



AC L2007

UV-Curable, High Refractive Index Optical Resin

PRODUCT DESCRIPTION:

- Base chemistry: acrylate, radical polymerization
- One component resin ready for use, solvent-free, UV curing

PRODUCT USE:

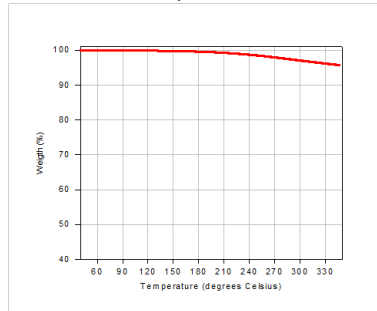
- Nano imprinting
- Lens making
- Lens and prism bonding

FEATURES:

- High Tg, high refractive index, good flow properties, high heat stability and high hardness

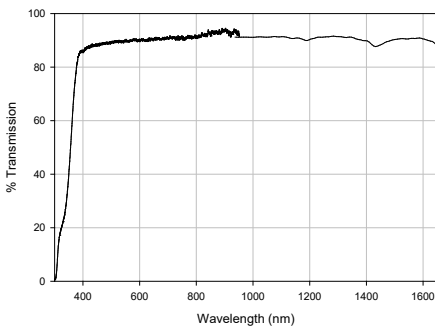
THERMOGRAVIMETRIC ANALYSIS:

Scan rate: 20°C/min

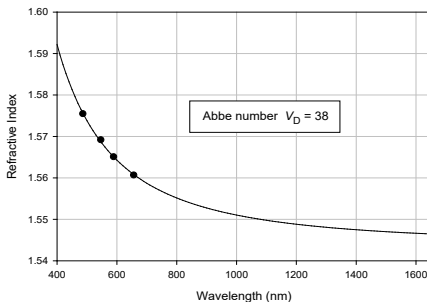


UV-VIS and NIR spectra:

L2007 225 micron free-standing film



Refractive Index of L2007 at 25 °C



UV CURING CONDITIONS: L2007 is required to cure in nitrogen or in the absence of air.

- *Metal halide/Mercury UV: UV-A (320-400 nm), intensity: 50-1,000 mW/cm²
- *or LED-365 nm, UV light intensity: 100 to 1,000 mW/cm²

LED-365 nm		Metal Halide/Mercury(UV-A: 320-400 nm)	
UV intensity(mW/cm ²)	x time (sec)	UV intensity(mW/cm ²)	x time (sec)
100	20 sec or more	50	40 sec or more
or 200	10 sec or more	or 100	20 sec or more
or 300	7 sec or more	or 200	10 sec or more
or 400	5 sec or more	or 500	5 sec or more
or 500	4 sec or more	or 1,000	2 sec or more
or 1,000	2 sec or more		

TYPICAL PROPERTIES

Uncured resin

Viscosity at 25 °C, mPa.s or cps	8,000 to 10,000
Density (g/mL)	1.1
Shelf life (20 - 30°C):	6 months
Pot life or working life (20 - 30°C):	3 months

Cured film

Appearance of cured adhesive	optically clear
Shrinkage (volume, %)	3
Hardness – Shore D	87
Glass transition temperature (DMA, °C)	109

Refractive index of cured film (25 °C)

@ 589 nm (D)	1.567
@ 486 nm	1.576
@ 546 nm	1.565
@ 656 nm	1.561

Abbe Number at 25 °C (V_D)

38

Depth of cure

>5 mm

Coefficient of thermal expansion (DMA)

below Tg (x10 ⁻⁶), °C ⁻¹	37
above Tg (x10 ⁻⁶), °C ⁻¹	171

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

Elongation (%)	4.6
Young's Modulus, MPa	2,100

Operating temperature, °C

-40 to 140

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.

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