

AC A1428

UV-Curable Epoxy Sealant of Flexible OLED Sealant

Features

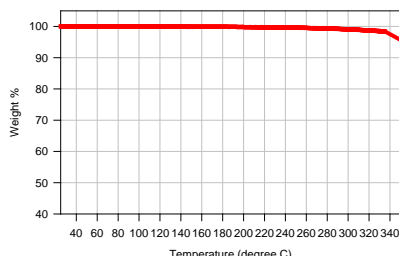
- High Tg
- Low moisture permeability
- Good adhesion to many substrates

Description

- UV-curable epoxy sealant

Thermogravimetric analysis

- Thermal stability of cured adhesive was studied by thermogravimetric analysis in nitrogen at a scan rate of 20°C/min



APPLICATIONS

OLED edge sealant – flexible displays

TYPICAL PROPERTIES

Liquid

Viscosity (cps, 25 °C)	4,500 – 6,000
Storage (°C)	15 - 25
Shelf life (15 - 25 °C)	6 months
Pot life (15 - 25 °C)	3 months

Cured film

Shrinkage (linear, %)	< 0.5
Water permeability (g/m 24 hrs) (50 °C/95% RH, 75 µm film)	3 x 10 ⁻⁴
Glass transition temperature (°C)	107 – 110
Hardness – Shore D	90

Refractive index of cured film (25°C)

@ 589 nm	1.563
@ 1310 nm	1.547
@ 1550 nm	1.544

Coefficient of thermal expansion (TMA), 75 µm film

below Tg (x10 ⁻⁶), °C ⁻¹	28
above Tg (x10 ⁻⁶), °C ⁻¹	85

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

Tensile, psi (kgf/mm ²)	7,000 (5)
Elongation (%)	5
Modulus, psi (kgf/mm ²)	195,000 (136)

Operating temperature (°C) -60 to 180

UV curing conditions

Spot cure system – UV dose (J/cm²), air
 250 – 450 nm filter 30.0 to 50.0

Flood cure system – UV dose (J/cm²), air
 (relative humidity condition < 40%) 3.0 to 5.0

***Minimum intensity recommended for Spot lamp system: 300 mW/cm²

***Minimum intensity recommended for Flood lamp system: 125 WPI or 49 WPCm

***If a low intensity Spot lamp is used, intensity of 70 – 100 mW/ cm², we recommend a cure time of 7 to 10 minutes

***Post cure can enhance adhesion strength. Post cure conditions: 60 to 100 °C for 30 to 60 minutes

Maximum relative humidity for curing: 40%

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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