

SSK NS

$$n_d = 1.65844$$

$$n_f = 1.66749$$

$$n_c = 1.65456$$

$$v = 50.88$$

$$P = .3003$$

LF S

$$n_d = 1.58144$$

$$n_f = 1.59146$$

$$n_c = 1.57723$$

$$v = 40.85$$

$$P = .2959$$

Equations:

$$\phi_1/\phi = \frac{v_1}{v_1 - v_2}$$

$$\phi_2/\phi = \frac{-v_2}{v_1 - v_2}$$

$$\frac{\delta\phi}{\phi} = \frac{\delta f}{f} = \frac{1}{v}$$

for a single element

$$\frac{\delta f}{f} = \frac{\Delta P}{\Delta v}$$

System F.L. = 100 mu

$$\phi = .01 \text{ mu}^{-1}$$

Long. Chromatic of Ind. Elements

Glasses	Power (mm ⁻¹)		ΔV	ΔP	δf _{ca} mm	δf ₁ mm	δf ₂ mm	δφ ₁ mm ⁻¹	δφ ₂ mm ⁻¹
	Foc. 1	Foc. 2							
BK7 SF1	.0185 54.0	-0.0085 -117.6	34.66	.0177	.0511	.842	-3.980	.00029	-.00029
K7 F1	.0244 40.9	-0.0144 -69.2	24.71	.0116	.0469	.677	-1.938	.00040	-.00040
LAK8 KF6	.3302 3.03	-0.3202 -3.122	1.63	.0025	.153	.056	-.060	.0061	-.0061
SSKNS LFS	.0507 19.71	-0.0407 -24.5	10.03	.0044	.0439	.387	-.599	.00099	-.00099

Note that δφ₁ = -δφ₂

e) "Best" Lens: SSKNS/LFS has the minimum secondary color, but has a lot of excess power. BK7/SF1 has the least excess power. K7/F1 has a little excess power but smaller secondary color. BK7/SF1 is probably the best, but K7/F1 is OK.