



POLYMARK UVE-3431 Active Alignment Adhesive

Features:

- **UV Light and/or Heat Cure**
- **Very Low CTE and Shrinkage**
- **Excellent Moisture Resistance**
- **Active Alignment Applications**

Product Description:

Polymark UVE-3431 is a one-component UV light and/or heat-curing adhesive. Polymark UVE-3431 has excellent adhesive characteristics to a wide variety of materials making it an excellent choice for bonding various metals, plastics, glass and other common assembly materials. Cured UVE-3431 has outstanding moisture and chemical resistance.

Polymark UVE-3431 may be rapidly cured in place using a high intensity UV light source in the 320-380 nm range. The very low CTE and cure shrinkage makes it ideal for fixturing and aligning optical devices.

The thermal curing feature will allow curing in shadowed areas not able to be exposed to the curing light. Thermal curing is rapid depending on the time, temperature, type of oven and the part assembly. A typical thermal cure is 120°C for 20 minutes.

Typical Product Handling Properties:

<u>CHARACTERISTIC</u>	<u>VALUE</u>
Color	White
Density (gram/cc)	1.71
Viscosity @25°C (10rpm)	25,000 cps
Percent Solids	100%
Average Particle Size	10 um
Shelf Life @0°C	6 months
Working Life @25°C	72 hours

Typical Cured Physical Properties

<u>CHARATERISTIC</u>	<u>VALUE</u>
Thermal Conductivity	0.50 W/mK
Tensile Strength	9,000 psi
Shore D Hardness	>D90
Glass Transition Temp.	130°C
Coeff. Thermal Expansion	20 ppm
Ionic Impurities (Na, K, Cl)	<10 ppm

Application:

UVE-3431 should be applied and light-cured in a temperature-controlled environment. Cold substrates can inhibit the curing speed. Avoid excessively curing the material photochemically or thermally since this can cause internal stresses and poor results.

UVE-3431 should be cured using a high-intensity lighting source of between 320 – 380 nm (including LED powered lamps). Avoid thermal curing in ovens set higher than 130°C.

Shelf Life and Storage:

Polymark UVE-3431 has a shelf life of 6 months when stored in sealed containers at 0°C. Higher storage temperatures shorten Polymark UVE-3431's shelf life.

Polymark UVE-3431 is reactive to ambient light. Care should be taken to protect it from light exposure after removal from original containers. Contact Polymark for recommendations.

Polymark UVE-3431 will equilibrate to ambient temperature in approximately two hours for a 30cc syringe and one hour for a 10cc syringe. Thawing of the materials should be done at ambient temperature and should not be accelerated in an oven or warm water.

Handling Safeguards:

All Polymark materials include information on the hazards associated with each particular product. Most epoxy resin systems are skin and eye irritants. More serious health hazards may exist. Consult the Material Safety Data Sheet for further information.

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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.