



## UV-Curable High Refractive Index Optical Resins

### Features

- Two different Refractive indexes, one low viscosity for flexibility of designs and processes
- Good depth of cure
- Optically clear
- Excellent adhesion to primed plastic substrates and glass substrates

### Description

- UV curable High Refractive Index Optical Resins

### APPLICATIONS

Prism sheets, optical brightness enhancement films or optical lens applications

	<u>PR-1581-A</u>	<u>PR-1600-A</u>
<u>Liquid</u>		
Viscosity (cps, 25 °C)	350 - 450	300 - 400
Storage temp (°C)	20 - 25	20 - 25
Shelf life (at 20 - 25 °C)	6 months	6 months
Pot life (at 20-25 °C)	3 months	3 months

### Cured film

<b>Refractive index - liquid @589 nm, 25 °C</b>	<b>1.558</b>	<b>1.569</b>
<b>Refractive index - cured film @589 nm, 25 °C</b>	<b>1.581</b>	<b>1.600</b>
Shrinkage (volume, %)	5	5
Depth of cure (µm)	250	250
Glass transition temperature (°C)	82	85

### UV curing conditions

#### Spot cure system – UV dose (J/cm<sup>2</sup>)

250 – 450 nm filter, 1 to 2 1 to 2

#### Suggested curing set-up:

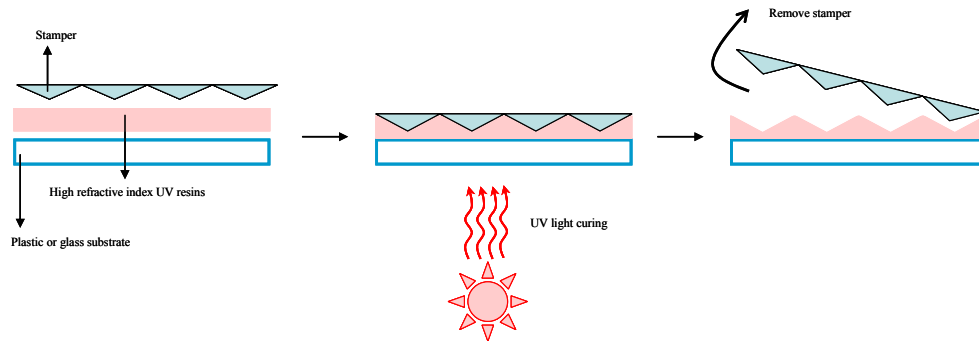
Intensity: 100 mW/cm<sup>2</sup>, Cure time: 20 sec, Cure distance: 1 cm

Flood cure system – UV dose (J/cm<sup>2</sup>), air 0.5 to 1 0.5 to 1

Medium or high pressure mercury or Fusion UV lamp with minimum intensity 50 mW/cm<sup>2</sup>. A light source producing 220 to 320 nm will aid surface cure. A light source producing 400 to 450 nm will aid depth of cure. Cure speed or tack free time depends on the intensity of the UV source, thickness of adhesive layer, and transmission of the substrates.

Operating temperature (°C) -40 to 120 -40 to 140

### Possible process for UV-curable high refractive index resins



### STORAGE

These products are light sensitive. They should be stored in the original container in a cool and dry place. They should be kept away from heat and light to obtain the maximum shelf life. Improper storage may result in gelation of the product.

### SAFETY AND HANDLING

The un-cured adhesive can be cleaned from apparatus with isopropyl alcohol (IPA), methyl ethyl ketone (MEK), or commercial alcohol based cleaning solution. Use caution in handling this material. Avoid direct skin and eye contact. Use only in well ventilated areas. Use protective clothing, **gloves and safety goggles**. Read [Material Safety Data Sheet](#) before handling.

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