



THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

ENGINEERING RESOURCE

GENERATOR INSULATION - MATERIAL COMPARATIVE DATA SHEET

Product Grades	The Gund. Co	C109	C209	Formed G-11	G-10	G-11H	LSBC	N155	PTFE G-11	Rotoguard TIB	Rotoguard Glass Epoxy TI	Side Ripple	Top Ripple	U205	VARTIM VIL 130/155	Rotoguard Slot Armor	
	NEMA	--	--	G-11	G-10	G-11	--	GPO-1	G-11	--	--	--	--	--	GPO-1	--	
	IEC	--	EPGC 202	EPGC 203	EPGC 201	EPGC 203	--	UPGM 201	--	--	--	--	--	--	UPGM 201/EPGM 203	--	
Construction		Semi-Conductive Glass Laminate	Semi-Conductive Glass Epoxy	Glass Epoxy	Glass Epoxy	Glass Epoxy	High Strength Low Shrink Black Canvas Phenolic	High-Temp Glass Polyester	High-Pressure Glass Laminate	--	Single Layer Woven Glass Fabric	Semi-Conductive Glass Fiber	Glass Fiber	Glass Polyester	Custom Molded Composite Material		
Standard Thickness Available		0.020" - 0.500"	0.008" - 0.500"	.031, .047, .062, .084, .098, .125	.006" - 5.000"	30 x 48, 48 x 60, 48 x 96, 48 x 120	.125" - 2.500"	0.031" - 2.000", 0.118" - 1.500"	0.010" - 4.000"	0.005", 0.007", 0.010", 0.013"	5 Mil, 7 Mil, 10 Mil, and 13 Mil	0.012", 0.02", 0.026", 0.032", 0.037", 0.039"	0.03", 0.35"	0.118" - 2.362"	0.062" - 2.00"		
Mechanical Properties	Units															UPGM 201	EPGM 203
Rockwell Hardness	M Scale	--	--	--	98	--	105	--	--	--	--	--	--	--	--	--	--
Tensile Strength Lengthwise & Crosswise	LW	ksi	16.5	35	40	--	41	10	12	34	--	(5 Mil) 800	--	--	21.76	>30	>35
	CW		--	--	--	--	--	12	--	--	--	--	(5 Mil) 500	--	--	--	--
Compressive Strength		ksi	42	58	50	--	70	37	40	72.5	--	--	--	59.47	>45	>50	
Flexural Strength, Lengthwise & Crosswise	LW	ksi	30	57	54	80	80	20	26	58	--	--	--	37.7	>41	>45	
	CW		33	80	44	70	70	12	22	3.1	--	--	--	--	--	--	--
Shear Strength		ksi	17	21	--	25	--	--	--	--	--	--	--	--	--	--	--
IZOD Impact Strength, LW	ft.-lbs./in. ²		14	13	10	15	11	2.0	9.5	--	--	--	--	54.72	--	--	
Bonding Strength	lbs.		850	920	1,950	2,300	2,200	2,000	--	--	--	--	--	--	--	--	
Electrical Properties	Units																
Arc Resistance	Seconds	--	--	185	130	--	--	150	--	--	--	--	--	--	>130	>130	
Dielectric Strength	V/mil	--	--	65	485	485	--	450	180	--	(5 Mil) 270	--	--	13,000	450	450	
Breakdown Voltage	kV	--	--	--	50	--	--	30	--	--	--	--	--	38	>45	>45	
Surface Resistivity	Ohms/Sq.	--	--	--	200	--	--	--	--	--	--	--	>10,000	--	--	--	
Physical Properties	Units																
Water Absorption	%	--	--	0.09	--	--	2.0	0.25	0.5	--	--	--	--	--	0.025	0.025	
Specific Gravity	g/cc	1.5	0.83	1.9	1.85	1.91	--	1.83	1.91	--	--	1.8	1.8	1.9	1.74	1.77	
Thermal Properties	Units																
Relative Temperature Index	°C	180	180	180	--	--	130	155	180	--	155	155	155	--	130	155	
Flame Resistance	Class	--	--	--	UL 94 HB	UL 94 HB	UL 94 V-0	UL 94 V-0	--	--	--	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 HB		
Thermal Class	Class	--	--	--	--	--	B	F	--	--	--	F	F	--	--		

Contact our Generator team for additional information on our Rotoguard family of products at Generators@thegundcompany.com

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