

Properties	A.S.T.M. Test Method	Lexan	Polystyrene	PTFE	Acetal	Delrin A/F®	Polyvinyl Chloride & Polyvinyl Chloride-Acetate Moulding Compounds & Sheets Rods & Tubes	
		Polycarbonate	HI Impact	Polytetra-Fluro-Ethylene		Teflon Fibres Dispersed in Acetal Resin	Rigid	Flexible
Specific gravity	D792	1.2	0.98-1.10	2.13-2.2	1.425	1.54	1.35-1.45	1.16-1.35
Specific volume, cu. cm per Kg.	D792	830.8	1014.1-911.1	476.9-455.6	704.6	632.5	740.7-689.9	860.3-740.7
Refractive index nD	D542	1.586	—	1.35	1.48	—	1.52-1.55	—
Tensile strength (at yield), MPa	D638, D651	55-66	24-45	14-21	69	32-52	34-62	10-24
Elongation, %	D638	60-100	7-60	200	15(inj.)-75 (extr.)	6.38	2.0-40	200-450
Modulus of elasticity in tension, 10 ³ kPa	D747	22.1	20.1-31	4.0	28.3	—	24.1-41.4	—
Compressive strength, MPa	D695	76	27.6-62	12	124	90	55-90	6-12
Flexural strength, MPa	D790	76-90	34-69	—	97	98	69-110	—
Impact strength, of notch (12.7 x 12.7 mm notched bar, Izod test)	D256	12-16	0.5-11.0	3.0	1.4(inj.)-2.3 (extr.)	0.6-0.7	0.4-20	Varies depending on type & amount of plasticizer
Hardness, Rockwell	D785	M70,R-118	M35-70,R50-100	D50-D65 (Shore)	M94-R118	M-73,R-118	70-90 (Shore)	—
Thermal conductivity (See footnote 1)	C177	4-6	1.0-3.0	6	5.5	—	3.0-7.0	3.0-4.0
Specific heat, cal per °C, per gm.	—	0.30	0.32-0.35	0.25	0.35	—	0.2-0.28	0.3-0.5
Thermal expansion, 10 ³ per °C.	D696	7	3.4-2.1	10	8.1 x 10 ³	4.5-5.5	5-18.5	7.25
Resistance to heat °C (continuous)	—	121	60-79	288	85-121	—	49-71	66-79
Heat distortion temp., °C	D648	132-138 (2510 kpa)	64-93	121 (455 kPa)	170 (455 kPa)	100-165	54-74	—
Volume resistivity (See footnote 2)	D257	2.1 x 10 ¹⁶	>10 ¹⁶	>10 ¹⁶	6 x 10 ¹⁴	6 x 10 ¹⁴	>10 ¹⁶	10 ¹¹ 10 ¹³
Dielectric strength (See footnote 3)	D149	400	300-600	480	465	—	425-1300	300-1000
Dielectric strength (See footnote 4)	D149	364	300-600	430	400	—	375-750	275-900
Dielectric constant, 60 cycles	D150	3.17	2.45-4.75	2.0	—	—	3.2-3.6	5.0-9.0
Dielectric constant, 10 ³ cycles	D150	3.02	2.4-4.5	2.0	3.7	3.7	3.0-3.3	4.0-80
Dielectric constant, 10 ⁶ cycles	D150	2.98	2.4-3.8	2.0	3.7	3.7	2.8-3.1	3.3-4.5
Dissipation (power) factor, 60 cycles	D150	0.0009	0.0004-0.002	<0.0002	—	—	0.007-0.02	0.08-0.15
Dissipation (power) factor, 10 ³ cycles	D150	0.0021	0.0004-0.002	<0.002	0.004	—	0.009-0.017	0.07-0.16
Dissipation (power) factor, 10 ⁶ cycles	D150	0.010	0.0004-0.002	<0.0002	0.004	—	0.006-0.019	0.04-0.14
Arc resistance, sec.	D495	10-120	20-100	>200	129 (burns)	—	60-80	—
Water absorbtion, 24hr., 3.2mm thickness, %	D570	0.15	0.01-0.3	0.00	0.12	0.06	0.07-0.4	0.15-0.75
Burning rate	D635	Self extinguishing	Slow	None	Slow	Slow	Self-extinguishing	Slow to self-extinguishing
Effect of sunlight	—	Slight colour change, Slight embrittlement	Some strength loss	None	Chalks slightly	Chalks slightly	Darkens on prolonged intense exposure	
Effect of weak acids	D543	None	None	None	Resistant to some	Resistant to some	None	None
Effect of strong acids	D543	Resistant (limited)	Attacked by oxidizing acids	None	Attacked	Attacked	None	None to slight
Effect of weak alkalis	D543	Attacked	None	None	Attacked	Attacked	None	None
Effect of organic solvents	D543	Soluble in chlorinated hydrocarbons. Partially soluble in aromatic hydrocarbons, ketones and esters	Soluble in aromatic and chlorinated hydrocarbons	None	Excellent resistance to practically all solvents	Excellent resistance to practically all solvents	Resists alcohols, aliphatic hydrocarbons and oils. Soluble in ketones and esters, swells in aromatic hydrocarbons.	
Clarity	—	Transparent to opaque	Transparent to opaque	Opaque	Translucent to opaque	Opaque	Transparent to opaque	Transparent to opaque