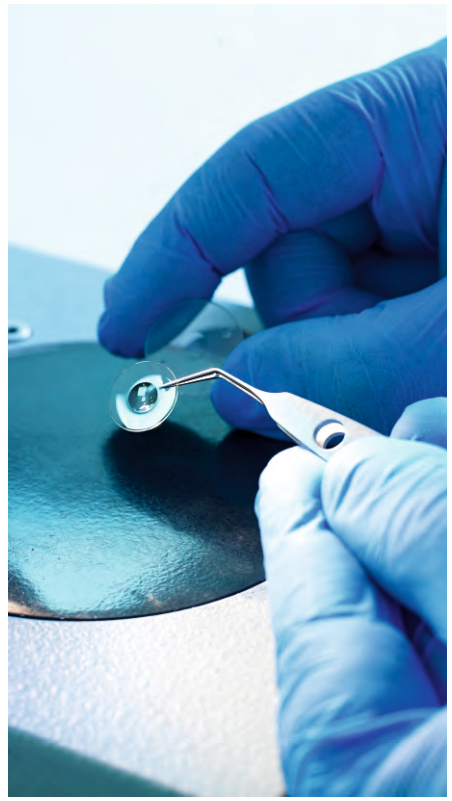

IOLstar
MATERIALS AND TECHNOLOGIES


**ÜRETİCİ**
**ANADOLU OPTOMEKANİK TEKNOLOJİLERİ**
**SANAYİ TİCARET ANONİM ŞİRKETİ**

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## 1. GENERAL

**1.1** The IOLSTAR hydrophobic is an unique raw material for IOL industry that supplied in a semi-finished format with two finished optics and an unfinished haptic zone.

**1.2** Products are cast in high precitech optical moulds by using a photo-polymerization process. Optics do not need any additional polishing, and with a high quality end milling process, the haptics should also be polish free.

**1.3** The IOLSTAR hydrophobic material has been used by lead IOL industry competitors since 2005 and implanted over 6.000K. The material has high refractive index, compression and fast unfolding time.

## 2. OPTICAL DESIGN

**2.1** Aberration free design with aspheric anterior surface and spherical posterior surface which is not effect common eye model representing -0.25 $\mu$m of spherical aberration (SA).

**2.2** The anterior lens surface is aspheric (conic constant K, according table). The posterior lens surface is a standard sphere (conic constant K=0).

| Power (D) | Conic Constant (K) |
|---|---|
| 10 | -58,45 |
| 20 | -12,35 |
| 30 | -7,41 |

**2.3** The power of the lens was optimized to be the nominal value at 3 mm aperture.

**2.4** Product is available from +5.00 D to +35.00 D in 0.50 diopter steps.

**2.5 Estimated A-Constants;**

Manufacturer : 118,4
SRK/T Formula : 118,9
SRK II : 119,1
Holladay 1 SF : 1,74

## 3. DIMENSIONS

**3.1** Overall diameter: 14.00 mm

**3.2** Edge thickness (haptics): 0.30 mm

**3.3** Optic body diameter: 6.00 mm

**3.5** Anterior aspheric optic zone diameter: 6.00 mm

| Sphere Power (D) | Anterior Radius (mm) | Posterior Radius (mm) | Optic Body ø (mm) | Optic Zone ø (mm) | Centre Thickness (mm) | Edge Thickness (mm) |
|---|---|---|---|---|---|---|
| 10.0 | 34,90 | -34,77 | 6.00 | 6.00 | 0,547 | 0.300 |
| 20.0 | 17,42 | -17,35 | 6.00 | 6.00 | 0,800 | 0.300 |
| 30.0 | 11,58 | -11,54 | 6.00 | 6.00 | 1,050 | 0.300 |

## 4. MATERIAL FORMULATION

**4.1** The IOLSTAR material is a copolymer of high purity methacrylates with UV absorber Benzotriazole.

## 5. MATERIAL PROPERTIES *

| PROPERTIES | VALUES |
|---|---|
| REFRACTIVE INDEX DRY (21°C) | 1,507 |
| REFRACTIVE INDEX HYDRATED (21 oC) | 1,507 |
| ABBE NUMBER (35°C) | 40 |
| WATER CONTENT BY WEIGHT | <0,5 % |
| MONOMER RESIDUALS | 0,0 % with soxhlet extraction process (done in customer site) ** |
| 10% UV CUT-OFF WAVELENGTH | 379nm |
| UV TRANSMISSION (300-380NM) | 0.5% |
| VISIBLE TRANSMISSION (380-800NM) | >96% |

*** Naturel yellow is also available.**
**** Soxhlet extraction equipment and process are supplied by IOLStar.**

**5.1** Machining Parameters;

To obtain best practice we offer that cryogenic conditions for machining. Blanks are mounted on a special mandrel or on a fixture which is using moisture. The surface of the blank should be maintained at -20° C or below.

* Manufacturer can use own experiences on milling and diamond turning parameters without any cryogenic conditions.

**Machining Recommendations: Diamond Milling Parameters**

| | Speed (RPM) | Tool Feed | Blank Surface Temp |
|---|---|---|---|
| **First Cut** | 60,000 | 30 mm/min | < -20°C |
| **Fine Cut** | 60,000 | 45 mm/min | < -20°C |