



## ADVISORY NO. RLT - 2

[Please file in your ACO Practitioner Manual in the “Advisories” Section. Replaces Advisory No. RLT-1.]

**Date:** January 1, 2008

**Subject:** **RECOMMENDED LENS TOLERANCES**

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The Alberta College of Optometrists provides the following lens tolerances guide to utilize in the practice of Optometry.

### 1. Surface Curvatures

Within  $\pm 0.50$  D of the design specifications of the lens in the principal meridians of the lens.

### 2. Refractive Powers

#### (Sphere and Cylinder)

Prescribed Power (Diopter)	Maximum Tolerance (Diopter)
0.00	$\pm 0.06$
Over 0.00 up to 6.00	$\pm 0.12$
Over 6.00 up to 12.00	$\pm 0.18$
Over 12.00	$\pm 0.25$

#### Cylinder Axis

Prescribed Power (Diopter)	Maximum Tolerance (Degree)
0.12 to 0.37	$\pm 3$

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Over 0.37 to 1.00	$\pm 2$
Over 1.00	$\pm 1$

**3. Surface Defects**

No waves, pits, scratches, watermarks, grayness, etc. visible to the naked eye as inspected by grazing incidence of beam of light from R40 type bulb.

**4. Imperfections**

No bubbles, aberrations, striae, etc.

**5. Prism Power and Optical Center Location**

Prism measured at MRP within 0.25 prism diopter for each lens (horizontally and vertically).

Total horizontal imbalance within 0.50 prism diopter for the prescription.

Total vertical imbalance within 0.25 prism diopter for the prescription.

**6. Impact Resistance**

[a] Dress Eyewear

Glass lenses must be tempered.

Minimum thickness =  $2.0 \pm 0.2$  mm.

[b] Safety Eyewear

Glass lenses no longer meet the standard for safety eyewear.

Should they have to be utilized, they must be tempered and the patient advised accordingly.

Minimum thickness =  $3.0 \pm 0.2$  mm. (until impact resistance of various materials of various thicknesses are documented).

**7. Multifocal Prescriptions**

[a] Segment Power

Within  $\pm .090$  D of the prescription.

[b] Segment Size

Within  $\pm 0.5$  mm. of the prescription.

Pair must be symmetrical on visual inspection.

[c] Segment Location

Within  $\pm 0.5$  mm. of the prescription.