HERNON®
Formulating Solutions

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Tuffbond® 312

Product Description

Hernon® **Tuffbond® 312** is a slow-curing, low-hardness, two-component epoxy adhesive. The epoxy and amine components must be mixed thoroughly at a 1:1 ratio by volume before application.

Tuffbond® 312 contains glass beads to maintain a consistent bond line thickness up to 90 microns, ensuring optimal performance in applications requiring controlled spacing.

This product is not recommended for high-temperature applications due to its low glass transition temperature (Tg). However, it exhibits good flexibility and adhesion to a wide range of substrates, including metals, plastics, and composite materials.

Features and Benefits

- 1:1 mix ratio by volume for easy dispensing
- Long working time (3–4 hours) suitable for complex assemblies
- Bonds a wide range of substrates including metals, plastics, and composite materials such as FR4
- Non-sag, thixotropic formulation for vertical and overhead applications
- Cures at room temperature—no heat required unless faster cure time is required.

Recommended Applications

- Electronic component encapsulation
- Bonding dissimilar materials in assemblies
- FR4 - Polyethylene substrate bonding
- Potting or bonding small parts requiring long open time

Typical Properties (Uncured)

Property	Part A	Part B
Base	Epoxy	Amine
Appearance	White- Lt Tan	Black
Viscosity at 25ºC, HBT, spindle TB, 10 rpm (cP) ASTM D2556	90,000-130,000	80,000-120,000
Specific Gravity	1.21	1.05

Typical Properties (Cured)

Property	Value
Working Life at 22ºC (20g)	3-4 hours
Durometer Hardness*, ASTM D2240	60-75 Shore A
Glass Transition temperature	8.3 ºC

*Mix ratio for A:B is 1:1 by volume, hardness was measured after 168 hours RT cure.

Typical Cured Performance

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

Cure Time at 22ºC	Substrate	Shear Strength (psi)
16 hours	G/B steel	≥ 200
24 hours	G/B steel	≥ 300
24 hours	PVC	441
24 hours	Polycarbonate	333
24 hours	FR4 Composite	1,500-2,500

* Note: Alternatively; 2 hours @ 60°C can be used for faster cure. Strength and hardness may vary with cure schedule.

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).

Storage
Tuffbond® 312 should be stored in a cool, dry location in unopened containers at a temperature between 45ºF to 85ºF (7ºC to 29ºC) 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.

Dispensing Equipment
Hernon® offers a complete line of semi and fully automated dispensing equipment. Contact **Hernon® Sales** for additional information.

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