



THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

NEMA G-11R

Item:	G11R, Roving Reinforced G11, Glass Epoxy Laminate			
Description:	Roving reinforced NEMA G-11 materials are continuous filament woven fiberglass sheets bonded with high temperature epoxy resin. The material has the ability to maintain excellent mechanical, electrical, and physical properties at elevated temperature to 180°C. The Gund Company is RoHS compliant to ensure reliability, safety, and consistency.			
Standards:	NEMA LI-1 Grade G-11 • IEC 60893-3-2 EPGC205			
Availability:	Laminate Sheets:		English Units (in)	SI Units (mm/cm)
		Thickness:	0.010 - 5.0	0.25 - 127 (mm)
		Sheet Size:	48 x 96 / 48 x 120	122 x 244 / 122 x 305 (cm)
	Fabricated Parts:	The Gund Company custom fabricates insulation materials to the exact specifications and drawings specified by our customers.		

Key Characteristics	Units - English (SI)	Typical Values
Standard Color	--	Green
Density	lbs/in ³ (g/cc)	0.068 (1.89)

Additional Engineering Properties

Key Characteristics	Test Method	Units	Typical Values
Flexural Strength at 180°C	ISO 178	MPa	170.3
Water Absorption	ISO 1183-1	%	0.02
Compressive Strength	ISO 604	MPa	Perpendicular 492.1
			Parallel 374.3
Tensile Strength	ISO 527-4	MPa	439.5
Insulation Resistance	IEC 60167	Ω	2.6 x 10 ¹⁵



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IEC 60893-3-2 EP GC 205 Required Properties

Key Characteristics		Test Method	Units	IEC Requirement	Typical Values
Flexural Strength	23°C	ISO 178	MPa	340	558
	150°C			150	238
IZOD Impact Strength		ISO 180	kJ/m ²	34	310
Electric Strength at 90°C in Oil, Perpendicular to Laminates		IEC 60243	kV/mm	9	21
Breakdown Voltage at 90°C in Oil, Parallel to Laminations		IEC 60243	kV	35	>50
Insulation Resistance (After Water Immersion)		IEC 60167	Ω	5 X 10 ⁴	1.4 X 10 ¹²
Thermal Endurance		IEC 60216	°C	180	190
Proof Tracking Index		IEC 60112	V	--	CTI200
Flammability >3mm		UL94	Class	--	V-1

Data supplied above are typical values and are not to be considered specification values. 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 suitability of any material described herein for the contemplated application, 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.