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MANUFACTURERS & FABRICATORS OF
ELECTRICAL INSULATION MATERIALS
SINCE 1921

Composites for Today's Challenges

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MATERIAL DATA SHEET

Material: Lamitex® Grade CPG Cotton/Synthetic Graphited Phenolic Laminate Sheet

Description: Lamitex® grade CPG is a cotton/synthetic blend fabric impregnated with a graphite-modified phenolic resin formulation. Its low co-efficient of friction gives CPG exceptional high wear resistance in aggressive and dust-filled environments. CPG impact resistance and noise dampening properties are added features that make this composite well suited for construction applications where high mechanical load and wear resistance are required. CPG has good dry-run properties and can be lubricated with water, oil or grease. Typical applications include: bearings, slide pads, slide rails, wear parts, vanes for pneumatic tools and starters and vanes in high vacuum pumps.

Standards:

Availability: CPG is also manufactured as round tubes (convolute wound) and fabricated custom parts.

Physical Properties	Test Method EN 60893-2	Standard	Test Specimen	Conditioning IEC 212	Typical Values
Flexural Strength	5.1	ISO 178	≥1.6 mm thick	1	20,306 psi
Flexural Strength at Elevated Temperatures	5.1	ISO 178	≥1.6 mm thick	--	--
Modulus of Elasticity	5.2	ISO 178	≥1.6 mm thick	1	0.80 x 10 ⁶ psi
Compressive Strength	5.3	ISO 604	≥5.0 mm thick	1	46,413 psi
Izod Impact Strength Parallel	5.5.3	ISO 180/2A	≥5.0 mm thick	1	4.75 ft.lb-force/in ²
Shearing Strength Parallel	5.6	EN 60893-2	≥5.0 mm thick	1	7,252 psi
Tensile Strength	5.7	ISO 527	≥1.6 mm thick	1	12,328 psi

Electrical Properties

Electric Strength in oil @ 90°C	Perpendicular to Laminations	6.1.2	IEC 243-1	3.0 mm thick	2	--
	Parallel to Laminations	6.1.3	IEC 243-1	> 3.0 mm thick	2	--
Permittivity:	50Hz	6.2	IEC 250	≤3.0 mm thick	3	--
	1MHz			≤3.0 mm thick		
Dissipation Factor:	50Hz	6.3	IEC 250	≤3.0 mm thick	3	--
	1MHz			≤3.0 mm thick		
Insulation Resistance after Immersion in Water	1MHz	6.2	IEC 167	All	4	--
Comparative Tracking Index (CTI)		6.4	IEC 112	≥3.0 mm thick	1	--

Electrical Properties

Temperature (Thermal Endurance) Index @ 20,000 hours		7.1	IEC 216	≥3.0 mm thick	-	120°C (248°F)
Flammability			IEC 707	5.0 mm thick	-	--
Density		8.1	IEC 1183-A	All	1	1.35 g/cm ³
Water Absorption		8.2	IEC 62-1	50x50x3 mm	4	1.48 % by wgt.

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
- 5: 96h @ 105°C + 1hr in oil at 90°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.