

PixNIL® Zirconia Formulation

Target Applications

Nanoimprint Lithography (NIL) and Thin Films for a wide variety of AR/VR, Display, and Sensor applications

Broad Compatibility with

- » Polymer-Based Photonics
- » Diffractive Optical Elements

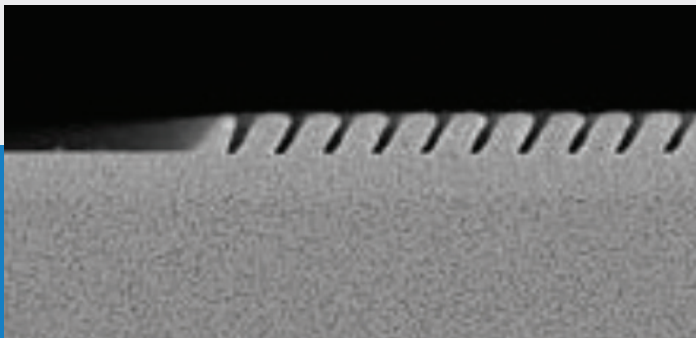
Benefits of PixClear® Enabled HRI Nanoimprintable Product

- » Refractive index (RI) of > 1.7
- » Particle Size 10-20nm
- » Highest transparency across all visible wavelengths
- » Very low haze
- » Large FOV = fully immersive AR experience with PixClear®
- » Low shrinkage
- » Excellent structural fidelity
- » Cost effective and scalable process with nanoimprinting

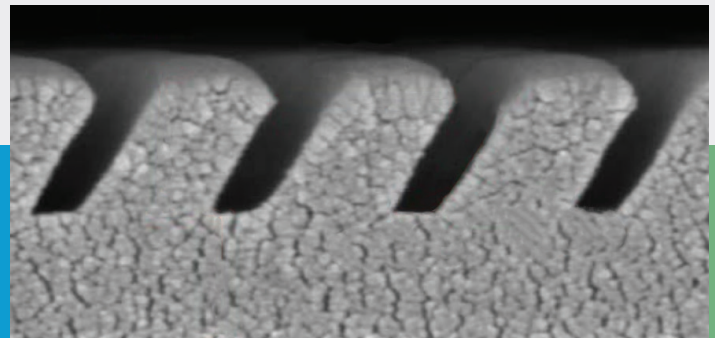
NANOIMPRINT PROCESS



PIXCLEAR® ENABLED NIL STRUCTURES



scale: 2 um



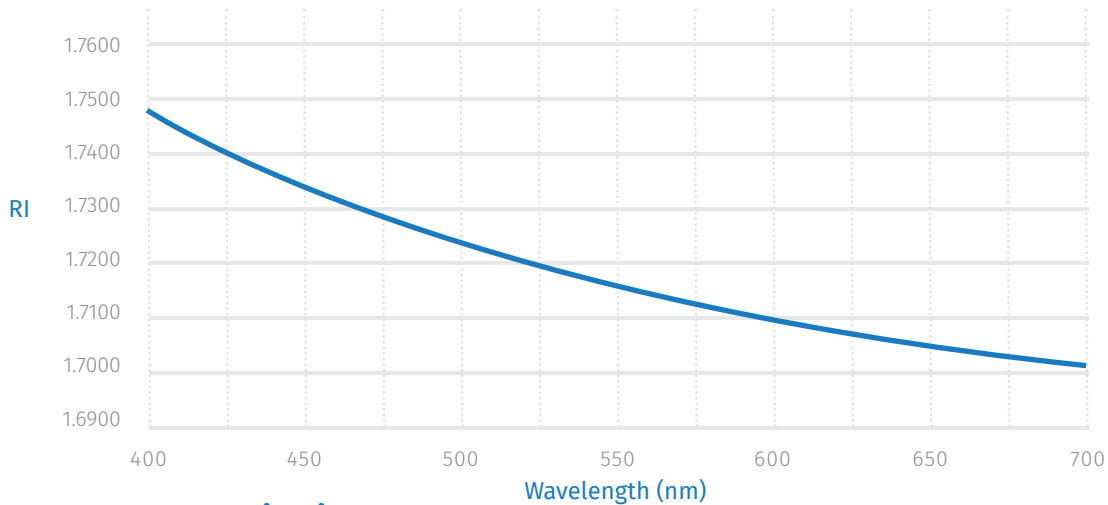
scale: 200nm

Results Courtesy of NIL Technology

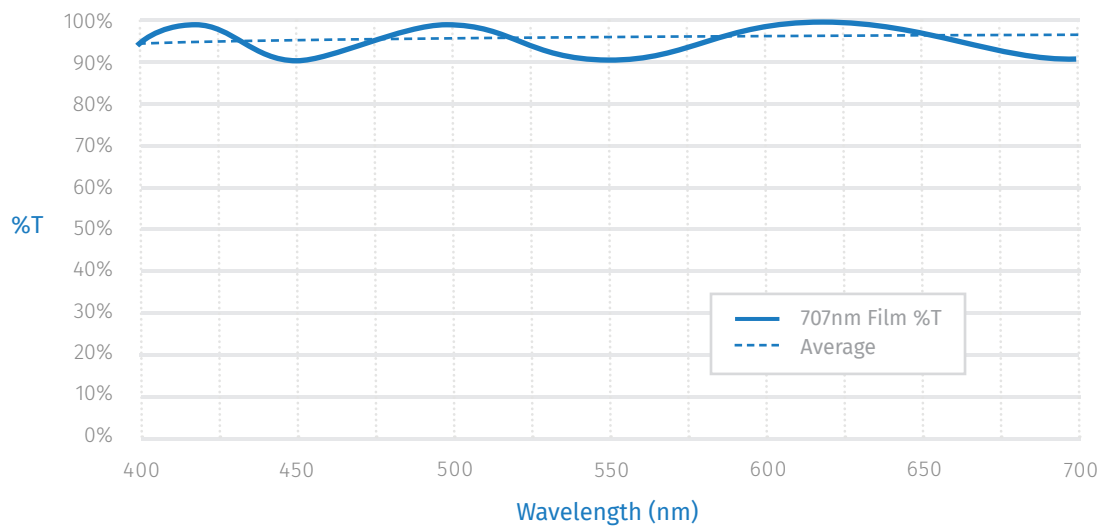
Technical Data

PIXNIL™ ZrO₂ FORMULATION

Refractive Index



% Transmission



Specification

FORMULATION	Solvent Type	PGMEA
COATING PROCESS	Dispensing Method Viscosity (cP)	Spin Coated Thin Film/Slot Die Coat/Inkjet 4
FILM PROPERTIES <small>Measured at 707nm Thick Film</small>	RI (550 nm) Haze (%)	>95% <0.4%
CURING	UV Condition	385 UV LED, 320 mJ/cm²
CONSISTENT NANOCRYSTAL SIZE	Size (nm)	10nm