# **Benz G5X p-GMA/HEMA** (Hioxifilcon A)

## Specifications

| | |
|---|---|
| Water Content (%) | 59 |
| Dk (35°C, Fatt Units) | 21 |
| Refractive Index Dry | 1.515 |
| Refractive Index Hydrated (35°C) | 1.401 |
| Linear Expansion (mm) | 1.410 |
| Radial Expansion (mm) | 1.410 |
| Hardness (Shore D) | 89 |
| % Transmission (@600 nm) | >95 |
| Standard size | Diameter - 12.70 mm, Thickness - 5.0mm |
| Standard Colors | Clear, Low Blue, High Blue |
| UV Blocker | Available upon request |
| Precut | Depth - 1.8mm, Radius - 5.5mm |

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

## Manufacturing

**Environment Control:**

We recommend maintaining a maximum Relative Humidity of 45% at 21±2°C

**Diamond Tooling:**

| Tooling | Radius (mm) |
|---|---|
| Rough | 0.400 |
| Fine | 0.300 |

**Machining Recommendations:**

| Base Curve | Speed (RPM) | Feed (mm/min) | Depth (mm) |
|---|---|---|---|
| Rough | 10,000 | 90 | 0.30 |
| Fine | 9,500 | 15 | 0.095 |
| Front Curve | Speed (RPM) | Feed (mm/min) | Depth (mm) |
| Rough | 10,000 | 53 | 0.300 |
| Fine | 9,500 | 15 | 0.080 |

**Benz R&D validates expansion values**

Machining parameters and tool specifications are important for optimum surface finish and reaching precise target every time. Benz R&D validates the expansion values, target hitting ability and surface quality of every lot of Benz materials when machined strictly according to recommendations.

## Hydration/Sterilization

**Polishing**

G5X-ES 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**

Lens made with G-Materials will hydrate much faster than lenses made from other materials of comparable water content. Place lenses into the Borate Buffer pH 7.2 isotonic saline and allow the lens to sit in solution while stirring for a minimum of 4 hours. Hydrate for the minimum time specified at constant temperature (T = 20 ± 2°C). A minimum of 10 ml per lens should be used for hydration.

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

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## **Hydration/Sterilization** (continued)

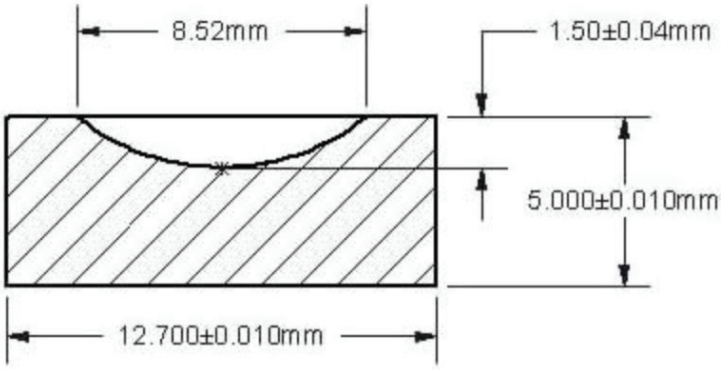
**Isotonic Saline**

Borate Buffer pH 7.2; 295 mOs

NaCl 8.01 grams • $H_3BO_3$ 2.47 grams • $Na_2B_4O_7 \cdot 10H_2O$ 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 characterics. "Isotropic expansion" means equal expansion in all directions.