



# THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

## NEMA G-11R (Roving Reinforced) Filament-Woven Fiberglass Laminate

Roving reinforced NEMA G-11 material is continuous filament woven fiberglass sheets bonded with high-temperature epoxy resin. The material maintains excellent mechanical, electrical, and physical properties at an elevated temperature of 1,800°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**

The Gund Company custom fabricates insulation materials to the exact specifications and drawings specified by our customers. We offer our customers the proper product for their specific application. A variety of dimensions and diameter sizes are available. The standard color is green but, custom colors available upon request.

		ASTM/IEC			
PROPERTIES		Test Method	Units	IEC Requirement	Typical Values
PHYSICAL	Density		lbs/in³ (g/cc)	-	0.068 (1.89)
	Water Absorption	ISO 1183-1	%	-	0.02
THERMAL	Thermal Endurance	IEC 60216	°C	180	190
	Flammability: >3 mm	UL94	Class	-	V1
MECHANICAL	Flexural Strength: 23°C	ISO 178	MPa	340	558
	Flexural Strength: 150°C	ISO 178	MPa	150	238
	Flexural Strength: 180°C	ISO 178	MPa	-	170.3
	Compressive Strength: Perpendicular	ISO 604	MPa	-	492.1
	Compressive Strength: Parallel	ISO 604	MPa	-	374.3
	Tensile Strength	ISO 527-4	MPa	-	439.5
	IZOD Impact Strength	ISO 180	kJ/m²	34	310
ELECTRICAL	Electrical Strength: Perpendicular to Laminates @ 90°C in Oil	IEC 60243	kV/mm	9	21
	Breakdown Voltage: Parallel to Laminates @ 90°C in Oil	IEC 60243	kV	35	>50
	Insulation Resistance	IEC 60167	Ω		2.6·10 <sup>15</sup>
	Insulation Resistance: After Water Immersion	IEC 60167	Ω	5·10 <sup>4</sup>	1.4·10 <sup>12</sup>
	Proof Tracking Index	IEC 60112	V		CTI200

### LAMINATE SHEET AVAILABILITY

#### THICKNESS

0.010 - 5.000 (in.)

#### SHEET SIZE

48 x 96 • 48 x 120 (in.)

### LAMINATE SHEET AVAILABILITY (SI)

#### THICKNESS

0.25 - 127 (mm)

#### SHEET SIZE

122 x 244 • 122 x 305 (cm)

The data supplied are typical values. They are not to be considered specification values. All of the information, suggestions, and recommendations about these properties and uses of the products herein are based on tests and data believed to be accurate; however, the final determination regarding the 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, warranties of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.



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## MARKETS



*Switchgear*



*Electronics*



*Power Generators*



*Motor Applications*



*Transformers*



*Metals Processing*



*Electric Vehicles*



*Military/Aerospace*



*Oil & Gas*



*Medical*



*Space*

## OUR EXPERTISE IS YOUR COMPETITIVE ADVANTAGE

The Gund Company provides a wide range of material solutions from rigid, glass epoxy composites to high-temperature, silicone sponges.

We take a consultative approach to understanding your application by working with your engineers and buyers to find materials that fit the application. By understanding the most important material properties, we often find cost-reduction opportunities. Our Application Engineering Teams have decades of material experience and look forward to working with you on your upcoming project.

### Material Families:

- Thermoset Rigid Laminates and Composites
- Flexible Laminates, Papers, Films, and Felts
- Thermoplastic Materials
- Elastomeric Materials

### Our Manufacturing Capabilities Include:

- Compression Molding
- Pultrusion
- Filament & Convoluted Wound Tube
- Infusion & B-Stage Composites Lay-up and Molding
- Injection Molding
- Extrusion of Thermoplastics

### Our Engineering Capabilities Include:

- Custom Material Development
- Resin Formulation
- Laboratory Testing
- Comparative Materials Evaluation



## THE GUND COMPANY GLOBAL FOOTPRINT – LOCAL SERVICE

