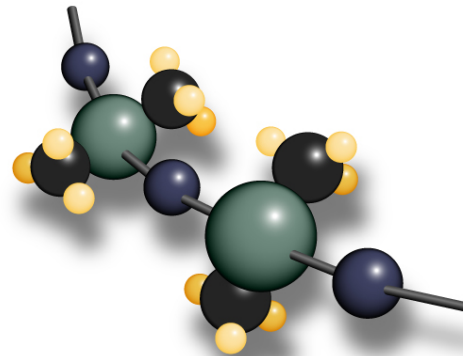


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Matching the Index of Refraction of Common Optical Plastics, Glasses & Crystals

Material Type Requiring Index Matching	Acronym		Other Common Names & Trademarks	n _D at 589nm 25.0°C **	Typical Optics Applications	Suitable Index Matching Materials		
	P=plastic G=glass C=crystal					Lightspan Optical Fluids	Lightspan Optical Gels	Lightspan Optical Thermosets
Aero & textured polymers		P		1.2 -1.3	AR coatings	LS-5229		
Polytetrafluoroethylene	PTFE	P	Teflon®	1.34	Chemically resistant coatings	LS-5238	LS-3238	
Perfluoroalkoxy	PFA	P	Teflon®	1.35	Chemically resistant coatings	LS-5238	LS-3238	
Magnesium Fluoride	MgF ₂	C		1.38	AR coatings	LS-5238	LS-3238	
Polyvinylidene Fluoride	PVDF	P	Ardel®	1.42	films, UV optics	LS-5241		
Calcium Fluoride	CaF ₂	C		1.43	UV optics	LS-5241		
Fused Silica		G		1.46	Telecom fiber, optics	LS-5246	LS-1246 LS-3246	LS-6246
Cellulose Acetate Butyrate	CAB	P	butyrate, Tenite®	1.47	Films, sensors, displays	LS-5246	LS-1246 LS-3246	LS-6246
Acrylate	PMMA	P	acrylic, Lucite® Plexiglass®, OptiGuide®	1.49	displays, backlights, waveguides	LS-5249	LS-3249	
Borosilicate	BK	G	BK-7	1.52	displays	LS-5252	LS-3252	
Polyvinyl Alcohol	PVOH, PVA	P		1.50 to 1.53	displays, polarizers, filters	LS-5252	LS-3252	
Cyclic Olefin	COC, COP	P	Topas®, Zeonor®	1.53	optical disks, LED lenses	LS-5252	LS-3252	
Silicon Dioxide	SiO ₂	C	quartz	1.55	windows, substrates	LS-5257	LS-3357	LS-6257
Barium Silicate	BaK	G		1.56	lenses, sensors	LS-5257	LS-3357	LS-6257
Benzocyclobutene	BCB	P	Cyclotene®	1.57	waveguides	LS-5257*	LS-3357 SL-1259*	LS-6257
Polycarbonate	PC	P	Lexan®	1.59	lenses, sensors	LS-5257*	LS-3357 SL-1259*	LS-6257
Polysulfone		P	Udel®	1.63	lenses, sensors	SL-5262		
Polyester	PET	P	Mylar®	1.65	film, sensors	SL-5267		
Polyimide		P	Kapton®	1.66	flex guides, waveguides	SL-5267		

*Note: May cause this plastic to swell with prolonged exposure, or elevated temperature. **Note: Some materials exhibit birefringence (variations in refractive index with optical axis orientation). Properties for different materials may vary with manufacturer's grade. Review supplier data sheets for precise properties.

REFERENCES:

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