

PRODUCT SPECIFICATION

500-P

UV Adhesive

Description:

Designed for high-performance plastic bonding, this single-component, medium viscosity UV and visible light curable adhesive cures in seconds under ultraviolet radiation. It is specifically formulated to join a wide range of thermoplastics, thermoset plastics, and dissimilar substrates, forming a flexible, high-strength bond with exceptional impact and weather resistance.

Engineered for long-term structural durability, this adhesive is ideal for plastic lamination, component housing assembly, and window bonding or sealing applications. Its balanced viscosity provides controlled flow without migration, delivering reliable, high-integrity joints for demanding industrial and manufacturing environments.

Typical Properties of Cured/Uncured Material:

Liquid State		Cured State	
Base	Urethane Methacrylate	Tensile Strength, ASTM D882 (psi)	3,750
Colour	Clear	Elongation @ break (%)	23
Specific Gravity (25°C)	1.1	Hardness, ASTM D2240 Shore D	65
Refraction Index (25°C)	1.475	Tg, ASTM D3418-82 (°C)	32
Viscosity (cP)	450-550	Water Absorption, ASTM D570 (%)	2.3

UV Curing System:

Lamp Type	5" x 5" Flood	3/16" Spot	1" x 6" Focused
Max. Lamp Intensity @ 365 nm	300 mW/cm2	4000 mW/cm2	8000 mW/cm2
Adhesive Absorption Range (nm)	300 - 500	300 - 500	300 - 500
Cure Speed (Sec)			
Glass to Glass Bonding	12	11	<5
Surface Cure Speed	16	14	<5

Bond Strength

(Shear Strength, psi, ASTM D4501):

Substrate	psi	N/mm ²
PVC to PVC	2100	14
PVC to PU	2250	15
PET to PVC	1300	8
PVC to Acrylic	1375	9

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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