MANUFACTURERS OF
ELECTRICAL INSULATION MATERIALS

INSULATING COMPONENTS FOR POWER SYSTEMS EQUIPMENT

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MATERIAL DATA SHEET

Item: NEMA Grade C, Canvas Based Phenolic Laminate

Description: NEMA Grade C is a canvas based phenolic laminate, available in sheet, tube, and rod form. Canvas with phenolic grades provide more mechanical strength than paper grades and have a finer surface with better machinability.

Standards:

NEMA LI-1	Grade C
IEC 60893-4	PFCC 201
MIL-I-24768	16 - FBM

Availability:

		English Units	SI Units
Laminate Sheets:	Thickness:	.008” to 4.0”	0.2 mm to 101.6 mm
	Sheet Sizes:	36” x 48”, 39” x 48”	91.4 cm x 122 cm, 99 cm x 122 cm
		36” x 72”, 48” x 48”	91.4 cm x 182.2 cm, 122 cm x 122 cm
		48” x 96”, 48” x 108”	122 cm x 243.8 cm, 122 cm x 274.3 cm
Convolute Tubing:		Available in a wide range of inner and outer diameter sizes	
Fabricated Parts:		The Gund Company custom fabricates insulation materials to the exact specifications and drawings of our customers	

Key Characteristics	Test Method	Units - English (SI)	Typical Values
Specific Gravity	--	--	1.37
Rockwell Hardness (.062”)	--	M Scale	100
Moisture Absorption (.062”)	ASTM D-570	%	3.5
Tensile Strength (.125”) LW CW	ASTM D-638	psi (MPa)	11,000 (75) 9,000 (62)
Compressive Strength, Flatwise (.50”)	ASTM D-695	psi (MPa)	34,000 (234)
Flexural Strength LW CW	ASTM D-790	psi (MPa)	18,000 (124) 17,000 (117)
Shear Strength	ASTM D-732	psi (MPa)	14,000 (96)
Bond Strength (.50”) LW CW	ASTM D-229	lb.	2,500 2,300
Impact Strength (.50”) LW CW	ASTM E-48/50	ft.-lb./in.	1.95 1.75
Arc Resistance	ASTM D-495	Seconds	15
Maximum Operating Temperature	--	°C	125
Breakdown Voltage (.125”)	Condition A Condition D-48/50	kV	20 5
Coefficient of Thermal Expansion, X-axis Y-axis	--	“/”/°C x 10^6	20.0 22.0
Flammability Rating	UL 94	Class	HB
Dielectric Strength	Condition A Condition D-48/50	V/mil	400 150

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