



## Material Specifications Data Sheet

	PAPER	PAPER	CANVAS	CANVAS	LINEN	LINEN	GLASS	GLASS	GLASS	GLASS	GLASS	GLASS
	PHENOLIC	PHENOLIC	PHENOLIC	PHENOLIC	PHENOLIC	PHENOLIC	PHENOLIC	MELAMINE	EPOXY	EPOXY	EPOXY	SILICONE
	XX	XXX	C	CE	L	LE	G3	G-9	G-10	FR4	G-11	G-7
MILITARY/FED SPEC	Mil-I-24768/11	Mil-I-24768/10	Mil-I-24768/16	Mil-I-24768/14	Mil-I-24768/15	Mil-I-24768/13	Mil-I-24768/18	Mil-I-24768/1	Mil-I-24768/2	Mil-I-24768/27	Mil-I-24768/3	Mil-I-24768/17
	Type PBG	Type PBE	Type FBM	Type FBG	Type FBI	Type FBE	Type GPG	Type GME	Type GEE	Type GEE-F	Type GEB	Type GSG
<b>SPECIFIC GRAVITY</b>	1.35	1.38	1.35	1.37	1.34	1.34	1.85	1.85	1.8	1.85	1.82	1.78
<b>TENSILE STRENGTH (psi)</b>	17,000	13,000	11,200	10,000	14,000	13,000	42,000	39,000	40,000	38,000	37,000	18,000
<b>COMP. STRENGTH (psi)</b>	35,000	35,000	37,000	36,000	35,000	36,000	76,000	70,000	65,000	66,000	63,000	45,000
<b>FLEXURAL STRENGTH (psi)</b>	34,000	22,000	22,000	17,000	23,000	18,000	55,000	55,000	75,000	60,000	75,000	25,000
<b>HARDNESS, M SCALE</b>	120	101	103	100	105	100	110	115	110	115	112	105
<b>BOND STRENGTH (psi)</b>	1500	1200	2,000	1900	1,700	1900	1,500	1900	2200	2300	2200	900
<b>SHEAR STRENGTH (psi)</b>	11,500	12,800	14,000	14,000	13,500	13,500	18,000	18,000	19,000	21,500	22,000	17,000
<b>DISSIPATION FACTOR</b>												
<b>10<sup>6</sup> cycles, Cond A</b>	0.040	0.035	-	0.048	-	0.065	0.023	0.015	0.020	0.032	0.020	0.003
<b>DIELECTRIC CONSTANT</b>												
<b>10<sup>6</sup> cycles, Cond A</b>	5.30	5.10	-	5.50	-	5.70	7.30	7.00	5.00	4.80	5.00	4.20
<b>ELECTRIC STRENGTH</b>												
<b>V/MIL Cond A</b>	750	700	-	550	-	625	600	450	800	800	900	400
<b>FLAMMABILITY RATING</b>	94HB	94HB	94HB	94HB	94HB	94HB	94HB	94V-O	94HB	94V-O	94HB	94V-O
<b>MAX OPER. TEMP °C/F</b>	140/284	140/284	125/257	125/257	125/257	125/257	140/284	140/284	140/284	140/284	180/356	220/428
<b>COEFF. THERMAL EXP.</b>												
<b>IN/IN/°C X 10-5</b>	1.20	1.50	1.10	2.00	1.04	1.80	1.00	1.50	1.00	1.00	1.10	1.00
<b>WATER ABSORPTION</b>												
<b>% - 24 hrs</b>	2.00	0.57	1.60	2.00	1.40	1.90	2.00	0.60	0.11	0.10	0.20	0.20
<b>Izod Impact Strength</b>												
<b>(ft/lb/in) @49°C</b>	0.80	0.55	1.95	1.70	1.70	1.35	12.00	12.50	14.00	14.00	12.00	6.50

All values given are average based on test samples. The performance characteristics attributed to the products described herein are based on assumptions of general and reasonable use. As results cannot be predicted or guaranteed for any specific set of conditions, each user should make their own determination of these products' suitability for their particular application. 01/2020