THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

HP1

Item:	**HP1 Low Power Factor Paper Phenolic**			
Description:	HP1 is manufactured as high pressure paper based laminates with a kraft paper substrate and special phenolic resin and an extremely low incidence of internal voids. Due to its excellent dielectric and low power factor properties, it is recommended for use in high voltage applications; such as oil filled transformers as tap changer boards and terminal boards.			
Standards:	NEMA IM 60000 : Grade XX IEC 60893 : PF CP 202		MIL-I-24768: / 11-PBG, / DIN 7734: HP 2061.5 (HP1)	
Availability:	**Laminate Sheets:**		English Units (in)	SI Units (cm/mm)
		Sheet Size:	84 x 49 / 42 x 49	214 x 124 / 107 x 124 (cm)
		Thickness:	0.125 to 2.0	0.3 to 50 (mm)
	Fabricated Parts:	The Gund Company custom fabricates insulation materials to the exact specifications and drawings specified by our customers.		

Key Characteristics		Test Method	Units - English (SI)	Typical Values
Moisture Absorption (0.062")		ASTM D-570	%	2.00
Rockwell Hardness (0.062")		ASTM D-785	M Scale	105
Compressive Strength, Flatwise (0.5")		ASTM D-695	ksi (MPa)	34 (234)
Tensile Strength (0.125")	**Lengthwise**	ASTM D-638	ksi (MPa)	16 (110)
	Crosswise			13 (89)
Flexural Strength	**Lengthwise**	ASTM D-790	ksi (MPa)	15 (103)
	Crosswise			14 (97)
Dielectric Strength		ASTM D-149	V/mil	500
IZOD Impact Strength	**Lengthwise**	ASTM D-256	ft-lb/in	0.40
	Crosswise			0.35
Breakdown Voltage (0.062")		ASTM D-149	kV	40
Relative Permittivity @ 1MHz (0.062") Condition D-24/23		ASTM D-150	--	6.2
Bond Strength (0.500")		ASTM D-229	lb (kg)	800 (363)
Maximum Operating Temperature		--	°C	130
Flammability Rating		UL 94	--	HB
Standard Color		--	--	Natural
Density (0.5" thick)		ASTM D-634	g/cm³	1.34