

N200F

NEMA Grade GPO-1 Flexible Glass Polyester Laminate

Grade N200F is designed as a cost-effective alternative to Aramid Paper in 220°C insulation systems, including layer and core insulation for dry-type transformers. It is a flexible, high-temperature glass-mat, reinforced polyester (190°C at 1/32", 200°C at 1/16") designed for applications where high flexibility and excellent dielectric strength are necessary. Test data has shown that N200F can be applied in areas with at least a bend radius of 2" (5 cm) without having significant effects on dielectric properties.

STANDARDS: NEMA IM 60000: GPO-1 • IEC 60893: UPGM 201

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. Product colors vary according to material type.

-	ASTM				
RTIES	Test Method	Units (SI)	Typical Values		
Standard Color			Natural/Taupe		
Density		lbs/in³ (g/cc)	0.057 (1.57)		
Water Absorption (0.125")	ASTM D570	%	0.31		
Thermal Class			200*		
Tensile Strength	ASTM D638	PSI (MPa)	12,000 (83)		
Compressive Strength: Flatwise	ASTM D695	PSI (MPa)	18,000 (124)		
Flexural Strength: Lengthwise	ASTM D790	PSI (MPa)	20,000 (138)		
Flexural Strength: Crosswise	ASTM D790	PSI (MPa)	23,000 (159)		
Arc Resistance	ASTM D495	Seconds	120		
Dielectric Strength: Perpendicular in Oil (0.0625")	ASTM D149 (short)	V/mil (kV/mm)	620 (24.4)		
	Standard Color Density Water Absorption (0.125") Thermal Class Tensile Strength Compressive Strength: Flatwise Flexural Strength: Lengthwise Flexural Strength: Crosswise Arc Resistance	Standard Color Density Water Absorption (0.125") Thermal Class Tensile Strength Compressive Strength: Flatwise Flexural Strength: Lengthwise Flexural Strength: Crosswise ASTM D790 Arc Resistance ASTM D495	RTIES Test Method Units (SI) Standard Color Density Water Absorption (0.125") Thermal Class Tensile Strength Compressive Strength: Flatwise Flexural Strength: Lengthwise Flexural Strength: Crosswise ASTM D695 Flexural Strength: Crosswise ASTM D790 PSI (MPa) Flexural Strength: Crosswise ASTM D790 ASTM D790 PSI (MPa) Flexural Strength: Crosswise ASTM D790 PSI (MPa) Seconds	RTIES Test Method Units (SI) Typical Values Standard Color Natural/Taupe Density 0.057 (1.57) Water Absorption (0.125") ASTM D570 % 0.31 Thermal Class 200* 200* Tensile Strength ASTM D638 PSI (MPa) 12,000 (83) Compressive Strength: Flatwise ASTM D695 PSI (MPa) 18,000 (124) Flexural Strength: Lengthwise ASTM D790 PSI (MPa) 20,000 (138) Flexural Strength: Crosswise ASTM D790 PSI (MPa) 23,000 (159) Arc Resistance ASTM D495 Seconds 120	

^{* 190°}C is the typical value for materials that are 1/16" and thinner

LAMINATE SHEET AVAILABILITY		LAMINATE SHEET AVAILABILITY (SI)		
THICKNESS	SHEET SIZE	THICKNESS	SHEET SIZE	
• 0.020" - 0.125"	• 36" x 73" • 49" x 97"	• 0.50 mm - 3.00 mm	• 94 cm x 185 cm • 124 cm x 246 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.

THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

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 Engineering Capabilities Include:

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

Our Manufacturing Capabilities Include:

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



THE GUND COMPANY GLOBAL FOOTPRINT - LOCAL SERVICE

