



THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

MOTOR MATERIAL COMPARATIVE DATA SHEET

Product Grades	TGC	APO-1	C109	C209	G-3	G-9	G-10	G-11	G-12	G-15	Magnohl™	GFlex™ YT510 Aramid Paper	N155	N180	N220	PET film	VARTM VIL	GFlex™ APA Flex Laminate	
	NEMA	GPO-1	--	--	G-3	G-5 / G-9	G-10	G-11	G-12	G-15	--	--	GPO-1	GPO-1	GPO-1	--	GPO-1	--	
	IEC	UPGM 202	--	EPGC 202	PFGC 201	MDGC 201	EPGC 201	EPGC 203	EPGC 308	EPGC 311	--	--	UPGM 201	UPGM 201	UPGM 201	--	UPGM 201/ EPGM 203	--	
Construction	Glass Polyester		Semi-Conductive Glass Laminate	Semi-Conductive Glass Epoxy	Glass Fabric Laminate	Glass Melamine	Glass Epoxy	Glass Epoxy	Glass Epoxy	Glass Polyimide	Magnetic Glass Reinforced Laminate	Aramid Paper	High-Temp Glass Polyester	High-Temp Glass Polyester	High-Temp Glass Polyester	Polyester Film	Custom Molded Composite Material	Flex Laminate	
Standard Thickness Available	in.	0.031"-2.000"	0.020"-0.500"	0.008"-4.000"	0.008"-4.000"	0.008"-4.000"	0.006"-5.000"	0.006"-5.000"	0.010"-5.000"	0.016"-3.500"	0.062"-0.400"	0.002"-0.030"	0.031"-2.000"	0.031"-2.000"	0.031"-2.000"	0.001"-0.020"	0.062"-2.000"	0.007"-0.021"	
	cm.	0.079 cm-5.080 cm	0.051 cm-1.270 cm	0.020 cm-10.160 cm	0.020 cm-10.160 cm	0.020 cm-10.160 cm	0.015 cm-12.700 cm	0.015 cm-12.700 cm	0.015 cm-12.700 cm	0.015 cm-12.700 cm	0.015 cm-12.700 cm	0.157 cm-1.016 cm	0.005 cm-0.076 cm	0.005 cm-0.076 cm	0.005 cm-0.076 cm	0.005 cm-0.076 cm	0.005 cm-0.076 cm	0.079 cm-5.080 cm	0.018 cm-0.053 cm
Mechanical Properties	Units																		
Rockwell Hardness	M Scale	--	--	--	110	115	98	--	--	117	--	--	--	--	--	--	--	--	--
Tensile Strength, Lengthwise and Crosswise	LW CW	10	17	35	42	44	--	41	41	--	--	--	12.0	16.0	11.0	8.7	>30	>35	0.206
Compressive Strength	ksi	33	42	58	76	70	--	70	70	> 60	46	--	40.0	46.0	32.0	--	>45	>50	--
Flexural Strength, Lengthwise and Crosswise	LW CW	20	30	57	18	62	80	80	80	> 60	28	--	26.0	29.0	32.0	--	>41	>45	--
Shear Strength	ksi	--	33	80	14	51500	70	70	70	> 60	--	--	22.0	32.0	--	--	--	--	--
IZOD Impact Strength, LW	ft-lbs./in. ²	13	17	21	22	--	25	--	--	--	19	--	--	18.0	12.0	--	--	--	--
Bonding Strength	lbs.	9	14	13	12	13	15	11	11	> 17	--	--	9.5	12	11	--	--	--	--
		1200	850	920	1500	--	2300	2200	2.2		1080	--	--	1080	1080	--	--	--	--
Electrical Properties	Units																		
Arc Resistance	Seconds	180	--	--	100	185	130	--	--	> 180	--	--	150	180	180	--	>130	>130	--
Dielectric Strength	V/mil	450	--	--	15	450	485	485	485	> 450	--	635	450	500	550	2	450	450	--
Breakdown Voltage	kV	>40	--	--	55	65	50	--	>50	65	--	--	30	45	50	--	>45	>45	18.0
Surface Resistivity	Ohms/Sq.	--	--	--	--	600+	200	--	180		--	--	--	--	--	--	--	--	--
Physical Properties	Units																		
Water Absorption	%	--	--	--	--	0.6	--	--	0.01	< 0.6	--	--	0.25	0.25	0.25	0.5	0.025	0.025	--
Specific Gravity	g/cc	0.066	0.054	0.03	0.068	--	0.067	0.069	1.9	1.81	0.108	--	0.66	0.690	0.61	0.0506	0.063	0.064	--
Thermal Properties	Units																		
Relative Temperature Index	°C	--	180	180	130/170	130	--	--	--	--	155	210	155	180	210	--	130	155	155 - 180
Flame Resistance	Class	UL 94 HB	--	--	UL 94 HB	UL 94 V-0	UL 94 HB	UL 94 HB	V-0	HB	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 HB	E23105	--	UL 94 HB	--	
Thermal Class	Class	--	--	--	--	B	--	--	--	--	F	R	F	H	--	--	--	--	

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.