendicular to Laminations	IEC 243-1	3 mm wall thk	2	8.3 kV/mm	
Parallel to Laminations	IEC 243-1	>3 mm wall thk	2	25 kV/25 mm	
Insulation resistance after immersion in water	IEC 167	id>8mm and or od>10mm	4	10 M ohm	
Permittivity 50 Hz	IEC 250		3	5.0	
Dissipation Factor 50 Hz	IEC 250		3	0.040	
<b><u>Physical and Thermal Properties</u></b>					
Thermal endurance index @ 20,000 hrs	IEC 216		-	120°C	
Density	IEC 1183-A	All	1	1.25 g/cm <sup>3</sup>	
Water Absorption	IEC 62-1		4	4.5 mg/cm <sup>2</sup>	

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

The standard mm length(s) for inside diameters 3 - 8.4 mm is 1500, 8.5 -10 mm is 1350, IDs >10 to 100 mm is 1350, 1500, or 1650 and >100 - 1250 mm is 1220, 1350, or 1650 mm.

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