

**FC2-00343-01**  
**Description**

**Bayer-DQ Alundum 10**

Sample	Std Before	Std After	Std Delta	Test Before	Test After	Test Delta
1	0.10	27.70	27.60	0.00	5.25	5.25
2	0.10	27.30	27.20	0.00	5.35	5.35
3	0.10	27.10	27.00	0.00	5.00	5.00
<b>Avg Std Haze Delta</b>		<b>27.27</b>				
<b>Avg Test Haze Delta</b>		<b>5.20</b>				
<b>Avg Bayer Ratio</b>		<b>5.24</b>				

Notes: Average Ratio = Avg Std Lens / Avg Test Lens

Difference between "After" and "Before".

The ratio equals the number of times more scratch resistant the sample lens is when compared to an uncoated CR-39 (standard) lens.

### Bayer Abrasion

This test is based on the ASTM Bayer test but has been modified by the ophthalmic lens industry over time.

The test samples along with the standard control lens (uncoated, CR-39) are washed and have their initial haze values measured before testing begins. Two holes have been opened across the center section of the Bayer pan allowing the two lenses to protrude up through the center bottom of the pan and then they're locked in place.

There are 3 alternate abrasives that the Bayer testing can be conducted with at COLTS; Alundum 12, Alundum 10 or COLTS Kryptonite B.

The pan is placed into the Bayer machine along with 500 grams of the client's preferred abrasive. The machine oscillates back and forth at a distance of 4 inches, at 150 cycles per minute, for 4 minutes, totaling 600 cycles.

Once testing is completed the lenses are washed and post-test haze values are measured. The resulting delta haze gain of the test lens is divided into the resulting delta haze gain of the standard control lens to establish a ratio or Bayer score. The score represents how many more times abrasion resistant the test lenses are compared to the standard control lens.