



3.9. Gradal® Top 1.6 Photochromic Gray Glass

Product Specifications

Material

- Hi-Crown Photochromic Glass (gray)
- $n_d=1.601$
- Abbe 44
- Specific Gravity 2.67 g/cm^3
- Clear >93% UV-A and 100% UV-B protection and Dark 100% UV-A and UV-B protection.

Technical Processing Notes

- Gradal® Top 1.6 Photochromic Gray Glass lenses can be processed like any other quality Hi-Index photochromic glass progressive lens. To meet FDA regulations, hardening and drop ball testing of all glass lenses is required. Air hardening can be used, however, Zeiss recommends chemical hardening.
- At spheres above -5.25D or cylinders above -3.50D in unfavorable axis locations, small miss curves can remain on the back surface that slightly restrict the effective optical area.

AR Coating

With the appropriate software package, Gradal® Top 1.6 Photochromic Gray Glass can be AR coated in Zeiss B12 glass coating machines.

Delivery Range

- Sph +6.00D to -6.00D
- Cyl up to -4.00D (total power not to exceed -6.00D)
- Add 1.00D to 3.00D
- Prism up to 3.00D in addition to equithin



Lens Data Chart



Base Curve	Actual/Useable Diameter [mm]	Decentr. [mm]	True Curve [1.53]	CX Radius [mm]	Back Curve [1.53]	Center Thickness ¹ [mm]	Edge Thickness [mm]
3.70	70/75 round	2.5	3.28	161.59	6.09	7.0	10.5
4.70	70/75 round	2.5	4.14	128.02	6.09	7.0	9.4
5.50	70/75 round	2.5	4.76	111.35	6.09	6.5	8.1
6.30	70/75 round	2.5	5.40	98.15	6.09	8.0	8.7
7.10	70/75 round	2.5	6.18	85.76	6.09	9.0	8.8
7.90	65/70 round	2.5	6.97	76.04	6.09	9.0	8.0

¹Due to the production process of the semi-finished glass lens, the actual center thickness may be up to 0.5 mm lower than specified.

Zeiss Gradal[®] lenses are designed to work perfectly with a thickness reducing prism. To achieve the thinnest and lightest lenses possible, Zeiss recommends a base down (270°) prism in the following graduation depending on the power of the addition.

Addition [D]	1.00	1.25	1.50 1.75	2.00	2.25 2.50	2.75	3.00
Prism [D]	0.50	0.75	1.00	1.25	1.50	1.75	2.00

Permanent Engravings

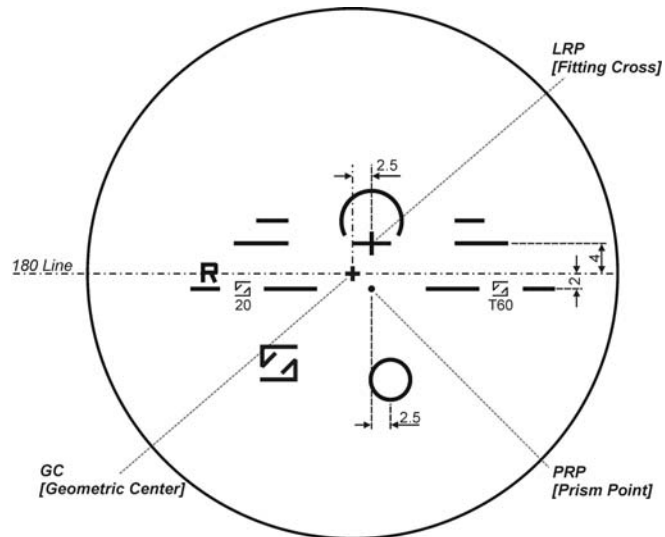
	Nasal Engraving	Temple Engraving
Gradal[®] Top 1.6 Photochromic Gray Glass	 T60	 10-30



Markings of the Semi-Finished Lens

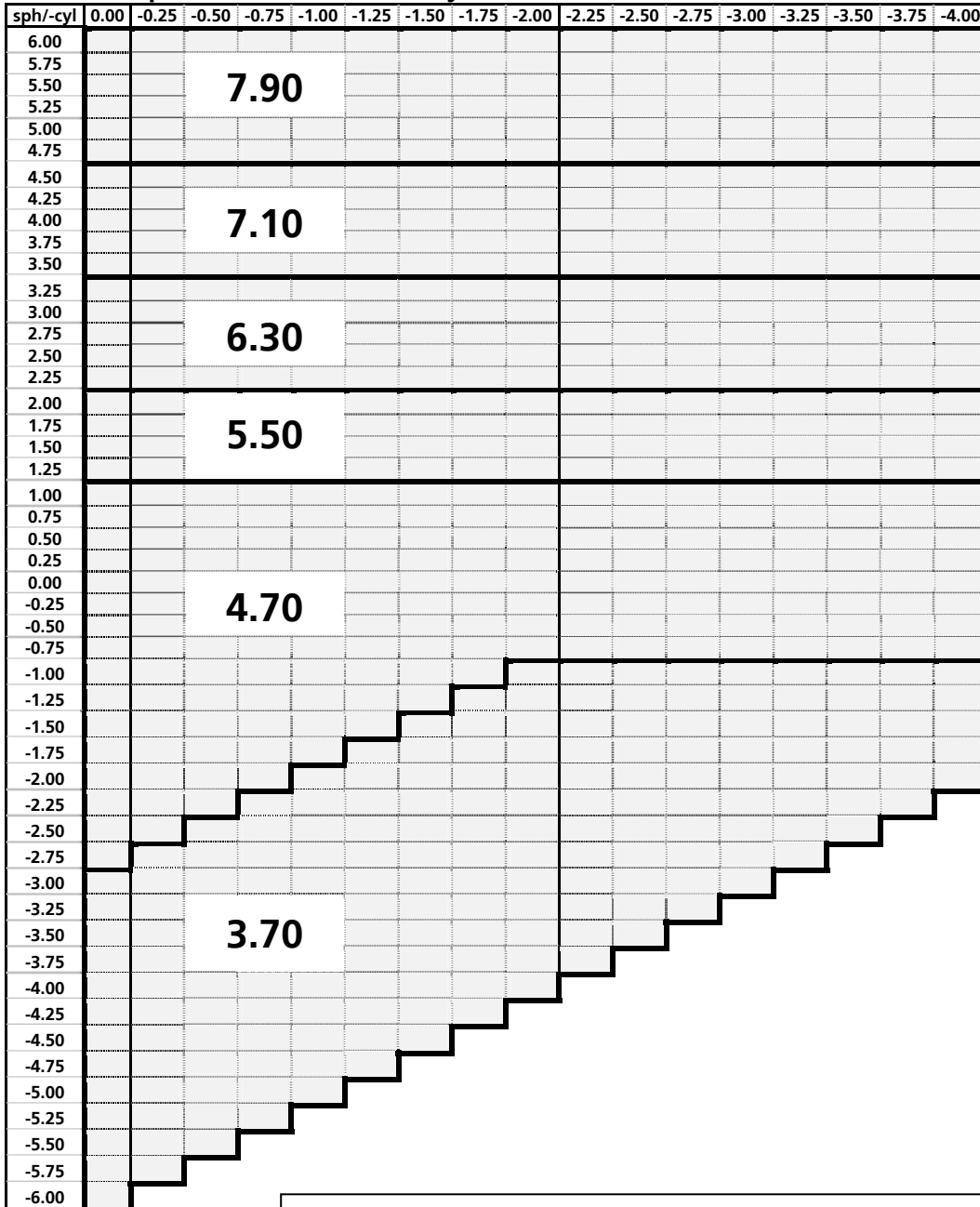
Gradal® Top 1.6 Photochromic Gray Glass features a round lens blank. For processing purposes the blank is marked with a cross at the geometric center and edge axis locators.

Please note that Zeiss Gradal® Top 1.6 Photochromic Gray Glass lenses should be blocked on the geometric center to avoid producing unwanted prism during the fining operation.





Base Curve Chart
Gradal® Top 1.6 Photochromic Gray Glass



- Zeiss highly recommends conforming to the base curve for a specific Rx power as displayed in the Base Curve Chart for Gradal® Top 1.6 Photochromic Gray Glass lenses. Picking another base curve for a certain power will decrease the imaging performance and may impact adaptation and patient satisfaction.
- Please be also aware that the base curve and the add power determine the nasal inset of the near portion. A base curve other than recommended restricts the usability of the intermediate zone and near portion due to a mismatch of distance power, add and required inset.