



MANUFACTURERS OF  
**ELECTRICAL INSULATION MATERIALS**  
 INSULATING COMPONENTS FOR  
 POWER SYSTEMS EQUIPMENT

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## MATERIAL DATA SHEET

**Item:** NEMA G-11, Glass Epoxy Laminate Grade MC511AF

**Description:** Grade MC511AF is a high pressure laminate manufactured from a glass cloth substrate impregnated with a high temperature epoxy resin system. This grade meets or exceeds all specifications for NEMA G-11 material.

**Standards:** NEMA LI-1 Grade G-11  
 IEC 60893 EP GC 203  
 MIL-I-24768 /3- GEB

**Availability:** Laminate Sheets: Thickness: English Units .010” – 6.0” SI Units 2.54 mm – 15.24 mm  
 Sheet Sizes: 48”x 96”, 48” x 118” 122cm x 243.8

**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			1.91
Density		Lbs/in <sup>3</sup>	.069
Standard Color			Yellowish Brown
Rockwell Hardness (.125”)		M Scale	110
Moisture Absorption (.125”)	ASTM D570	%	.085
Tensile Strength (.125”) LW	ASTM D638	psi (MPa)	41,000 (282.5)
Compressive Strength flatwise (.125”)	ASTM D695	psi (MPa)	50,000 (344.5)
Flexural Strength (.125”) LW	ASTM D790	psi (MPa)	57,000 (392.7)
Flexural Strength (.125”) LW E-1/150 – T-150		psi (MPa)	30,000 (206.7)
Shear Strength (perpendicular) (.062”)	ASTM D732	psi (MPa)	21,000 (144.7)
Impact Strength IZOD E-48/50 LW (.125”)	ASTM D256	ft-lbs/in notched	10.0
Arc Resistance (.125”)	ASTM D495	Sec	185
Compressive Strength flatwise (.125”)		Psi (MPa)	50,000 (344.5)
Bonding Strength (.500”)	ASTM D229	Lb (kg)	2,200 (1000)

All of the information, suggestions, and recommendations pertaining to the properties and uses of the products herein are based upon tests and data believed to be accurate; however, the final determination regarding the suitability of any material described herein for the use contemplated, the manner of such use, and whether the use infringes any patents is the sole responsibility of the user. There is no warranty, expressed or implied, including, without limitation warranty of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.

Temperature Index (electrical/mechanical)		°C	170/180
Permittivity (.125")	D-24/23		4.5
Flammability Rating –U.L.94		Class	HB
Breakdown Voltage (.125")	ASTM D149	kV	65
Electric Strength (perpendicular – short time) (.125")		V/mil	550
Volume Resistivity (.125")		MΩ-cm	5.0 • 10 <sup>6</sup>
Surface Resistivity (.125")		MΩ	1.5 • 10 <sup>6</sup>
Tg		°C	180
Dissipation Factor (.125")	D24/23		4.5

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