



# 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:		English Units (in)	SI Units (cm)	
	Laminate Sheets:	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	
Tensile Strength (0.125")	ASTM D-638	ksi (MPa)	Lengthwise	17 (117)	13.5 (93)	14 (96)
			Crosswise	13 (89)	11.5 (79.2)	12 (82)
Compressive Strength, Flatwise (0.5")	ASTM D-695	ksi (MPa)	35 (241)	25 (172.3)	30 (206)	
Flexural Strength	ASTM D-790	ksi (MPa)	Lengthwise	34 (234)	22 (151.6)	20 (137)
			Crosswise	28 (193)	17 (117.13)	15 (103)
Shear Strength, Perpendicular (0.062")	ASTM D-732	ksi (MPa)	15 (103)	11.5 (79.23)	12.8 (88)	
IZOD Impact Strength	ASTM D-256	ft-lb/in	Lengthwise	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") Condition A	ASTM D-149	kV	40	40	40	
Permativity (0.062) Condition D-24/23	--	--	--	6.20	6.10	
Bond Strength (0.500")	ASTM D-229	lb (kg)	1,000 (454)	900 (409)	1,000 (454)	
Maximum Operating Temperature	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	