

Benz Ultra O2™ Plus

Specifications

Water Content (%)	76
Dk (35°C, Fatt Units)	50
Refractive Index Dry	1.509
Refractive Index Hydrated (35°C)	1.376
Linear Expansion (mm)	1.600
Radial Expansion (mm)	1.600
Hardness (Shore D)	83
% Transmission (@600 nm)	>95
Standard size	Diameter - 12.70 mm, Thickness - 5.0mm
Standard Colors	Green
UV Blocker	Available upon request
Precut	Not available (N/A)

Note: Optional sizing and colors may be available on request.

Manufacturing

Base Curve / DAC ALM

Rough Cut / Spindle Speed: 10,000 RPM

Cut Number	1	2	3	4	5
Feed Rate (mm)	4.0	3.5	3.5	2.5	2.1
Depth of Cut (mm)	0.45	0.40	0.40	0.35	0.18

Cut Type	Fine Cut	Toric Cut
Spindle Speed	9,500 RPM	4,800 RPM
Cut Number	1	1 Rough 1 Fine
Feed Rate (mm)	0.8	1 0.25
Depth of Cut (mm)	0.09	0.15 0.08

Front Curve / DAC 4 Axis

Rough Cut / Spindel Speed: 10,000 RPM

Cut Number	1	2	3	4
Feed Rate (mm)	3.0	3.0	2.5	1.8
Depth of Cut (mm)	0.35	0.35	0.22	0.18

Fine Cut / Spindle Speed: 9,500 RPM

Cut Number	1
Feed Rate (mm)	0.6
Depth of Cut (mm)	0.06

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Hydration/Sterilization

Polishing

Benz Ultra O2 Plus lenses should need minimal polishing or no polishing because of the expansion of the materials upon hydration. If polishing is required, use XPAL, Alox 721 or comparable material. Polishing time should be a maximum of 20 seconds..

Hydration

When hydrating the Ultra O2 Plus lenses directly off the front surface mandrel use only the following refrigerated conditions: Isotonic Saline at $2.0 \pm 2^\circ\text{C}$.

After hydration, lenses should be rinsed, autoclaved, and stored in the pH 7.2 buffered saline solution for packaging and sterilization.

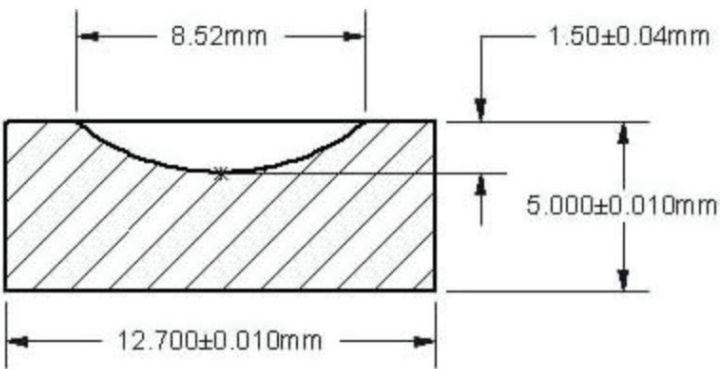
Isotonic Saline

Borate Buffer pH 7.2; 295 mOs

NaCl 8.01 grams • H3BO3 2.47 grams • Na2B4O7 . 10H2O 0.14 grams

The weights for the buffered saline formulas are based on a 1 Liter Volume solution. The borate solution shows excellent performance through the sterilization process (autoclaving) and leaves the lenses free of residue.

Technical drawings



Isotropic & Precision Expansion

Benz R&D blanks have both isotropic and precision expansion characteristics. "Isotropic expansion" means equal expansion in all directions.

The diagram illustrates isotropic expansion. The top part shows a cylinder with a sphere inside, with arrows indicating expansion in all directions. The bottom part shows a sphere with axes labeled A, B, and C, indicating expansion in all directions.