

# CAD (Computer Aided Design) Fitting Guide

Lenses>Single Vision>CAD Lens (Computer Aided Design)>Fitting Guide

## Parameter Selection:

1. Select lens diameter based on flattest "K" and/or the horizontal visible iris diameter.

Visible Iris Diameter	Flat K Reading	Diameter
11.0	48.50D to 47.25D	8.5
11.5	47.00D to 45.00D	9.0
12.0	44.75D to 43.00D	9.5
12.5	42.75D to 40.00D	10.0

2. Select base curve based on flattest "K" and amount of corneal astigmatism.

Flat K Reading	Amount of Corneal Astigmatism			
	0.00 to 1.00D	1.12 to 1.50D	1.62 to 2.00D	2.12 to 2.50D
47.00D	47.00/7.18	47.25/7.14	47.50/7.10	47.75/7.06
46.75D	46.75/7.21	47.00/7.18	47.25/7.14	47.50/7.10

<b>46.50D</b>	46.50/7.25	46.75/7.21	47.00/7.18	47.25/7.14
<b>46.25D</b>	46.25/7.29	46.50/7.25	46.75/7.21	47.00/7.18
<b>46.00D</b>	46.00/7.33	46.25/7.29	46.50/7.25	46.75/7.21
<b>45.75D</b>	45.75/7.37	46.00/7.33	46.25/7.29	46.50/7.25
<b>45.50D</b>	45.50/7.41	45.75/7.37	46.00/7.33	46.25/7.29
<b>45.25D</b>	45.25/7.45	45.50/7.41	45.75/7.37	46.00/7.33
<b>45.00D</b>	45.00/7.50	45.25/7.45	45.50/7.41	45.75/7.37
<b>44.75D</b>	44.75/7.54	45.00/7.50	45.25/7.45	45.50/7.41
<b>44.50D</b>	44.50/7.58	44.75/7.54	45.00/7.50	45.25/7.45
<b>44.25D</b>	44.25/7.62	44.50/7.58	44.75/7.54	45.00/7.50
<b>44.00D</b>	44.00/7.67	44.25/7.62	44.50/7.58	44.75/7.54
<b>43.75D</b>	43.75/7.71	44.00/7.67	44.25/7.62	44.50/7.58
<b>43.50D</b>	43.50/7.75	43.75/7.71	44.00/7.67	44.25/7.62
<b>43.25D</b>	43.25/7.80	43.50/7.75	43.75/7.71	44.00/7.67
<b>43.00D</b>	43.00/7.84	43.25/7.80	43.50/7.75	43.75/7.71
<b>42.75D</b>	42.75/7.89	43.00/7.84	43.25/7.80	43.50/7.75

<b>42.50D</b>	42.50/7.94	42.75/7.89	43.00/7.84	43.25/7.80
<b>42.00D</b>	42.00/8.03	42.25/7.98	42.75/7.89	43.00/7.84
<b>41.75D</b>	41.75/8.08	42.00/8.03	42.25/7.98	42.75/7.89
<b>41.50D</b>	41.50/8.13	41.75/8.08	42.00/8.03	42.25/7.98
<b>41.25D</b>	41.25/8.18	41.50/8.13	41.75/8.08	42.00/8.03
<b>41.00D</b>	41.00/8.23	41.25/8.18	41.50/8.13	41.75/8.08
<b>40.75D</b>	40.75/8.28	41.00/8.23	41.25/8.18	41.50/8.13
<b>40.50D</b>	40.50/8.33	40.75/8.28	41.00/8.23	41.25/8.18
<b>40.25D</b>	40.25/8.38	40.50/8.33	40.75/8.28	41.00/8.23
<b>40.00D</b>	40.00/8.43	40.25/8.38	40.50/8.33	40.75/8.28

### 3. Power Calculation

**Perform a spectacle refraction and place prescription in minus cylinder.**

**If base curve is steeper than the flat K reading, add minus to the lens (SAM).**

**If the spherical component of the spectacle fraction is greater than + or - 4.00D, adjust for vertex distance (see vertex chart).**

#### Lens Fitting

The first trial lens based on the selected parameters is placed on the patient's eye and allowed to equilibrate for 10 minutes.

The base curve should be adjusted steeper or flatter until an alignment fluorescein pattern is noted centrally across the flat corneal meridian, (horizontal, 180 degrees meridian, in the case of with-the rule astigmatism).

This lens should demonstrate a slight area of fluorescein thinning (near touch) at the edge of the posterior optical zone along the flat meridian.

The lens should move approximately 1 to 3mm with the blink and retain a slightly superior or central resting position.

**Problem Solving Techniques**

Objective Findings	Parameter Change
Excessive lens movement	Steepen the base curve
Nasal or temporal dislocation	Steepen the base curve
Restrictive vertical movement	Flatten the base curve
Low resting lens	Flatten the base curve
Peripheral Impingement	Flatten the base curve
Excess peripheral clearance	Steepen the base curve