

Material Comparison

Atlas Fibre Comparative Data Sheet



Name / Type (Grade)	Paper Phenolic (XX)	Paper Phenolic (XXX)	Canvas Phenolic (C)	Canvas Phenolic (CE)	Linen Phenolic (L)	Linen Phenolic (LE)	Glass Phenolic (G3)	Glass Melamine (G-9)	Glass Epoxy (G-10)	Glass Epoxy (FR-4)	Glass Epoxy (G-11)	Glass Silicone (G-7)
Military / Federal Spec. (Mil-spec)	Mil-1-24768/11 Type PBG	Mil-1-24768/10 Type PBE	Mil-1-24768/16 Type FBM	Mil-1-24768/14 Type FBG	Mil-1-24768/15 Type FBI	Mil-1-24768/13 Type FBE	Mil-1-24768/18 Type GBG	Mil-1-24768/1 Type GME	Mil-1-24768/2 Type GEE	Mil-1-24768/27 Type GEE-F	Mil-1-24768/3 Type GEB	Mil-1-24768/17 Type GSG
Specific Gravity	1.35	1.38	1.35	1.37	1.34	1.34	1.85	1.85	1.8	1.85	1.82	1.78
Tensile Strength (psi)	17,000	13,000	11,200	10,000	14,000	13,000	42,000	39,000	40,000	38,000	37,000	18,000
Comp. Strength (psi)	35,000	35,000	37,000	36,000	35,000	36,000	76,000	70,000	65,000	66,000	63,000	45,000
Flex Strength (psi)	34,000	22,000	22,000	17,000	23,000	18,000	55,000	55,000	75,000	60,000	75,000	25,000
Hardness (M Scale)	120	101	103	100	105	100	110	115	110	115	112	105
Bond Strength (psi)	1,500	1,200	2,000	1,900	1,700	1,900	1,500	1,900	2,200	2,300	2,200	900
Shear Strength (psi)	11,500	12,800	14,000	14,000	13,500	13,500	18,000	18,000	19,000	21,500	22,000	17,000
Dissipation Factor 10 cycles, Cond A	0.040	0.035	–	0.048	–	0.065	0.023	0.015	0.020	0.022	0.020	0.003
Dielectric Constant 10 cycles, Cond A	5.30	5.10	–	5.50	–	5.70	7.30	7.00	5.00	4.80	5.00	4.20
Electric Strength V/MIL, Cond A	750	700	–	550	–	625	600	450	800	800	900	400
Flammability Rating	94HB	94HB	94HB	94HB	94HB	94HB	94HB	94V-O	94HB	94V-O	94HB	94V-O
Max Oper. Temp. °C / °F	140/284	140/284	125/257	125/257	125/257	125/257	140/284	140/284	140/284	140/284	180/356	220/428
Coeff. Thermal Exp. IN/IN/C × 10 ⁻⁶	1.20	1.50	1.10	2.00	1.04	1.80	1.00	1.50	1.00	1.00	1.10	1.00
Water Absorption % – 24 hrs	2.00	0.57	1.60	2.00	1.04	1.90	2.00	0.60	0.11	0.10	0.20	0.20
Izod Impact Strength (ft/lb/in) @ 49°C	0.80	0.55	1.95	1.70	1.70	1.35	12.00	12.50	14.00	14.00	12.00	6.50

– Data not available.

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