



THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

MICA XP Silicone Bonded Paper

Item:	Mica XP (Silicone Bonded Mica Paper Laminate)			
Description:	Mica is an alumino-silicate with exceptional physical, electrical, mechanical, and thermal characteristics with primary applications being in the area of high voltage and high-temperature electrical insulation. MICA XP can be used as a replacement for asbestos based sheets in the construction and maintenance of high-temperature applications.			
Availability:	Laminate Sheets:		English Units (in)	SI Units (mm/cm)
		Sheet Size:	48 x 120	122 x 305 (cm)
		Thickness:	0.004 to 3	0.1 to 76 (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	Typical Values - Phlogopite
Density		IEC 371-2	lb/in ³ (g/cc)	0.077 (2.13)
Water Absorption (0.125 ")		ASTM D-570	%	<1
Tensile Strength		ISO 527	psi (MPa)	15,955 (110)
Compressive Strength	at 20 °C	ISO 604	psi (MPa)	47,862 (330)
	at 200°C			34,809 (240)
Flame Resistance		UL 94	--	94 V-O
Temperature Resistance	Continuous	--	°C	700°
	Peak			1,000°
Arc Resistance		ASTM D-495	Seconds	≥420
Dielectric Strength	at 20 °C	IEC 243	V/mil (kV/mm)	625 (24.38)
	After 1 hr at 400°C			325 (12.68)
	After 1 hr at 600°C			250 (9.75)
Track Resistance		IEC 112	V	525



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Comparison Chart

Key Characteristics	Test Method	Units	NEMA GPO-3	NEMA G-10/FR4	NEMA G-11	NEMA G-15	Mica XM	Mica XP	Mica XFP
Specific Gravity	--		1.8	1.85	1.9	1.81	2.21	2.13	1.9
Water Absorption (0.125")	ASTM D-570	%	0.2	0.1	0.01	< 0.6	0.065	< 1	< 1
Operating Temperatue	UL 746-B	°C (°F)	130 (266)	130 (266)	180 (356)	250 (482)	500 (932)	700 (1292)	700 (1292)
Peak Temperatue	UL 746-B		--	--	--	280 (536)	700 (1292)	1000 (1832)	900 (1652)
Flexural Strength LW	ASTM D-790	ksi (Mpa)	23 (159)	80 (552)	70 (486)	> 60 (414)	24 (166)	18 (125)	--
Flexural Strength CW			20 (138)	70 (483)	62 (425)	> 60 (414)	24 (166)	18 (125)	--
IZOD Impact Strength LW	ASTM D-229	ft-lb / in	9.3	13	11	> 17	--	--	--
IZOD Impact Strength CW			9.5	12	10	> 14	--	--	--
Compressive Strength, Flatwise	ASTM D-695	ksi (Mpa)	33 (228)	66 (455)	70(483)	> 60 (414)	58 (397)	48 (330)	--
Shear Strength (0.125"), A	ASTM D-732	ksi (Mpa)	13 (90)	22 (148)	--	> 20 (138)	--	--	--
Dielectric Breakdown	ASTM D-149	kV	45	66	50	65	--	--	--
Dielectric Strength	ASTM D-149	V/mil	550	635	485	> 450	629	625	508
Arc Resistance	ASTM D-495	Seconds	192	140	--	> 180	> 420	> 420	> 420
Flame Rating	UL94	Class	V-0	V-0	HB	V-0	V-0	V-0	V-0
Specific Heat (23°C)	ASTM E-1269	J/kg°C	--	--	--	--	822	822	822
Specific Heat (250°C)	ASTM E-1269		--	--	--	--	1081	1081	1081
Thermal Conductivity (23°C)	ASTM E-1461	W/m°C	0.32	--	--	0.32	0.23	0.23	0.23
Thermal Conductivity (250°C)			--	--	--	--	0.21	0.21	0.21
Thermal Expansion (110°C)	ASTM E-228	10 ⁻⁶ /°C	--	15	10	--	10	10	10
Thermal Expansion (250°C)			--	--	--	--	28	28	28
Compressability	ASTM F-36-J	%	--	--	--	--	--	--	20
Elastic Recovery	ASTM F-36-J	%	--	--	--	--	--	--	37

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.