



# 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 LE Cotton/Phenolic Laminate Sheet

**Description:** Lamitex® LE cotton/phenolic sheets are intended for use in electrical applications requiring good moisture resistance. It has lower mechanical strength than materials with glass substrates, but has superior impact resistance when compared to paper based laminates. LE possesses good dielectric properties and medium dielectric loss and can be machined to relatively close tolerances.

**Standards:** NEMA LI-1 Grade LE  
MIL-I-24768 / 13 Type FBE  
EN 60893 PF CC 305

**Availability:** LE 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	1.33
Rockwell Hardness (M Scale)		D785	105
Moisture Absorption (maximum)		D229	1.30%
Flexural Strength	Condition A: Lengthwise Crosswise	D229	16,000 psi 14,000 psi
Tensile Strength	Condition A: Lengthwise Crosswise		11,000 psi 9,000 psi
Compressive Strength	Condition A: Flatwise Edgewise	D695	37,000 psi 24,500 psi
Izod Impact Strength (.500" thick)	E48/50: Lengthwise Crosswise	D229	1.25 ft-lb/in.(notch) 1.00 ft-lb/in.(notch)
Bond Strength (.500" thick)	Condition A	D229	1,600 lbs

### Thermal & Electrical Properties

Temperature Index Electrical / Mechanical			115° C / 125° C
Coefficient of Thermal Expansion			200 cm/cm/°C x 10 <sup>-6</sup>
U.L.® 94 Flammability Rating			94-HB
Dielectric Breakdown (step x step)	Condition A / D 48/50	D229	40.0 kV / 3.0 kV
Maximum Permittivity @ 1 MHz	Condition A / D 24/23	D229	5.80 / 6.00
Maximum Dissipation @ 1 MHz	Condition A / D 24/23	D229	.055 / .070
Electrical Strength (short time)	Condition A	D229	360 Vpm
Electrical Strength (step x step)	Condition A	D229	220 Vpm

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.