

THE GUND COMPANY

Manufacturers & fabricators of engineered material solutions

Item:	X, XX, XXX								
Description:	X, XX, XXX are paper based laminate with a phenolic resin binder that provides good electrical properties such as high dielectric strength and arc resistance. Paper phenolic insulating materials provide low cost electrical and mechanical properties. They are widely used for switchboards, panel boards, insulating washers, bushings, and intricate punched parts.								
Standards:	NEMA LI-1: Grade X, XX, & XXX IEC 60893: PF CP 201 & 203 MIL-I-24768/ 12-PBM, /11-PBG, /10-PBE								
Availability:	Laminate Sheets:		English Units (in)	SI Units (cm)					
		Sheet Size:	36 x 48, 39 x 48, 36 x 72, 48 x 48, 48 x 96	91.4 x 122, 99 x 122, 91.4 x 182.2, 122 x 122, 122 x 243.8					
		Thickness:	0.008 to 4.0	0.2 mm to 101.6 mm					
	Fabricated Parts:	The Gund Company custom fabricates insulation materials to the exact specifications and drawings of our customers.							

Key Characteristics	Test Method	Units - English (SI)	Typical Values			
			Grade X	Grade XX	Grade XXX	
Moisture Absorption (0.062")	ASTM D-570	%	1.80	2.0	1.30	
Rockwell Hardness (0.062")		M Scale	90	95	101	
Tancila Strangth (0,125")	Lengthwise	ASTM D-638	ksi (MPa)	17 (117)	13.5 (93)	14 (96)
Tensile Strength (0.125")	Crosswise			13 (89)	11.5 (79.2)	12 (82)
Compressive Strength, Flatwise	ASTM D-695	ksi (MPa)	35 (241)	25 (172.3)	30 (206)	
Flexural Strength	Lengthwise	ASTM D-790	ksi (MPa)	34 (234)	22 (151.6)	20 (137)
	Crosswise	ASTM D-790		28 (193)	17 (117.13)	15 (103)
Shear Strength, Perpendicular (ASTM D-732	ksi (MPa)	15 (103)	11.5 (79.23)	12.8 (88)	
IZOD Impact Strength	Lengthwise	ASTM D-256	ft-lb/in	0.82	0.50	0.55
	Crosswise			0.76	0.40	0.45
Dielectric Strength	Condition A	V/mil	600	500	700	
Breakdown Voltage (0.062") Cond	ASTM D-149	kV	40	40	40	
Permativity (0.062) Condition D-				6.20	6.10	
Bond Strength (0.500")	ASTM D-229	lb (kg)	1,000 (454)	900 (409)	1,000 (454)	
Maximum Operating Temperatu	Multiple ASTM	°C	130	130	130	
Flammability Rating	UL 94		HB	HB	HB	
Arc Resistance	ASTM D-495	Seconds	90		110	
Standard Color			Natural	Natural	Natural	

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 use contemplated, 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. TGCR0819