

OPTICAL GLASS

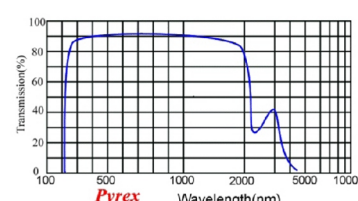
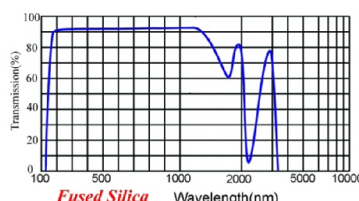
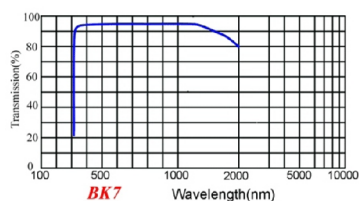
Dayoptics has capability in manufacturing various optical components with a wide variety of optical materials. Selecting a optical material is important since each material has different optical characteristics, such as transmission versus wavelength, index of refracton, thermal, mechanical and chemical characteristics.

The index of refraction and Abbe Number of a glass are typically used by designers as degrees of freedom when designing systems. Dayoptics has a program that combines the foundation data of a wide variety of optical materials. It is easy for us to find the right materials for your application.

Many glass manufacturers offer the same material characteristics under different trade names. Based on availability, we reserve the right to substitute an equivalent glass in our production runs.

Herewith, the most common materials Dayoptics used:

Materials	Refractive Index (nd)	Abbe Number (Vd)	Density (g/cm3)	Transmission Range (um)	Thermal Expansion Coefficient (10-6/K)
BK7	1.517	64.2	2.52	0.33-2.1	7.5
SF5	1.673	32.17	4.08	0.33-2.5	8.2
SF11	1.785	25.76	4.87	0.37-2.5	6.8
Fused Silica	1.458	67.82	2.2	0.185-2.5	0.54
Prexy	1.474	65.38	2.23	0.23-2.7	3.25
CaF2	1.434	94.99	3.18	0.17-7.8	18.85
Sapphire	1.768	72.24	3.99	0.18-4.5	5.8



Plano product Capability:

Attribute	Commercial	High Precision
End- faces Configuration	Flat	Flat
Dimension Tolerance	± 0.1mm	± 0.01mm
Surface Quality	40-20 scratch and dig	10-5 scratch and dig
Flatness	λ /4	λ /10
Parallelism	20"	2"
Perpendicularity	15'	5'

Lens Spocification :

Diarmeter size	5-50mm
Shape	Plano-convex, Double-convex, Plano-concave&Double-concave
Surface Figure: Power(N)	≤ 3
Irregularity(ΔN)	≤ 0.5
Centration	Z > 0.15: C ≤ 3 Z > 0.1-0.15: C ≤ 30 Z < 0.1: No centration
$(Z = \frac{D1}{R1} \pm \frac{D2}{R2})$	Double-convex and Double-concave lens: "+", Meniscus lens "-", Plano-convex and Plano-concave: R = ∞
Surface quality	40-20 scratch and dig, 5 ≤ φ ≤ 22mm 60-40 scratch and dig, 22 ≤ φ ≤ 50mm

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n_d	V_d	CDGM	SCHOTT	OHARA	HOYA	SUMITA	HIKARI
1.470	66.83	H-QK1	FK1	FSL1	FC1		
1.487	70.04	H-QK3					
1.487	70.44	H-QK3L	N-FK5	S-FSL5	FC5		E-FK5
1.500	62.07	K1	K11				
1.500	66.02	H-K2	BK4	BSL4	BSC4		
1.505	64.72	H-K3	BK5				
1.508	61.05	K4A	ZKN7	ZSL7	ZNC7		ZK7
1.510	63.36	H-K5	BK1	BSL1	BSC1		BK1
1.511	60.46	H-K6	K7	NSL7	C7		K7
1.515	60.63	H-K7					
1.516	56.79	K8		NSL2	C2		K2
1.517	64.2	H-K9L	N-BK7	S-BSL7	BSC7		E-BK7
1.517		H-UK9L	UBK7				
1.518	58.95	H-K10		S-NSL3	E-C3		E-K3
1.526	60.61	H-K11	BALK1	NSL21	BACL1		
1.534	55.47	H-K12	ZK5	ZSL5	ZNC5		ZK5
1.519	61.69	H-K16			BACL3		BALK3
1.522	59.48	H-K50	N-K5	S-NSL5	C5		E-K5
1.523	58.64	H-K51	B270	NSL51	C12		KN1
1.530	60.47	H-BaK1					
1.540	59.72	H-BaK2	N-BAK2	S-BAL12	BAC2		E-BaK2
1.547	62.78	H-BaK3		BAL21			PSK1
1.552	63.36	H-BaK4	N-PSK3	BAL23	PCD3		PSK3
1.561	58.34	BaK5					
1.564	60.76	H-BaK6	N-SK11	S-BAL41	BACD11		E-SK11
1.569	56.04	H-BaK7	N-BAK4	S-BAL14	BAC4		E-BAK4
1.573	57.49	H-BaK8	N-BAK1	S-BAL11	BAC1		E-BAK1
1.574	56.45	BaK9	BAK6	BAL16	BAC6		
1.560	61.21	BaK11	SK20	BAL50			SK20
1.569	62.93	H-ZK1	PSK2	BAL22	PCD2		PSK2
1.583	59.46	H-ZK2	SK12	S-BAL42	BACD12		SK12
1.589	61.25	H-ZK3	N-SK5	S-BAL35	BACD5		E-SK5
1.609	58.86	H-ZK4	SK3	BSM3	BACD3		BSM3
1.611	55.77	ZK5	SK8	BSM8	BACD8		
1.613	58.58	H-ZK6	N-SK4	S-BSM4	BACD4		E-SK4
1.613	60.58	H-ZK7					
1.614	55.12	ZK8	SK9	BSM9	BACD9		SK9
1.620	60.34	H-ZK9	N-SK16	S-BSM16	BACD16		E-SK16
1.623	56.71	H-ZK10	N-SK10	S-BSM10	E-BACD10		E-SK10
1.639	55.45	H-ZK11	N-SK19	S-BSM18	BACD18		E-SK18
1.603	60.6	H-ZK14	N-SK14	S-BSM14	BACD14		E-SK14
1.607	59.46	H-ZK15	SK7	BSM7	BACD7		SK7
1.614	56.4	H-ZK19	SK6	BSM6	BACD6		SK6
1.617	53.91	H-ZK20	SSK1	BSM21	BACED1		SSK1
1.623	58.12	H-ZK21	N-SK15	S-BSM15	BACD15		E-SK15
1.607	56.65	H-ZK50	SK2	BSM2	BACD2		E-SK2
1.618	55.14	Zk51	SSK4	BSM24	BACED4		SSK4