

AC A1432-SY

UV-Curable Epoxy Sealant for CMOS and CCD Sensors Packaging

Features

- High Tg
- Low moisture permeability
- Good adhesion to various substrates: glass, metal and ceramic
- Excellent Thermal stability > 200 °C
- Excellent for hot solder process of > 280 °C
- Low CTE
- Yellow color for vision system alignment
- Thixotropic

Description

- UV-curable epoxy sealant

APPLICATIONS

AC A1432-SY is suitable for bonding the glass lid to Ceramic Leadless Chip Carrier (CLCC) or Organic Leadless Chip Carrier (OLCC). Compatible with solder reflow temperatures up to 280 °C. Other applications include semiconductor packaging, plastic or ceramic housing assembly, etc.

TYPICAL PROPERTIES

Liquid: Uncured properties

Viscosity (cps, 25 °C)	Thixotropic
Storage (°C)	20 – 25
Shelf life (20 – 25 °C)	6 months
Pot life (20 – 25 °C)	2 months

Cured film: Cured mechanical properties

Shrinkage (linear, %)	<0.3
Water permeability (50 °C/95% RH, g/m 24 hrs, 75 µm thickness)	3 x 10 ⁻⁴
Hardness – Shore D	90-95
Glass transition temperature (°C) (DMA)	198
Refractive index of cured film (25°C)	
@ 589 nm	1.59
@ 1310 nm	1.58
Physical properties tested at 25°C, 50% RH (ASTM D638)	
Tensile, MPa	340
Elongation (%)	4
Modulus, MPa	3,300
Coefficient of thermal expansion (TMA), 75 µm film	
below Tg (x10 ⁻⁶), °C ⁻¹	24
above Tg (x10 ⁻⁶), °C ⁻¹	68
<u>UV curing conditions</u>	
<u>Flood curing system – UV dose (J/cm²)</u>	2.0
<u>Spot cure system – UV dose (J/cm²)</u> 250 – 450 nm filter	5-10
Photoinitiator system is tuned for UV-B range (290 to 320 nm) and UV-A range (320 to 400 nm)	
Operating temperature (°C)	-60 to 200

***Minimum intensity recommended for Spot lamp system: 100 mW/cm²

***Minimum intensity recommended for Flood lamp system: 49 W/cm or 125 WPI or 100 mW/cm²

Post cure at 80 to 100 °C for 1 – 2 hrs after UV curing will enhance adhesion

If relative humidity during cure is greater than 40% then longer cure time might be needed

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 ensure 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.