Current Industrial Composites

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

MATERIAL DATA SHEET

Material: Grade XX Paper Phenolic Laminate Sheet

Description: 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

Physical Properties	Test Condition		ASTM	Typical Values
For Thickness				.125"
Specific Gravity			D792	1.34
Rockwell Hardness (M Scale)			D785	105
Water Absorption (maximum)			D229	1.30 %
Flexural Strength	Condition A:	Lengthwise Crosswise	D229	15,000 psi 14,000 psi
Tensile Strength	Condition A:	Lengthwise Crosswise		16,000 psi 13,000 psi
Compressive Strength	Condition A:	Flatwise	D695	34,000 psi
Izod Impact Strength (.500" thick)	E48/40:	Lengthwise Crosswise	D229	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

Thermal & Electrical Properties	Test Condition	ASTM	Typical Values
Temperature Index Electrical / Mechanical			140° C
Volume resistivity			$4x10^5$ megohms-cm
Surface resistivity			$4x10^4$ megohms
Dielectric Breakdown Voltage (step x step)	Condition A / D 48/50	D229	23 kV
Maximum Permittivity @ 1 MHz	Condition A / D 24/23	D229	5.5
Maximum Dissipation @ 1 MHz	Condition A / D 24/23 / D48 / 50	D229	.045
Dielectric Strength (short time)	Condition A	D229	500 Vpm
Arc Resistance	Condition A	D 495	N/A