TYPICAL PROPERTIES OF POLYCARBONATES (PC)

ASTM or UL Test	Property	General Purpose	High Flex Modulus	20% Glass **Reinforced**
	PHYSICAL			
D792	Specific gravity	1.2	1.25	1.35
D792	Specific volume (in^3/lb)	23	22.2	20.5
D570	Water absorption, 24 h, 1/8-in thk (%)	0.15	0.12	0.16
	MECHANICAL			
D638	Tensile strength (psi)	9,000-10,500	8,000-9,600	16,000
D638	Elongation (%)	110-125	10-20	4-6
D638	Tensile modulus (10^5 psi)	3.4	4.5	8.6
D790	Flexural strength (psi)	11,000-15,000	15,000	19,000
D790	Flexural modulus (10^5 psi)	3.0-3.4	5.0	8.0
D256	Impact strength, Izod (ft-lb/in of notch)	12-16	2	2
D671	Fatigue endurance limit, 10^7 cycles (psi)	1,000	2,000	5,000
D785	Hardness, Rockwell M	62-70	85	91
	THERMAL			
C177	Thermal conductivity (Btu-in/hr-ft^2-°F)	1.35	1.41	1.47
D696	Coefficient of thermal expansion (10^{-5} in/in-°C)	6.6-7.0	3.2	2.7
D648	Deflection temperature (°F)			
	At 264 psi	260-270	288	295
	At 66 psi	280	295	300
UL 94	Flammability rating	HB, V-0	V-2, V-0	V-2, V-0
	ELECTRICAL			
D149	Dielectric strength (V/mil) Short time, 1/8-in thk	380-400	450	490
D150	Dielectric constant At 1 kHz	3.02	—	—
D150	Dissipation factor At 1 kHz	0.0021	—	—
D257	Volume resistivity (ohm-cm) At 73°F, 50% RH	$>10^{16}$	$>10^{16}$	$>10^{16}$
D495	Arc resistance (s)	10-120	5-120	5-120
	OPTICAL			
D542	Refractive index	1.586	—	—
D1003	Transmittance (%)	85-89	—	—
	FRICTIONAL			
—	Coefficient of friction			
	Self	0.52	—	—
	Against steel	0.39	—	—

TYPICAL PROPERTIES OF POLYCARBONATES (PC)

ISO or UL Test	Property	General Purpose	High Flex Modulus	20% Glass **Reinforced**
	PHYSICAL			
ISO1183	Specific gravity	1.2	1.25	1.35
ISO1183	Specific volume (cm^3/g)	0.83	0.79	0.74
ISO62	Water absorption, 24 h, 3.1mm thk (%)	0.15	0.12	0.16
	MECHANICAL			
ISO527	Tensile strength (MPa)	62.05-72.39	55.16-66.19	110.32
ISO527	Elongation (%)	110-125	10-20	4-6
ISO527	Tensile modulus (10^3 MPa)	2.34	3.10	5.93
ISO178	Flexural strength (MPa)	75.84	103.42	131.00
ISO178	Flexural modulus (10^3 MPa)	2.01-2.34	3.45	5.51
ISO180	Notched izod impact strength (J/m)	641-854	107	107
ISO2039	Hardness, Rockwell M	62-70	85	91
	THERMAL			
ISO8302	Thermal conductivity (W/(mK))	0.21	—	0.24
ISO11359	Coefficient of thermal expansion (10^{-4} m/m-°C)	1.28-1.26	0.57	0.48
ISO75	Deflection temperature (°C)			
	At 1.80 MPa	127-132	142	146
	At 0.45 MPa	138	146	149
UL 94	Flammability rating	HB, V-0	V-2, V-0	V-2, V-0
	ELECTRICAL			
IEC243	Dielectric strength (kV/mm) Short time, 3.1mm thk	14.9-15.7	17.7	19.3
IEC250	Dielectric constant At 1 kHz	3.02	—	—
IEC250	Dissipation factor At 1 kHz	0.0021	—	—
IEC093	Volume resistivity (ohm-cm) At 23°C, 50% RH	$>10^{16}$	$>10^{16}$	$>10^{16}$
ASTM D495	Arc resistance (s)	10-120	5-120	5-120
	OPTICAL			
ISO489	Refractive index	1.586	—	—
ASTM D1003	Transmittance (%)	85-89	—	—
	FRICTIONAL			
—	Coefficient of friction			
	Self	0.52	—	—
	Against steel	0.39	—	—