

PROPERTY	ASTM or UL TEST	XXX 254	LE 221	CE 51F33	400 NP315	G-3 NP504	G-5 259-2	G-7 MC507U	G-9 H12426	G-10 H22033	G-11 MC511A
PHYSICAL											
BASE MATERIAL		Paper	Fine Weave Fabric	Medium Weave Fabric	Medium Weave Fabric	Glass Cloth	Glass Cloth	Glass Cloth	Glass Cloth	Glass Cloth	Glass Cloth
RESIN		Phenolic	Phenolic	Phenolic	Phenolic	Phenolic	Melamine	Silicone	Melamine	Epoxy	Epoxy
COLOR		Tan	Tan	Natural	Black		Grey		Grey	Green	
DENSITY, g/cm ³		1.34	1.34	1.37	1.4	1.83	1.9	1.82	1.9	1.85	1.85
WATER ABSORPTION (1/8" thick), %	D229	0.4	0.7-1.9	1.1	1.1-2.2	0.2	0.4	0.25	0.2	0.05	0.10
HARDNESS ROCKWELL "M"	D229	110	100	105	90-109	105	115	100	120	115	115
TENSILE (WITH GRAIN), psi	D229	15,000	14,000	13,000	10,000-37,000	42,000	40,000	-	45,000	50,000	-
COMPRESSIVE (FLATWISE), psi	D229	36,000	38,000	37,000	38,000-45,000	63,000	65,000	47,000	65,000	50,000	65,000
FLEXURAL (FLATWISE WITH GRAIN) (1/8" thick), psi	D229	20,000	22,000	19,000	19,000-21,000	18,000	50,000	21,500	55,000	60,000	75,000
BONDING STRENGTH (1/2" thick), lb	D229	950-1,200	1,800	2,000	1,800-2,200	1,500	1,800	650	1,700-2,300	2,600	2,200
IMPACT STRENGTH (IZOD. EDGEWISE WITH GRAIN) (ft-lb/in. notch)	D732	0.5	1.5	1.8	1.7	11.0	10.0	13.5	13.0	10.0	10.5
ELECTRICAL											
DIELECTRIC STRENGTH (PERPENDICULAR) (1/8" thick) (VPM) (short time)	D229	600	350	200	-	375	300	350	-	550	-
DISSIPATION FACTOR (at 106cycles/sec)	D229	0.037	0.065	-	-	-	0.019	0.002	0.018	0.032	0.025
DIELECTRIC CONSTANT (at 106cycles/sec)	D229	5.2	5.1	-	-	-	6.3*	-	7.2	5.0	-
VOLUME RESISTIVITY (megohm-cm)	D229	3x10 ⁷	7x10 ⁴	-	-	-	6x10 ⁷	4.0x10 ⁸	1.5x10 ⁷	6x10 ⁶	-
RESISTIVITY (megohms)	D229	7x10 ⁵	6x10 ⁴	-	-	-	6x10 ⁶	5.0x10 ⁸	1.5x10 ⁷	1x10 ⁶	-
THERMAL											
Max. Temp (°F)		284	257	257	293	338	284	428	284	266	356

We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products, whether alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product or product combination for their own purposes. Unless otherwise agreed in writing, we sell the products without warranty, and buyers and users assume all responsibility and liability for loss or damage arising from the handling and use of our products, whether used alone or in combination with other products. For most recent technical information, phone in USA or in Canada.

METRIC

PROPERTY	ASTM or UL TEST	XXX 254	LE 221	CE 51F33	400 NP315	G-3 NP504	G-5 259-2	G-7 MC507U	G-9 H12426	G-10 H22033	G-11 MC511A
PHYSICAL											
BASE MATERIAL		Paper	Fine Weave Fabric	Medium Weave Fabric	Medium Weave Fabric	Glass Cloth	Glass Cloth	Glass Cloth	Glass Cloth	Glass Cloth	Glass Cloth
RESIN		Phenolic	Phenolic	Phenolic	Phenolic	Phenolic	Melamine	Silicone	Melamine	Epoxy	Epoxy
COLOR		Tan	Tan	Natural	Black		Grey		Grey	Green	
DENSITY, in ³ /lb		37.1	37.1	37.1	38.8	50.7	52.6	50.4	52.6	51.2	51.2
WATER ABSORPTION (1/8" thick), %	D229	0.4	0.7-1.9	1.1	1.1-2.2	0.2	0.4	0.25	0.2	0.05	0.10
HARDNESS ROCKWELL "M"	D229	110	100	105	90-109	105	115	100	120	115	115
TENSILE (WITH GRAIN), Mpa	D229	103.4	96.5	89.6	68.9-255	290	275.8	-	310.3	344.7	-
COMPRESSIVE (FLATWISE), Mpa	D229	248.2	262	255.1	262-310	434	448.2	324	448.2	344.7	448
FLEXURAL (FLATWISE WITH GRAIN) (1/8" thick), Mpa	D229	137.9	151.7	131	131-145	124	344.7	148	379.2	413.7	517
BONDING STRENGTH (1/2" thick), kg	D229	431-541	816	907	816-998	680	816	295	771-1040	1180	998
IMPACT STRENGTH (IZOD. EDGEWISE WITH GRAIN) (J/m. notch)	D732	26.7	80.1	96.1	90.8	587	534	721	694	534	561
ELECTRICAL											
DIELECTRIC STRENGTH (PERPENDICULAR) (1/8" thick) (VPM) (short time)	D229	600	350	200	-	375	300	350	-	550	-
DISSIPATION FACTOR (at 106cycles/sec)	D229	0.037	0.065	-	-	-	0.019	0.002	0.018	0.032	0.025
DIELECTRIC CONSTANT (at 106cycles/sec)	D229	5.2	5.1	-	-	-	6.3*	-	7.2	5.0	-
VOLUME RESISTIVITY (megohm-cm)	D229	3x10 ⁷	7x10 ⁴	-	-	-	6x10 ⁷	4.0x10 ⁸	1.5x10 ⁷	6x10 ⁶	-
RESISTIVITY (megohms)	D229	7x10 ⁵	6x10 ⁴	-	-	-	6x10 ⁶	5.0x10 ⁸	1.5x10 ⁷	1x10 ⁶	-
THERMAL											
Max. Temp (°C)		140	125	125	145	170	140	220	140	130	180

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