

## Why Glass for UV-LEDs

### Material characteristics

- Glass lasts longer than LEDs
- No yellowing due to UV irradiation
- Stable thermal behavior
- Operating temperature -80 °C up to 400 °C
- Very low thermal expansion coefficient
- Fire resistant (not flammable)
- No aging, i.e. stable mechanical properties
- Resistant against hydrocarbons
- Excellent surface hardness
- Easily recyclable
- No outgassing

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## SOLUTIONS FOR YOUR UV-LED

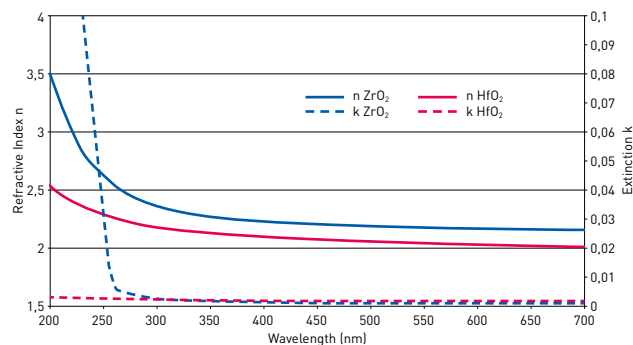


# Glass Optics & High-Quality Coatings Managing your UV Radiation

## Thin Films for your System

- Large variety of non-absorbing coating materials including Hafnium dioxide
- Coating on various substrates (e.g. Borofloat, Sapphire, BK7)
- High temperature-resistance
- Customized coatings designs (UVA-UVC)

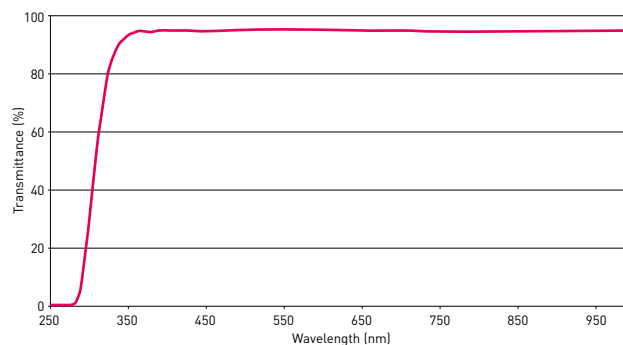
## Dispersion for Hafnium and Zirconia



## Glass – Your Material Engineering Choice

- Complex optics in a wide variety of shapes possible
- SUPRAX<sup>®</sup>, our borosilicate glass for challenging requirements
- No yellowing
- Very low solarisation
- Heat resistance up to 400 °C
- Life time > 100.000 hours

## Transmittance of SUPRAX<sup>®</sup> [5 mm Thickness]



## Available from Stock

### Lenses for 1 mm<sup>2</sup> LEDs

- TIR lens "London" 20° – cavity 3 mm, Ø 12.5 mm
- TIR lens "Madrid" 20° – cavity 4 mm, Ø 12.5 mm
- TIR lens "Oslo" 35° – cavity 6 mm, Ø 20 mm
- TIR lens "Quad" 32° – cavity 3 mm, 43.5 x 43.5 mm

### For high-power LED modules

- TIR lens "Bern-UV" – cavity 6.5 mm, Ø 35 mm
- TIR lens – cavity 7 mm, 42°, Ø 28 mm

### For coatings

- Glass filter UV blocking (HfO<sub>2</sub> coating on Borofloat 1.1 mm)
- UV-IR filter (ZrO<sub>2</sub> coating on Borofloat 1.1 mm)

Others on request

