



# FRANKLIN

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ELECTRICAL INSULATION MATERIALS  
SINCE 1921

*Composites for Today's Challenges*

**FRANKLIN FIBRE – LAMITEX CORPORATION**

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## MATERIAL DATA SHEET

**Material:** Lamitex® Grade XX Paper Phenolic Laminate Sheet

**Description:** Lamitex® XX paper/phenolic laminated sheet and tubes offer high dielectric and very good mechanical strengths. Grade XX laminate and tubing are frequently specified for use in transformers, switchboards, mounting blocks, insulating panels, washers and spacers, and switchgear applications.

**Standards:** NEMA LI-1 Grade XX  
MIL-I-24768 / 11 - PBG  
EN 60893 PF CP 203  
DIN 7735 Hp 2065

**Availability:** Grade XX is also manufactured as round tubes (convolute wound), molded channel, angle, square and rectangular tubes and fabricated custom parts.

Physical Properties	Test Condition	ASTM	Typical Values
Thickness			.125"
Specific Gravity		D792	1.34
Rockwell Hardness (M Scale)		D785	105
Moisture Absorption (maximum)	D 24/23	D229	1.30 %
Flexural Strength	Condition A: Lengthwise Crosswise	D229	15,000 psi 14,000 psi
Tensile Strength	Condition A: Lengthwise Crosswise	D638	16,000 psi 13,000 psi
Compressive Strength	Condition A: Flatwise	D695	34,000 psi
Izod Impact Strength (.500" thick)	E48/50: Lengthwise Crosswise	D256	0.50 ft-lb/in.(notch) 0.40 ft-lb/in.(notch)
Bond Strength (.500" thick)	Condition A D 48/50	D229	800 lbs 600 lbs
<b>Thermal &amp; Electrical Properties</b>			
Temperature Index Electrical / Mechanical			130° C / 140° C
Coefficient of Thermal Expansion			20.0 cm/cm/°C/ x 10-6
U.L.® 94 Flammability Rating			94-HB
Dielectric Breakdown Voltage (step x step)	Condition A / D 48/50	D229	23.0 kV / 5.0 kV
Maximum Permittivity @ 1 MHz	Condition A / D 24/23	D229	5.50 / 6.00
Maximum Dissipation @ 1 MHz	Condition A / D 24/23	D229	0.045 / 0.050
Dielectric Strength (short time)	Condition A	D229	500 Vpm
Dielectric Strength (step x step)	Condition A	D229	360 Vpm
Comparative Tracking Index (CTI)	Pt electrodes	D 3638	344

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.