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AC A535-AT

Dual-curable, Polishable, Medium Viscosity Epoxy Adhesive

Features

- Medium viscosity
- High Tg
- Low shrinkage
- High temperature resistance

Description

- Dual-curable epoxy adhesive

APPLICATIONS

AC A535-AT is suitable for bonding glass to glass, glass to ceramic, ceramic to ceramic, ceramic to metal or plastic parts to ceramic or metal parts, etc. 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)	1000 – 1,300
Storage (°C)	15 - 25
Shelf life (15 - 25 °C)	6 months
Pot life (15 - 25 °C)	3 months
Cured film	
Shrinkage (linear, %)	< 0.5
Outgas, weight % (per Telcordia GR-1221)	0.01
Outgas, weight % (per MIL-STD 883/5011)	0.05
Hardness – Shore D	90
Glass transition temperature of fully cured adhesive (DMA, °C)	160
Refractive index of cured film (25°C)	
@ 589 nm	1.572
@ 1310 nm	1.556
@ 1550 nm	1.553
Coefficient of thermal expansion (TMA), 75 μm film	
below Tg ($x10^{-6}$), $°C^{-1}$	42
above Tg ($x10^{-6}$), $°C^{-1}$	86
Physical properties tested at 25°C, 50% RH (ASTM D638)	
Elongation (%)	4
Modulus, psi (kgf/mm^2)	245,000 (172)
UV curing conditions	
Flood curing system – UV dose (J/cm^2), air	3.5 – 4.0
Operating temperature (°C)	-60 to 180
UV curing conditions	
Spot cure system – UV dose (J/cm^2), air	
250 – 450 nm filter	30 – 50
320 – 500 nm filter	35 – 50
Heat curing conditions:	
@ 125 °C (if use heat only)	4-5 hrs
(if use UV and heat)	3-4 hrs
@ 150 °C (if use heat only)	2-3 hrs
(if use UV and heat)	1-2 hr
@ 180 °C (if use heat only)	1hr
(if use UV and heat)	0.5-1 hr

***Minimum intensity recommended for Spot lamp system: 100 mW/cm^2
***Minimum intensity recommended for Flood lamp system: 49 WPcm or 125 WPI or 100 mW/cm^2
To ensure good curing speed, the humidity is recommended to be < 50% RH

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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