



# AC PR-157-S5

## UV-curable High Refractive Index Optical Resins

### Features

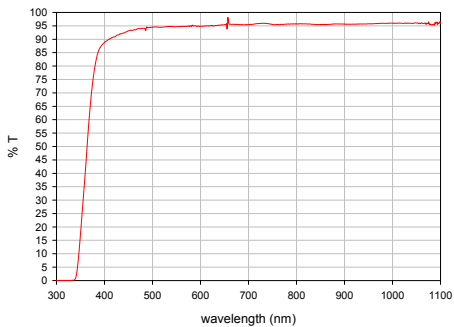
- High refractive index
- Low viscosity
- High depth of cure
- Optical clear
- Excellent adhesion to primed plastic substrates and glass substrates

### Description

- UV-curable high refractive index optical adhesive

### UV-Vis

- %T of AC PR-157-S5



### APPLICATIONS

Optical films applications

### TYPICAL PROPERTIES

#### Liquid

|                         |            |
|-------------------------|------------|
| Viscosity (cps, 25 °C)  | 650 to 800 |
| Storage (°C)            | 15 to 25   |
| Shelf life (15 - 25 °C) | 3 months   |
| Pot life (15 - 25 °C)   | 1 month    |

#### Cured film

|   |       |
|---|-------|
| Volume Shrinkage (%)                              | 3     |
| Glass transition temperature (°C, DMA)            | 90    |
| Hardness – Shore D                                | 80    |
| Refractive index of cured film (25°C)<br>@ 589 nm | 1.574 |
| Depth of cure (mm)                                | >10   |

Physical properties tested at 25°C, 50% RH (ASTM D638)

|                |     |
|----------------|-----|
| Elongation (%) | 9   |
| Modulus, MPa   | 675 |

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

#### UV curing conditions

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

250 – 450 nm filter 1 to 2

##### Suggested curing set up

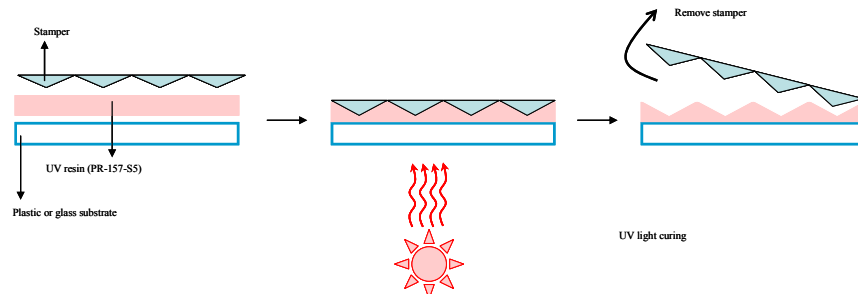
Intensity: 100 mW/cm<sup>2</sup>, Cure time: 20 sec, Cure distance: 1 cm

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

0.6 to 1.0

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.

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



### 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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