



TECHNICAL BULLETIN

437-91-N-1 LED Package Attach

DESCRIPTION

437-91-N-1 is a low cost electrically conductive adhesive. 437-91-N-1 is a one component, non-silver, general purpose adhesive with good conductivity without the high prices of silver.

ADVANTAGES

- Rapid cure □ Low temperature cure
- Low cost □ Good conductivity

TYPICAL UNCURED PROPERTIES

Viscosity (HB-DVIII+ 5.0 rpm Spindle #51)	17,000 cP
Thix ratio (0.5 rpm/5.0 rpm)	~3.0
Specific gravity ASTM D 792 2.9	
Color Visual	Dark Gray
Pot life (25°C)	> 1 wk
Open time (25°C)	12 hrs
Shelf life (0°C)	3 months
Shelf life (-40°C)	12 months
Weight loss on cure	~6.0%

CURE SCHEDULE

100°C	30 minutes
125°C	10 minutes

STORAGE AND HANDLING

- 437-91-N-1 has a maximum shelf life of 12 months if left in an unopened container and stored at -40°C. Thawing of the materials should be conducted at ambient

temperature, and should not be accelerated in an oven or warm water. The 437-91-N-1 will equilibrate to ambient temperature in approximately 1 hour for a 30cc syringe and 30 minutes for a 10cc syringe.

- 437-91-N-1 has a maximum shelf life of 3 months if stored at 0°. Thawing of the material should be conducted at ambient temperature, and should not be accelerated in an oven or warm water. When stored at 0°C, the 437-91-N-1 will equilibrate to ambient temperature in approximately 40 minutes for a 30cc syringe and 20minutes for a 10cc syringe.

HEALTH AND SAFETY

- 437-91-N-1 can cause severe eye irritation including stinging, redness and eye swelling.
- Avoid skin contact. 437-91-N-1 can cause mild skin irritations including redness or induce a rash. It should not aggravate any current skin conditions.
- If ingested, consult a physician immediately.
- Consult Polymark's Product Material Safety Data Sheet for additional information on 437-91-N-1.

TYPICAL CURED PROPERTIES

Die shear	2250 psi
Thermal conductivity ASTM F433	1.45 W/mK
Electrical resistivity TP #115	2.0 x 10 ⁻² ohm-cm

APPLICATION 437-91-N-1 is designed to act as an LED attach where the LED package is mounted to several different substrates. In addition, the 437-91-N-1 is prominently used as the die attach for light emitting diodes (LED).

Important Notice to Users: Typical properties are shown in this technical bulletin and should not be used or taken as specifications. Contact Polymark prior to establishing specifications. The information given for product description, handling properties and cured physical properties are offered solely to assist the purchaser's own testing. Polymark, its sales agents and distributors make NO WARRANTY OF MERCHANTABILITY OF THE PRODUCT OR THE FITNESS OF THE PRODUCT FOR ANY PARTICULAR PURPOSE. This product and all information supplied in connection with it is used at the purchaser's own risk, conditions of use being beyond Polymark's knowledge or control. The purchaser assumes all risk of use or handling of the product, whether in accordance with directions or not.