

AC A586

UV-Curable Epoxy Sealant for Optoelectronics Applications

Features

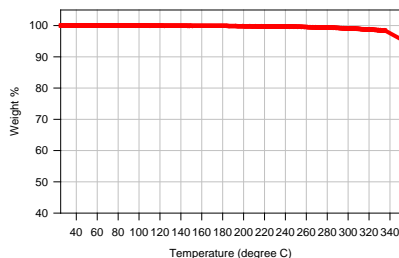
- High Tg
- Low moisture permeability
- Good adhesion to many substrates

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

Optoelectronics bondings: glass to glass or glass to metal

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, %) | < 0.3 |
| 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) | 142,000 (100) |

| | |
|----------------------------|------------|
| Operating temperature (°C) | -60 to 180 |
|----------------------------|------------|

UV curing conditions

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

| | |
|--|------------|
| <u>Flood cure system – UV dose (J/cm²), air</u> | |
| (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.

The information presented here represents our best available information and is believed to be reliable, but it and does not constitute any guarantee or warranty. Inasmuch as Addison Clear Wave has no control over the exact manner in which others may use this information, it does not guarantee the results to be obtained. Nor does the company make any expressed or implied warranty of merchantability, or fitness for a particular purpose concerning the effects or results of such use. Purchasers are further responsible for determining the suitability of the product for its intended use and the appropriate manner of utilizing the production processes and applications so as to insure safety, quality and effectiveness. Addison Clear Wave makes no warranties and assumes no liability in connection with the use or inability to use this product.