

Technical Data Sheet

PolyCure UV Adhesive 3443

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Product Description

Hernon® PolyCure 3443 is a single component, tri-cure conformal coating formulated for bonding glass to glass or glass to metals. **PolyCure 3443** is excellent for bonding and tacking many parts. **PolyCure 3443** can also be cured with heat above 200°F (93°C) or **EF Primer 56**. Exposure to a high intensity UV light will cure these adhesives to a dry, hard surface.

Typical Applications

- Bonding glass to glass.
- Bonding glass to metals.
- Bonding Nylon, Fiberglass and phenolics
- Wire tacking.

Product Benefits

- Good Moisture and Environmental Resistance
- No Solvents
- Excellent for Encapsulating, Potting, Sealing and Bonding
- Good Peel and Fatigue resistance

Typical Properties (Uncured)

Property	Value
Resin	Modified Acrylic
Appearance	Clear Liquid
Fluorescent	Yes
Specific Gravity	1.11
Viscosity @ 25°C	45,000 to 52,000 cPs
Flash point	See MSDS

Typical Properties (Cured)

Physical Properties

Property	Value
Shore Hardness, Shore A	95-100
Gap Fill, mm (in.)	3.175 (0.125)
Temperature Range, °C (°F)	-55 to 150 (-65 to 300)

Typical Curing Performance

Adhesive Properties

This product is cured when exposed to UV radiation of 365nm. The speed of cure will depend on the UV intensity as measured at the product surface.

Tack Free Time

Measured @ 365 nm, using medium pressure, mercury arc lamp
130 mW/cm² : 15 seconds

Fixture Time

Fixture time is defined as the time to develop a shear strength of 0.1 N/mm².

Specimen	Cure Conditions	Fixture Time
Glass/Steel	@ 210 mW/cm ² UV irradiance	< 10 sec
Glass/Glass	@ 210 mW/cm ² UV irradiance	< 10 sec
G/B Steel	with EF Primer 56	< 45 minutes
G/B Aluminium	with EF Primer 56	< 45 minutes

PolyCure 3443 can be also cured with heat above 200°F (93°C). At least, 45 minutes is needed to achieve cured properties.

Typical Cured Performance

Cured @ 210mW/cm² UV

Block- Shear Strength on different specimens
Tested according to ASTM D4501

Specimen	Cure Time	Value, psi
Glass to Glass*	10 seconds	≥ 300
Glass to Steel*	10 seconds	≥ 300

*Substrate Failure

Shear Strength on lap-shear specimens
Tested according to ASTM D1002.

Specimen	Cure Conditions	Value, psi
G/B Steel	Cured for 24 hrs @ 22°C with EF Primer 56	≥ 1,000
G/B Aluminium	Cured for 24 hrs @ 22°C with EF Primer 56	≥ 600
G/B Aluminium	Cured @ 95°C for 45 min and post-cured for 24 hrs	≥ 1500

General Information

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials. For safe handling information on

this product, consult the Material Safety Data Sheet (MSDS).

Directions for use

1. This product is light sensitive; exposure to daylight, UV light and artificial lighting should be kept to a minimum during storage and handling.
2. The product should be dispensed from applicators with black feed lines.
3. For best performance bond surfaces should be clean and free from grease.
4. Cure rate is dependent on lamp intensity, distance from light source, depth of cure needed or bondline gap and light transmittance of the substrate through which the radiation must pass.
5. For dry curing of exposed surfaces, higher intensity UV is required ($\geq 100\text{mW/cm}^2$).
6. Plastic grades should be checked for risk of stress cracking when exposed to liquid adhesive.
7. Excess adhesive can be wiped away with organic solvent.
8. Bonds should be allowed to cool before subjecting to any service loads.

Storage

Hernon® PolyCure 3443 should be stored in a cool, dry location in unopened containers at a temperature between 45°F to 85°F (7°C to 29°C) unless otherwise labeled. Optimal storage is at the lower half of this temperature range. To prevent contamination of unused material, do not return any material to its original container.

These suggestions and data are based on information we believe to be reliable and accurate, but no guarantee of their accuracy is made. HERNON MANUFACTURING®, INC. shall not be liable for any damage, loss or injury, direct or consequential arising out of the use or the inability to use the product. In every case, we urge and recommend that purchasers, before using any product in full scale production, make their own tests to determine whether the product is of satisfactory quality and suitability for their operations, and the user assumes all risk and liability whatsoever, in connection therewith. Hernon's Quality Management System for the design and manufacture of high performance adhesives and sealants is registered to the ISO 9001 Quality Standard.