

Technical Data Sheet Ultrabond 773

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Product Description

Hernon® Ultrabond 773 is a single component, tri-cure conformal coating formulated for bonding glass to glass or glass to metals. **Ultrabond 773** is excellent for bonding and tacking many parts. **Ultrabond 773** 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 phenolics

Product Benefits

- Good Moisture and Environmental Resistance
- No Solvents

Typical Properties (Uncured)

Property	Value
Resin	Modified Acrylic
Appearance	Clear-Light Yellow Liquid
Specific Gravity	1.09
Viscosity @ 25°C	15,000 to 30,000 cPs
Flash point	See SDS

Typical Properties (Cured)

Physical Properties

Property	Value
Shore Hardness, Shore D	70-80
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.

UV Cure Time

Measured @ 365 nm, using medium pressure, mercury arc lamp: US 1000, at ½ inch distance: ≤ 7 seconds
By using LED9, at ¼ inch distance: ≤ 10 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 (sec)
Glass/Glass	US1000, at ½ in	≤ 5
Glass/Glass	LED 9 at ¼ in	≤ 5
Glass/Steel	US1000, at ½ in	≤ 5
Glass/Steel	LED 9 at ¼ in	≤ 5
G/B Steel	with EF Primer 56	≤ 30

Ultrabond 773 can be also cured with heat above 200°F (93°C). At least, 10 minutes is needed to achieve initial curing strength for lap shear substrates.

Typical Cured Performance

UV-Cured with US1000 at ½ inch distance and post-cured for 24 hours.

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

Specimen	Cure Time (sec)	Value, psi
Glass to Glass*	30	≥ 500
Glass to GB Steel*	30	≥ 300
Glass to AR Steel*	30	≥ 500
Glass to AR Aluminum*	30	≥ 500

*Substrate Failure

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

Specimen	Cure Conditions	Value, psi
G/B Steel	Cured for 24 hours @ 22°C with EF Primer 56	≥ 2,000
G/B Aluminum	Cured @ 95°C for 45 min and post-cured for 24 hours	≥ 2,000
G/B Steel	Cured @ 95°C for 45 min and post-cured for 24 hours	≥ 2,000

Typical Environmental Resistance

UV-Cured with US1000 at ½ inch distance and post-cured for 24 hours.

Block- Shear Strength on Steel to Glass Specimens.
Tested according to ASTM D4501.

Aging

Aged at conditions indicated and tested at 22°C

Ageing Period	Conditions	% of Initial Strength
500 hours	70°C	123
500 hours	45°C and %95 humidity	118
500 hours	-18°C	114

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.

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 Safety Data Sheet (SDS).

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® Ultrabond 773 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