



Aspheric & Multifocal Lens Designs

"True" Aspheric Central & Peripheral Curves



"True" Aspheric Curves & Optics

- Highest Resolution Optics
- Crisp Distance and Near Vision

- *Custom design any aspheric or multifocal lens imaginable*
- *All Contex aspheric and multifocal lenses are 100% re-producible*



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Aspheric and Multifocal Fitting Theory

If all corneas are aspheric, why are spherical lenses fit on aspheric corneas? The only way to equal the quality of optics that the natural lens of the eye produces is to match the aspheric shape of the eye with the lens. The eccentricity value is used to adjust the aspheric value of the lens to match that of the cornea. Aspheric and multifocal lens designs fit looser than spherical lens designs because the eccentricity value creates an elliptical shape within the central optic zone. The higher the eccentricity value, the quicker the radius flattens, and the steeper the base curve will need to be fit. The eccentricity value also produces the ADD Power in aspheric and multifocal lenses. Though the base curve needs to be fit steeper than the central cornea, the overall shape of the lens matches the overall shape of the cornea when fit correctly.

Two Zone Aspherics

	Ecc.	Add	Approximate Fit
Aspheric-15 (formerly K-10)	.5e	+0.25	0.75 - 1.00 steeper
Aspheric-16	.6e	+0.50	1.00 - 1.25 steeper
Aspheric-17	.7e	+0.75	1.25 - 1.50 steeper
Aspheric-18 (reduces WTR cyl.)	.8e	+1.25	1.50 - 2.00 steeper
Aspheric-20	1.0e	+2.00	2.50 - 4.00 steeper

Three Zone Multi-Focals

	Ecc.	Add Power	Approximate Fit
Multifocal-19™ (Our #1 Multifocal)	1.0e	+1.75	2.50 - 3.50 steeper
Multifocal-23	1.3e	+2.50	3.00 - 5.00 steeper

Front Aspherics

	Ecc.	Add Power	Approximate Fit
Aspheric-96	e-.6	+1.75	on flat CK

Back/Front Aspherics

	Ecc.	Add Power	Approximate Fit
Aspheric-17e-.6	.7e/e-.6	+2.00	1.25 - 1.50 steeper
Aspheric-18e-.5	.8e/e-.5	+2.00	1.50 - 2.00 steeper
Aspheric-19™ e-.5	1.0e/e-.5	+2.25	2.50 - 3.50 steeper

Front Aspherics: By adding an e-.5 or e-.6 to the front surface of any aspheric or multifocal lens design, the ADD power is increased by +.50 to +.75. By adding an e+.5 or e+.6 to any aspheric lens design the ADD power is reduced.

Example: By ordering a MF-19™ e-.6, the ADD power is increased from +1.75 to +2.50.

Diameters: Aspheric designs are available from 8.0 to 12.2mm and multifocal designs available from 9.2 to 12.2mm.

For further fitting details contact us or refer to the "True" Aspheric Quick Fit Guide or the MF-19™ and AS-20H Fitting and Information Guides.

"True" Aspheric™

Quick Fit Guide



Supply the following data to order Aspheric™ or Multifocal Lenses:

1. Central keratometry readings (manual/auto)
2. Corneal eccentricity (if available) and brand of topographer
3. Refraction
4. Add power
5. Dominant and non-dominant eye

Base Curve and Optic Zone: Upon dispensing, the base curve or optic zone should display alignment or slight clearance. The higher the eccentricity, the more clearance there will be because the base curve will need to be steeper to allow for the more elliptical shape within the optic zone. This is caused by the need to fit a steeper base curve for higher eccentricity lenses.

For example: A .7 eccentricity lens may only need to be fit one diopter steeper than the flat central K reading, while a 1.0 eccentricity lens may need to be fit up to three diopters steep than the flat CK.

Peripheral Zone: Aspheric and multifocal lenses utilize a true aspheric peripheral curve for perfect lift. If more or less edgelifit is required the eccentricity in the optic zone or secondary zone may need to be adjusted. If you feel the central area is fit correctly then a high or extra high edgelifit may be ordered.

Diameter: 9.8 to 10.6mm diameters perform best.

Note: Multifocal diameters are typically 10.0mm.

Lens Dispensing Procedure:

1. Insert lenses and wait 10 to 15 minutes for them to settle.
2. Observe the lenses with the slit lamp to check lens position and movement. **Lenses should center well.**
3. Insert fluorescein and observe the pattern, comparing it to the description below.

Fluorescein Pattern Check List:

- Central alignment to clearance for low eccentricity aspheric designs and central clearance for high eccentricity aspheric and multifocal designs
- 1-2mm of touch that becomes progressively darker in the 4 to 8mm central area
- .8 to 1mm wide mid-peripheral alignment ring
- Adequate peripheral edgelifit
- 2-3mm movement on the blink

4. Over-refract the distance vision in the dominant eye. To enhance the near vision an over-refraction of $-.25$ is preferred.
5. Over-refract the distance vision in the non-dominant eye. To enhance the near vision an over-refraction of at least $-.50$ in the is preferred.

Note: Any plus over refraction for distance will decrease the add power by the same amount or more.

6. To over-refract near vision have the patient gradually look down to read while trying to keep their chin up. Stand by their side to be sure the lens translates up to the near or add portion of the lens.
7. If acceptable dispense the lenses.
8. If more add power is needed, make sure the lens is not riding inferior. All aspheric and multifocal lenses must ride central to superior. If the lenses ride low, when the patient looks down to read the lens moves up into the distance zone instead of the near zone.
9. If possible a follow-up should be done within one week. Schedule it towards the end of the wearing schedule.

CAUTION: Advise the patient to contact you immediately if they experience red, swollen eyes and/or distorted vision.

Follow-Up Check List:

1. Check lens position & movement with the slit lamp.
2. Over-refract with the lenses on.
3. Check the fluorescein pattern.
4. Remove the lenses and measure the central K readings.
5. Check the refraction to see if it is stable.
6. Take topography maps if available.
7. If results are acceptable schedule the patient for an annual follow-up.
8. If results are unacceptable send a completed Troubleshooting Form along with axial and tangential topography maps (or the data below) to Context for assistance.

Supply the Following Data to Re-Order Aspheric™ or Multifocal Lenses:

- Pre and post-wear K readings
- Pre and post-wear refraction
- Over-refraction with lenses on
- Pre and post axial and tangential maps
- Lens position (central, superior, inferior, temporal, nasal and how many mm's)
- Description of fluorescein pattern
- Wearing schedule

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