Redco™ Polycarbonate Technical Data Sheet



PROPERTIES	TEST METHOD	General Purpose	High Flex Modulus	20% Glass Reinforced
Physical Properties Specific Gravity	ASTM D 792	1.2	1.25	1.35
Specific Gravity in3/lb (cm3/g) Water Absorption 24h, 1/8-in thk (%)	ASTM D 792 ASTM D 570	23 (636) 0.15	22.2 (614) 0.12	20.5 (567) 0.16
Mechanical Properties Tensile Strength psi (MPa) Elongation at Break (%) Tensile Modulus psi (MPa)	ASTM D 638 ASTM D 638 ASTM D 638	9,000 - 10,500 (62-72) 110 - 125 340,000 (2345)	8,000 - 9600 (55-66) 10-20 450,000 (3100)	16,000 (110) 4-6 860,000 (5900)
Flexural Strength psi (MPa) Flexural Modulus psi (MPa)	ASTM D 790 ASTM D 790	11,000 - 15,000 300,000 - 340,000 (2070 - 2345)	15,000 (3100) 15,000 (103) 500,000 (3450)	19,000 (131) 800,000 (5517)
Impact Strength, Izod ft-Ib/in of Notch (J/m of notch) Fatigue Endurance Limit,	ASTM D 256	12 - 16 (648-864)	2 (108)	2 (108)
107 Cycles pso (MPa) Hardness, Rockwell M	ASTM D 671 ASTM D 785	1000 (6.9) 62-70	2000 (13.8) 85	5,000 (34.5) 91
Thermal Properties Thermal Conductivity				
Btu-in/hr-ft2-°F (w/m-K) Coefficient of thermal	ASTM C 177	1.35 (0.19)	1.41 (0.21)	1.47 (0.22)
expansion (105 -°C) Deflection Temperature °F (°C)	ASTM D 696	6.6 - 7.0	3.2	2.7
At 264 PSI	ASTM D 648	260 - 270 (127 - 132)	288 (142)	295 (146)
At 66 PSI Flammability Rating	ASTM D 648	280 (138) HB-V0	295 (146) V-2, V-0	300 (149) V-2, V-0

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PROPERTIES	TEST METHOD	General Purpose	High Flex Modulus	20% Glass Reinforced
Electrical Properties Dielectric Strength Short Time @ 1/8-in thk, V/mill (KV/mm) Dielectric Constant At 1 kHz Dissipation Factor At 1 kHz Volume Resistivity (ohm-cm) at 73 °F, 50% RH Arc Resistance (s), 120 mils	ASTM D 149 ASTM D 150 ASTM D 150 ASTM D 257 ASTM D 495	380 - 400 (15-16) 3.02 0.0021 >10 ¹⁶ 10 - 120	450 (17.8) >10 ¹⁶ 5-120	490 (19.4) >10 ¹⁶ 5-120
(-), 12 11	7.61.11.2 100		0 120	0 120
Optical Properties Refractive Index Transmittance (%)	ASTM D 542 ASTM D 1003	1.586 85-89		
Frictional Properties Coefficient of Friction Self Against Steel		0.52 0.39		

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