

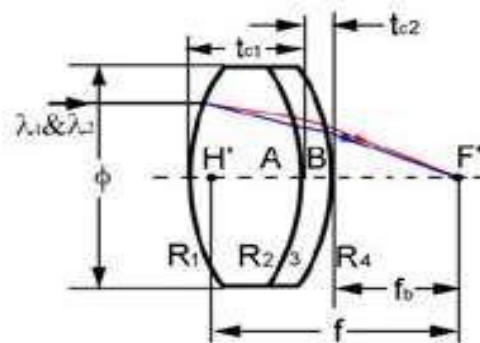
Achromatic Lenses

These lenses include two different glasses. They are crown and flint. There are three specific wavelength bands available. They are designed to perform well throughout the entire near-infrared spectrum. Their ability of producing sharper images is superior to that of the single element lens.

Doublet lens is a closely spaced and often cemented, combination of positive and negative elements of different refractive index. These elements are chosen so that the chromatic aberration is cancelled at two distinct and well-separated wavelengths.

Specifications:

- Material: **Optical Glass (crown and flint)**
- Design Wavelength: 587.6, 481.6 and 656.3nm
- Transmission range: 400nm~2300nm
- Diameter Tolerance: $\pm 0.20\text{mm}$
- Focal Length: $\pm 2\%$
- Centration: 3 arc minutes
- Clear Aperture: $>85\%$
- Surface Quality: 60/40
- Bevel: 0.25mm x 45°



Negative Achromatic Lenses

F(mm)	Dia.(mm)	R1(mm)	R2=R3(mm)	R4(mm)	Tc1(mm)	Tc2(mm)	Lens A	Lens B	Part No.
-20.00	8.00	-13.24	10.44	46.98	1.00	1.80	SSK51	SF10	LAN2001
-20.00	10.00	-14.37	9.46	22.91	1.00	2.50	BK7	SF5	LAN2002
-25.00	10.00	-13.32	13.32	54.08	1.00	2.25	BK7	SF5	LAN2003
-25.00	12.70	-15.60	13.09	44.16	3.00	2.67	BK7	F2	LAN2004
-40.00	12.70	-24.45	17.97	66.60	3.00	2.34	BK7	F2	LAN2005
-50.00	18.00	-30.29	24.41	75.53	1.50	3.20	BK7	SF5	LAN2006
-50.00	25.40	-31.19	24.89	85.31	3.00	4.22	BK7	F2	LAN2007
-125.00	25.40	-61.97	61.97	369.36	2.25	3.50	BK7	SF2	LAN2008
-109.00	26.40	-65.76	46.69	159.66	2.50	3.75	BK7	SF2	LAN2009
-100.00	31.50	-61.75	47.31	141.24	3.00	4.80	BK7	SF5	LAN2010

Positive Achromatic Lenses

f(mm)	Dia.(mm)	R1(mm)	R2=R3(mm)	R4(mm)	Tc1(mm)	Tc2(mm)	Lens A	Lens B	Part No.
10.00	6.00	6.75	-4.04	-23.39	3.69	0.72	SSK4	SF8	LAP1001
12.60	6.00	8.73	-6.56	-37.65	1.90	0.70	BAFN10	SF11	LAP1002
15.00	6.00	8.83	-6.55	-19.77	2.71	1.00	BK7	SF5	LAP1004
20.00	6.00	12.02	-7.45	-28.97	2.92	1.30	BK7	F2	LAP1006
20.00	6.00	12.36	-8.51	-24.38	2.60	1.00	BK7	SF5	LAP1007
30.00	6.00	16.53	-10.88	-39.80	2.64	2.50	BK7	F2	LAP1009
30.00	6.00	18.88	-12.94	-36.48	1.90	1.00	BK7	SF5	LAP1010
10.00	7.00	5.84	-4.55	-15.85	4.00	0.90	BK7	F4	LAP1011
12.00	7.00	6.88	-5.17	-15.39	3.90	0.80	BK7	SF8	LAP1012
25.00	7.00	15.33	-11.18	-32.54	1.70	0.70	BK7	SF5	LAP1013
18.90	8.00	13.06	-9.87	-57.42	2.50	0.90	BAFN10	SF11	LAP1014
25.00	8.00	15.60	-10.81	-30.48	2.90	1.00	BK7	SF5	LAP1015
25.00	8.00	16.53	-10.88	-39.80	2.63	2.50	SK11	SF8	LAP1016
30.00	8.00	18.88	-12.88	-36.22	2.70	1.00	BK7	SF5	LAP1017
20.00	10.00	12.30	-9.02	-25.23	3.60	1.00	BK7	SF5	LAP1018
30.00	10.00	18.53	-12.58	-38.96	3.70	2.00	BK7	SF2	LAP1020
38.00	10.00	23.26	-16.91	-49.45	2.80	1.00	BK7	SF5	LAP1021
40.00	10.00	24.63	-16.80	-52.92	3.30	2.00	BK7	SF2	LAP1022
50.00	10.00	28.10	-21.99	-83.40	3.00	2.00	BK7	SF2	LAP1023
25.00	12.70	15.60	-11.40	-31.05	4.30	1.30	BK7	SF5	LAP1024
25.00	12.70	16.41	-12.02	-40.74	3.76	2.00	BaK4	SF15	LAP1025
30.00	12.70	18.54	-13.49	-37.84	4.00	1.30	BK7	SF5	LAP1026
30.00	12.70	19.41	-14.03	-55.21	3.93	1.68	BaK1	SF8	LAP1027
40.00	12.70	21.38	-17.00	-89.95	3.00	0.80	BK7	F2	LAP1028
40.00	12.70	25.23	-17.54	-48.75	3.40	1.30	BK7	SF5	LAP1029
50.00	12.70	26.49	-21.28	-114.29	2.50	1.00	BK7	F2	LAP1030
50.00	12.70	31.26	-21.93	-62.37	3.10	1.30	BK7	SF5	LAP1031
75.00	12.70	46.77	-32.96	-94.62	2.60	1.30	BK7	SF5	LAP1033
25.00	15.00	17.97	-11.20	-85.31	6.27	1.76	BAF11	SF10	LAP1034
30.00	15.00	18.17	-13.39	-41.40	6.00	2.00	BK7	SF2	LAP1035
40.00	15.00	26.97	-17.64	-205.04	5.98	1.60	BAFN10	SF10	LAP1036
40.00	15.00	23.40	-17.60	-60.31	4.90	2.00	BK7	SF2	LAP1037
50.00	15.00	26.81	-23.82	-90.79	5.00	1.50	BK7	SF5	LAP1038
50.00	15.00	31.12	-21.46	-66.22	4.30	2.00	BK7	SF2	LAP1039
70.00	15.00	41.40	-30.15	-103.80	3.70	2.00	BK7	SF2	LAP1041

75.00	15.00	39.61	-36.46	-145.01	5.00	2.50	BK7	SF5	LAP1042
80.00	15.00	46.11	-34.50	-124.56	3.50	2.00	BK7	SF2	LAP1043
100.00	15.00	55.98	-43.25	-167.70	3.20	2.00	BK7	SF2	LAP1044
30.00	20.00	21.41	-13.75	-105.59	8.40	1.76	BAF11	SF10	LAP1045
45.00	20.00	31.12	-23.73	-137.67	6.10	2.00	BAFN10	SF11	LAP1046
65.00	20.00	40.09	-29.58	-83.59	6.30	2.00	BK7	SF5	LAP1048
80.00	20.00	48.02	-34.50	-114.18	4.60	2.00	BK7	SF2	LAP1052
120.00	20.00	68.29	-52.00	-195.39	3.70	2.00	BK7	SF2	LAP1053
150.00	20.00	84.30	-65.00	-250.00	3.40	2.00	BK7	SF2	LAP1054
170.00	20.00	93.58	-74.59	-302.66	3.30	2.00	BK7	SF2	LAP1055
200.00	20.00	135.56	-89.32	-548.55	4.90	3.20	SSK4	SF8	LAP1056
250.00	20.00	122.29	-122.29	-758.73	2.20	2.00	BK7	SF2	LAP1057
300.00	20.00	146.61	-146.61	-914.08	2.70	2.00	BK7	SF2	LAP1058
50.00	25.40	34.51	-21.98	-213.80	9.00	2.50	BaK10	SF10	LAP1049
60.00	25.40	37.33	-27.16	-75.86	7.00	2.00	BK7	SF5	LAP1050
80.00	25.40	46.91	-32.62	-132.80	5.90	1.40	BK7	F4	LAP1061
100.00	25.40	58.25	-41.09	-170.27	5.90	1.60	BK7	F4	LAP1062
100.00	25.40	52.79	-42.46	-228.60	4.50	2.00	BK7	F2	LAP1063
120.00	25.40	73.28	-54.33	-159.96	4.20	2.00	BK7	SF5	LAP1064
150.00	25.40	79.80	-64.20	-340.40	4.80	2.00	BK7	F2	LAP1065
200.00	25.40	107.15	-86.70	-448.70	5.50	2.00	BK7	F2	LAP1066
200.00	25.40	114.73	-81.92	-357.27	3.60	2.00	BK7	F4	LAP1067
250.00	25.40	145.52	-101.70	-428.82	3.30	2.00	BK7	F4	LAP1068
300.00	25.40	164.40	-133.30	-642.70	4.80	2.30	BK7	F2	LAP1069
100.00	30.00	64.27	-45.08	-181.55	6.23	2.00	SK11	SF5	LAP1070
140.00	30.00	93.22	-59.14	-156.67	6.52	2.51	BK7	SF5	LAP1071
300.00	30.00	210.75	-81.29	-515.63	5.00	4.40	BaK4	F3	LAP1072
107.06	38.10	70.38	-43.54	-231.87	8.61	2.85	BAK1	SF12	LAP1073
163.58	38.10	105.00	-57.15	-402.08	9.30	3.51	BAK1	FN11	LAP1074
250.00	38.10	145.92	-102.05	-423.91	8.00	3.50	BK7	F4	LAP1075
280.00	38.10	170.59	-126.74	-376.79	6.00	3.50	BK7	SF5	LAP1076
100.00	50.80	58.39	-40.83	-164.45	16.50	2.00	BK7	F4	LAP1077
120.00	50.80	70.69	-49.70	-195.92	13.50	4.00	BK7	F4	LAP1078
150.70	50.80	90.00	-66.22	-219.78	11.50	4.00	BK7	SF2	LAP1079
200.00	50.80	114.73	-81.92	-354.23	9.80	3.30	BK7	F4	LAP1080
250.00	50.80	145.52	-101.70	-426.08	9.40	3.30	BK7	F4	LAP1081
300.00	50.80	175.93	-123.03	-506.07	6.00	4.00	BK7	F4	LAP1082

400.00	50.80	233.54	-163.32	-681.66	9.00	3.00	BK7	F4	LAP1083
500.00	50.80	291.04	-203.50	-859.11	8.00	2.00	BK7	F4	LAP1084
600.00	50.80	357.27	-246.06	-981.35	5.30	4.00	BK7	F4	LAP1085
750.00	50.80	435.54	-305.25	-1297.02	7.30	2.00	BK7	F4	LAP1086
200.00	75.00	122.70	-93.20	-267.74	17.00	3.00	BK7	SF5	LAP1088
250.00	75.00	145.52	-101.70	-423.37	13.50	5.00	BK7	F4	LAP1089
400.00	75.00	233.54	-163.32	-679.81	10.00	5.00	BK7	F4	LAP1090
600.00	75.00	357.27	-246.06	-979.43	7.60	5.00	BK7	F4	LAP1091