

AC M625-B

Dual Cure Adhesive for Diode Applications

Features

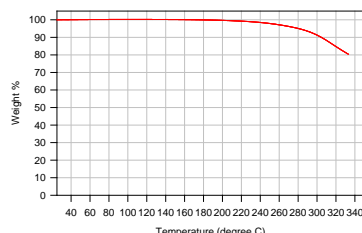
- Dual cure (UV or Heat) capability
- High Tg
- High hardness
- High viscosity (resistance to flow)

Description

- Dual cure, high Tg adhesive

Thermogravimetric analysis

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



APPLICATIONS

To bond laser diode TO cans where UV light cannot penetrate through the metal or the non-UV transferable plastic TO cans. It is recommended to be used where instant fix for the aligned parts can be accomplished by UV, then thermal post cure of the fixed parts provides complete cure in areas where UV light cannot penetrate.

TYPICAL PROPERTIES

Liquid

Viscosity (cps, 25 °C)	13,000 – 15,000
Storage (°C)	15 - 25
Shelf life (15-25 °C)	3 months
Pot life (15-25 °C)	1 month

Cured film

Water absorption (% , 100 °C until saturation)	0.13
Shrinkage (linear, %)	<0.4
Hardness – Shore D	90
Glass transition temperature (°C, DMA)	109
Coefficient of thermal expansion (TMA), 75 µm film	
below Tg (x10 ⁻⁶), °C ⁻¹	45
above Tg (x10 ⁻⁶), °C ⁻¹	155

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

Tensile strength, psi (Kg/mm ²)	7,142 (5)
Elongation (%)	12
Modulus, psi (Kg/mm ²)	115,500 (81)
Operating temperature (°C)	-60 to 150

UV curing conditions

Spot cure system – UV dose (J/cm²)

250 – 450 nm filter, air (in nitrogen or between 2 substrates) 2.0 – 3.0 (1.0–2.0)

Flood cure system – UV dose (J/cm²), air

0.6 – 1.0

Thermal curing conditions (between 2 substrates or in nitrogen)

90 °C	120 – 180 minutes
100 °C	90 - 120 minutes
125 °C	60 - 90 minutes

If thermal curing is the only curing method, the material is required to be placed between two substrates or to be cured under nitrogen to obtain a fully cured film.

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

** Intensity recommended for Flood lamp system: 49 WPCM or 125 WPI

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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