



Case study

Fine grinding of BK7 glass



Glass wafer, type BK7



AC400 Lapmaster Wolters

Achievements Consistent fine grinding of glass wafers with SQUADRO-G diamond grinding pad to Ra 0.10 µm.

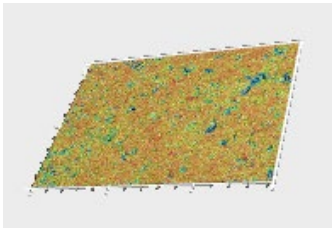
Business sector	Optics
Application	Double side grinding of BK7 glass
Workpiece material	BK7 glass wafer, 2 inch
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Date	Oct. 8, 2019

Conclusion

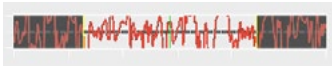
SQUADRO-G 30 micron B4E7Q diamond grinding pad allows for consistent grinding of BK7 glass wafers over many cycles. The key to achieving consistent behavior is to regularly perform a brief and gentle conditioning of the SQUADRO-G 30 micron pad for instance with brass brushes. Regular conditioning will remove abraded material and prevent glazing of the grinding pad surface.

Workpiece and equipment

Material	Glass wafer, type BK7
Dimensions	2 inch, 50.8 mm x 0.5 mm
Machine, plate diameter	Double side lapping/polishing machine, AC400 Lapmaster Wolters
Upper plate speed	100rpm (cw)
Bottom plate speed	95rpm (ccw)
Inner ring speed	15rpm (cw)
Specific pressure	0.25kg/cm ²
Process time	3 min.
Lubricant	SQUADRO-LUB-G



3D view



Roughness profile

Videos



Intro



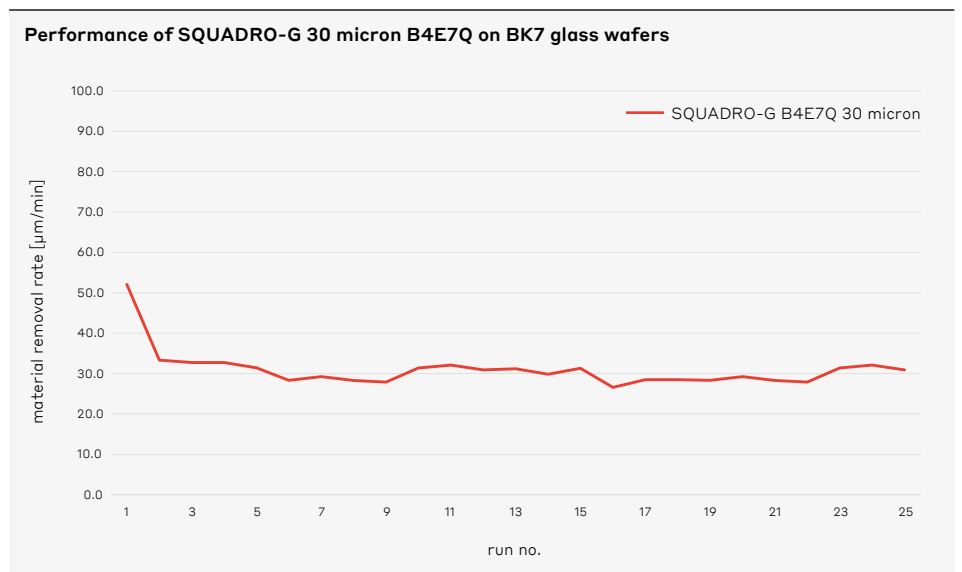
How to use

Results

Fine grinding	Ra (µm)	Rz (µm)	MRR (µm/min)	Cycle time (min)	Speed (rpm)	Pressure (kg/cm2)
SQUADRO-G 30 micron B4E7Q and SQUADRO-LUB-G	0.100	0.782	30	3	100	0.5

After initial preparation and dressing of the SQUADRO-G 30 micron pad the material removal rate is in the range of 25 to 35 µm/min.

The following graph shows material removal rates over 25 cycles:



Additional remarks

- The corresponding surface quality remains stable over the respective cycles.
- Note: combine SQUADRO-G grinding pad with SQUADRO-LUB-G lubricant to achieve these results.

Pureon products used



SQUADRO-G 30 micron B4E7Q
Diamond grinding pads



SQUADRO-LUB-G
Lubricants