

Tuffbond® 305

Hernon® Tuffbond® 305 is a modified epoxy adhesive that provides a very fast room temperature cure. **Tuffbond® 305** exhibits very good moisture chemical and heat resistance. This very fast cure epoxy adhesive is specially formulated for rapid in-line assembly of loud speakers. **Tuffbond® 305** is also recommended for bonding metals, wood, ceramics, etc., and can be used for potting and encapsulation of electrical and electronic components.

Typical Applications

- Bonding voice coil to cone
- Bonding pole piece to magnet
- Bonding alnico magnet to base
- Rapid curing structural and electrical repair kit
- Rapid curing laminates and “gel” coats
- Potting electronic boards
- Encapsulating electrical and electronic components

Product Benefits

- Fast at room temperature (about 4 minutes)
- Low shrinkage
- 100% reactive, non-solvent system
- Easy mixing ratio of resin and hardener
- No fuming on gelation

Typical Properties (Uncured)

Property	Part A	Part B
Base	Epoxy	Amine
Appearance	Clear	Lt Amber
Viscosity at 25°C, cP	10,000 to 16,000	12,000 to 18,000
Mix Ratio by Weight	1	1
Specific Gravity	1.17	1.13

Cured Speed vs Temperature

Shear Strength on steel lap-shear specimens tested at 22°C, according to ASTM D1002.

Cure Time	Temperature	% of Initial Strength
2 hours	22°C	30
4 hours	22°C	40
16 hours	22°C	42
24 hours	22°C	100
2 hours	45°C	100

Typical Properties (Cured)

Property	Value
Working Life at 22°C (100g), minutes	4 – 7 mins
Durometer Hardness, Shore D, ASTM D2240	80 - 90
Glass Transition Temperature, (Tg) °C	53
Coefficient of thermal conductivity, ASTM C 177, W/(m·K)	0.522
Coefficient of thermal expansion, ASTM D696 (K ⁻¹) :	
Below Tg	30 x 10 ⁻⁶
After Tg	230 x 10 ⁻⁶

Typical Cured Performance

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

Cure Time at 22°C	Substrate	Shear Strength (psi)
24 hours	GB Aluminum	1000 - 2000
24 hours	GB Steel	2000 - 3000

Typical Environmental Resistance

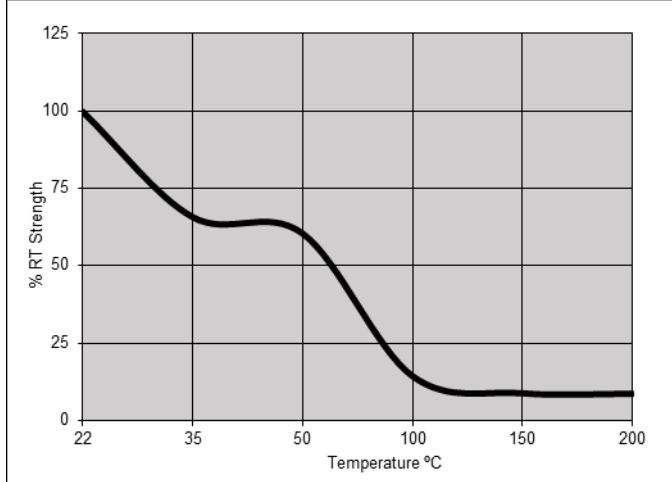
Shear Strength on steel lap-shear specimens tested according to ASTM D1002. Cured for 72 hours at 22°C.

Hernon® Technical Data Sheet

Tuffbond® 305

Hot Strength

Tested at temperature



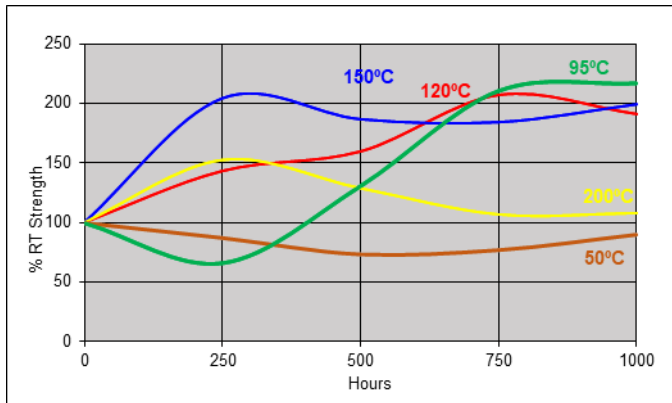
Dispensing Equipment

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

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.

Heat Aging

Aged at temperature indicated and tested at 22°C.



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® 305 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.