Current Industrial Composites

Sheeting · Tubes · Rods · Fabricated Parts · Epoxy · Phenolic

MATERIAL DATA SHEET

Material: Grade LE Cotton/Phenolic Laminate Sheet

Description: 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

Physical Properties	Test Condition		ASTM	Typical Values
For Thickness				.125"
Specific Gravity			D792	1.33
Rockwell Hardness (M Scale)			D785	105
Water 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)	E48/40:	Lengthwise Crosswise	D229	1.25 ft-lb/in.(notch) 1.00 ft-lb/in.(notch)
Bond Strength (.500" thick)	Condition A D 48/50		D229	1,600 lbs

Thermal & Electrical Properties	Test Condition	ASTM	Typical Values
Temperature Index Electrical / Mechanical			125° C
Volume resistivity			N/A
Surface resistivity			N/A
Dielectric Breakdown Voltage (step x step)	Condition A / D 48/50	D229	40 kV
Maximum Permittivity @ 1 MHz	Condition A / D 24/23	D229	6
Maximum Dissipation @ 1 MHz	Condition A / D 24/23 / D48 / 50	D229	.055
Dielectric Strength (short time)	Condition A	D229	360 Vpm
Arc Resistance	Condition A	D 495	N/A