



IP-158

UV-curable Nanoimprint Lithography Resin

Features

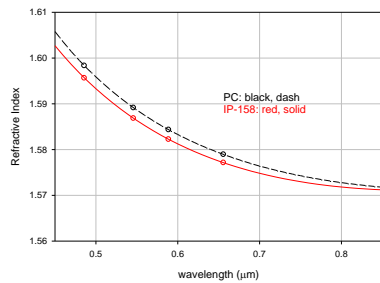
- Excellent replication characteristic
- High refractive index
- UV-curable
- Low viscosity
- Spin-coatable

Description

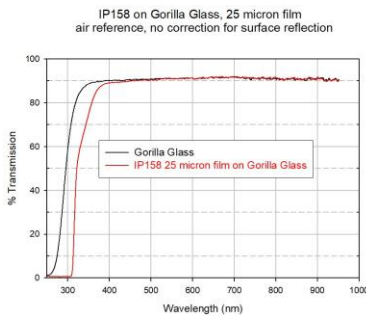
- UV-curable acrylate resin

Refractive index characteristics vs Polycarbonate

RI from 450 nm to 830 nm of IP-158 and polycarbonate (PC)



Optical data: UV-VIS



APPLICATIONS

High refractive index nanoimprint lithography resin

TYPICAL PROPERTIES

Before curing: liquid

Viscosity (cps, 25 °C)	420 to 500
Density (g/mL)	1.15
Storage (°C)	15 – 25
Shelf life (15 - 25 °C)	6 months
Pot life (15 - 25 °C)	3 months

After curing: cured film

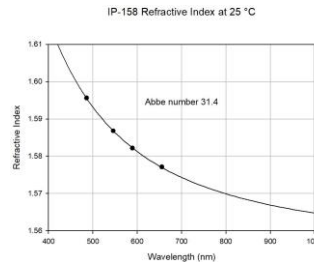
Shrinkage (%)	4.0
Hardness – Shore D	80
Glass transition temperature (DMA, °C)	70

Specific heat (J/Kg °C)	1,200
Thermal Conductivity (W/m K)	0.2

Refractive index of cured film (25 °C)

@ 589 nm (D)	1.5822
@ 486 nm (F)	1.5953
@ 656 nm (C)	1.5771

Refractive index at 25 °C vs wavelength



Abbe Number at 25 °C (V_d)

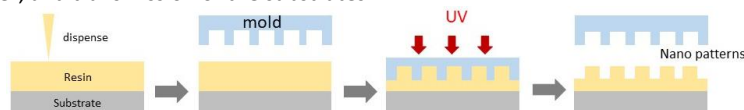
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UV curing conditions: UV dose (mJ/cm² in nitrogen)

>200

LED-365 nm or a light source producing 250 to 400 nm is best match for this resin. This resin is expected to be cured between substrates or in the absence of air. Cure speed or tack free time depends on the intensity of the UV source, thickness of imprint resin layer, and transmission of the substrates.

***A light source producing 250 to 400 nm is best match for this resin. Cure speed or tack free time depends on the intensity of the UV source, thickness of 2P resin layer, and transmission of the substrates



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Addison Clear Wave Coatings, Inc., 3555 Legacy Blvd, St. Charles, IL 60174 USA

Tel: +1 630-444-1658, Fax: +1 630-444-1683, www.AddisonCW.com

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