



# AC A109-PLV

## UV-Curable Laminating adhesive

### PRODUCT DESCRIPTION:

- Base chemistry: acrylate, radical polymerization
- One component resin ready for use, solvent-free, UV curing
- Fast cure
- Excellent adhesion to plastics, glass and metal substrates
- Good wetting performance

### PRODUCT USE:

- Optical bonding
- Laminating adhesive for plastic film

### FEATURES:

- Soft and flexible
- Fast cure, excellent adhesion to glass, good wetting performance.

### GENERAL USAGE INFORMATION:

**Shipment:** no restriction on shipment

**Storage:** After receipt in black syringes or amber HDPE bottles, room temperature storage (15-30°C) in the original container is required.

### SAFETY AND HANDLING

The uncured adhesive can be cleaned with isopropyl alcohol (IPA), methyl ethyl ketone (MEK), acetone, or xylene. Avoid direct skin and eye contact. Use only in well ventilated areas. Use protective clothing, **gloves and safety goggles**. Read Safety Data Sheet before handling.

### UV CURING CONDITIONS:

- \*Metal halide/Mercury UV: UV-A (320-400 nm), intensity: 50-1,000 mW/cm<sup>2</sup>
- \*or LED-365 nm, UV light intensity: 100 to 1,000 mW/cm<sup>2</sup>

| LED-365 nm                        |                | Metal Halide/Mercury(UV-A: 320-400 nm) |                |
|-----------------------------------|----------------|--|----------------|
| UV intensity(mW/cm <sup>2</sup> ) | time (sec)     | UV intensity(mW/cm <sup>2</sup> )      | time (sec)     |
| 100                               | 20 sec or more | 50                                     | 20 sec or more |
| or 200                            | 10 sec or more | or 100                                 | 10 sec or more |
| or 300                            | 7 sec or more  | or 200                                 | 8 sec or more  |
| or 400                            | 5 sec or more  | or 500                                 | 2 sec or more  |
| or 500                            | 4 sec or more  | or 1,000                               | 1 sec or more  |
| or 1,000                          | 2 sec or more  |  |                |

### TYPICAL PROPERTIES

#### Uncured resin

|                                       |                |
|---------------------------------------|----------------|
| Viscosity at 25 °C, mPa.s or cps      | 4,000 to 7,000 |
| Density (g/mL)                        | 1.1            |
| Shelf life (20 - 30°C):               | 6 months       |
| Pot life or working life (20 - 30°C): | 3 months       |

#### Cured film

|  |             |
|--|-------------|
| Shrinkage (linear, %)                                  | < 0.3       |
| Hardness – Shore D                                     | 17 to 20    |
| Poisson's ratio  | 0.37 – 0.38 |
| Glass transition temperature (DMA, °C)                 | 46          |
| Refractive index of cured film (25 °C)<br>@ 589 nm (D) | 1.50        |
| Depth of cure  | >1 mm       |
| Coefficient of thermal expansion (DMA)                 |             |
| below Tg (x10 <sup>-6</sup> ), °C <sup>-1</sup>        | 180         |
| above Tg (x10 <sup>-6</sup> ), °C <sup>-1</sup>        | 250         |
| Physical properties tested at 25°C, 50% RH (ASTM D638) |             |
| Tensile strength, MPa                                  | 3           |
| Elongation (%)   | 900         |
| Young's Modulus, MPa                                   | 2           |
| Operating temperature, °C                              | -40 to 100  |