



# THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

## N180 - Class H - GPO-1

<b>Item:</b>	<b>NEMA Grade GPO-1 (N180 Glass Polyester Laminate)</b>			
<b>Description:</b>	Grade N180 is a class H (180°C) glass mat reinforced polyester material designed for applications where high compressive and flexural strength are combined with high temperature resistance. Grade N180 has been designed for applications including electric motor slot topsticks, D.C. motor pole collars, hydro generator pole collars, rotating equipment slot filler, rotor pole blocking, lead and cable clamps, and related applications.			
<b>Standards:</b>	NEMA IM 60000: GPO-1 • IEC 60893: UPGM 201			
<b>Availability:</b>	<b>Laminate Sheets:</b>	Thickness:	English Units (in) 0.031 - 2.0 / 0.118 - 1.5	SI Units (mm) 0.78 - 50.8 / 3 - 38.1
		Sheet Size:	36 x 72 / 48 x 96	914 x 1828 / 1219 x 2438
	<b>Pultruded Tubes:</b>	Tube Size:	0.75 – 1.74 OD / 0.625 – 1.51 ID	19.05 – 44.19 OD / 15.87 – 38.35 ID
	<b>Fabricated Parts:</b>	The Gund Company custom fabricates insulation materials to the exact specifications and drawings specified by our customers.		

Key Characteristics (Sheet)	Test Method	Units - English (SI)	Typical Values
Standard Color	--	--	Black
Density	--	lbs/in <sup>3</sup> (g/cc)	0.069 (1.91)
Water Absorption (0.125")	ASTM D-570	%	0.25
Tensile Strength	ASTM D-638	psi (MPa)	16,000 (110)
Compressive Strength, Flatwise	ASTM D-695	psi (MPa)	46,000 (317)
Flexural Strength	ASTM D-790	psi (MPa)	Lengthwise 29,000 (200)
			Crosswise 32,000 (221)
Shear Strength	ASTM D-732	psi (MPa)	18,000 (124)
IZOD Impact Strength, Edgewise	ASTM D-256	ft-lbs/in	12
Arc Resistance	ASTM D-495	Seconds	180
Dielectric Strength, Perpendicular in Oil (0.0625")	ASTM D-149	V/mil (kV/mm)	500 (19.7)
Breakdown Voltage, Parallel in Oil	ASTM D-149	kV	45
Thermal Class	--	--	Class H - 180°C
Minimum Burst Strength (Tube) *	ASTM D-1180-57	psi (MPa)	1200 (8.3)

\* The tube construction can be optimized to meet specific Burst Strength requirements

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.