

PRODUCT SPECIFICATION

50000-E

UV Adhesive

Description:

Engineered for high-precision bonding and sealing, this single-component, thixotropic UV curable adhesive cures within seconds under ultraviolet light. It creates a flexible, impact-resistant, and weather-resistant bond across plastics, glass, and metal substrates.

The thixotropic viscosity profile prevents slump and run-off during application, enabling controlled placement on vertical surfaces and filling gaps without migration. Designed to withstand demanding industrial and electronic environments, the cured adhesive exhibits exceptional resistance to moisture, humidity, and water immersion.

Typical Properties of Cured/Uncured Material:

Liquid State		Cured State	
Base	Urethane Methacrylate	Tensile Strength, ASTM D882 (psi)	1,200
Colour	Clear, Amber	Elongation @ break (%)	48
Specific Gravity (25°C)	1.1	Hardness, ASTM D2240 Shore D	52
Refraction Index (25°C)	1.495	Tg, ASTM D3418-82 (°C)	103
Viscosity (cP)	40,000 – 60,000	Water Absorption, ASTM D570 (%)	8.7

UV Curing System:

Lamp Type	5" x 5" Flood	3/16" Spot	1" x 6" Focused
Max. Lamp Intensity @ 365 nm	300 mW/cm ²	4000 mW/cm ²	8000 mW/cm ²
Adhesive Absorption Range (nm)	300 - 500	300 - 500	300 - 500
Cure Speed (Sec)			
Glass to Glass Bonding	14	12	<6
Surface Cure Speed	18	18	<6

Bond Strength

(Shear Strength, psi, ASTM D4501):

Substrate	psi	N/mm ²
Steel to Glass	2650	18
Aluminum to Glass	1300	8
Glass to Glass	1250	8

Cure Conditions:

Cure can be achieved using both low and high-intensity UV light sources. Under a low UV intensity of 30 mW/cm, highly transmissive substrates with joint gaps under 0.25 mm (0.010") cure in 5 seconds, while gaps of 1.75 mm to 2.25 mm (0.070" to 0.090") cure within 10 to 20 seconds. Under a high UV intensity of 100 mW/cm, highly transmissive substrates with gaps under 0.25 mm (0.010") cure in 2 seconds, while larger gaps of 2.5 mm to 5.0 mm (0.100" to 0.200") achieve full cure within 10 to 20 seconds.

Directions For Use:

This adhesive is UV sensitive. Exposure to daylight, UV light and artificial lighting should be kept to a minimum during storage and handling. Adhesive product should be dispensed from applicators with black feed lines. For best performance bond surfaces should be clean and free from grease.

UV cure rate is depends on lamp intensity, distance from light source, depth of cure needed or bond line gap and light transmittance of the substrate through which the radiation must pass.

Recommended intensity for cure in an adhesive application are 40-mW/cm² minimums with an exposure time of 5-6 times the fixture time at this same intensity. For tack free surface cure, as necessary in coating, potting or tacking applications, higher intensity UV is required.

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