

PROPERTIES	UNITS	PMMA	POLYSTYRENE	NAS	SAN	POLY CARBONATE	COC
Refractive Index (Nd)	-	1.491	1.59	1.56	1.57	1.584	1.525
Abbe Value (Vd)	-	61.4	31.1	35.0	37.8	34.5	56.0
dn/dt	X 10 ⁻⁵ /deg C	-12.5	-12	-14	-14	-14.3	-10
Luminous Transmittance	% Transmittance @ 3mm	92	88	90	88	90	92
Birefringence Potential	Qualitative	Low	High	High	High	High	Low
Relative Haze	%	2	3	3	3	3	2
Coefficient of Linear Expansion	cm/cm X 10 ⁻⁵ /deg C	6.0	6.0	6.8	6.8	6.9	6.0
Deflection of Temperature (3.6 deg F/min @ 66 psi)	deg C	101	110	100	100	146	147
Water Absorption (immersed 24 hr. @ 23 deg C)	%	0.3	0.2	0.15	0.3	0.15	0.01
Hardness (Scratch Resistance)	Rockwell M	90	90	80	75	50	75
Izod Impact Resistance	ASTM D256	0.35	0.35	0.5	0.45	2.0	0.32

PMMA = Acrylic, Polymethyl Methacrylate
 NAS = Styrene Methyl-methacrylate Copolymer
 SAN = Styrene Acrylonitrile
 COC = Cyclic Olefin Copolymer

Values stated are typical. Contact the manufacturer for actual values for a specific material.

* Bulter, David J. (2000) "Plastic optics challenge glass," *Photonics Spectra May, 2000, p.168-174.*