

## Technical Data Sheet HASA 716

May 2019

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### Product Description

**Hernon<sup>®</sup> HASA 716** is a single component structural anaerobic adhesive formulated for bonding rigid assemblies at high temperatures. **HASA 716** cures when it is confined between mating surfaces. **Hernon EF<sup>®</sup> Primer 50** accelerates the cure.

### Product Benefits

- Single component, ready to use adhesive.
- Room temperature cure.
- 100% active material, no solvents.
- Easy clean-up. Wipe uncured adhesive from outer surfaces.

### Typical Applications

- Bonding ferrite to plated metals in electric motors and loud speakers.
- Bonding of glass and ceramics.
- Where fast setting of adhesives with high structural properties is required.

### Typical Properties (Uncured)

Property	Value
Chemical Type	Modified urethane
Appearance	Amber liquid
Specific gravity @ 25°C	1.11
Viscosity @ 25°C, cP	2800-3200

### Typical Properties (Cured)

#### Physical Properties

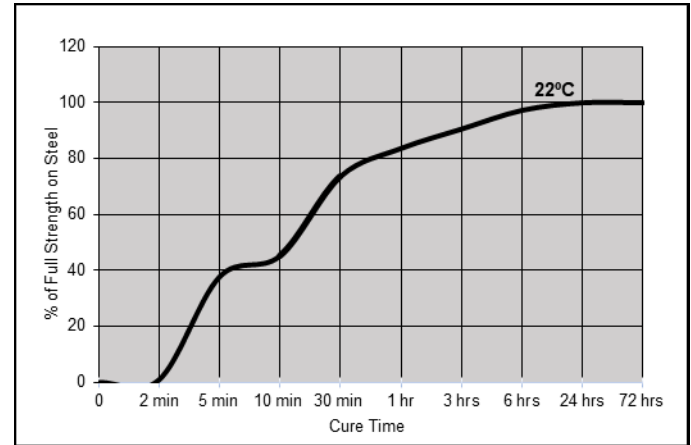
Property	Value
Glass Transition Temperature, (T <sub>g</sub> ) °C	102
Coefficient of thermal expansion, ASTM D696 (K <sup>-1</sup> ) :	
Below T <sub>g</sub>	5.6 x 10 <sup>-5</sup>
After T <sub>g</sub>	18 x 10 <sup>-5</sup>
Coefficient of thermal conductivity, ASTM C 177, W/(m·K)	0.40

### Typical Curing Performance

#### Cure Speed vs. Substrate

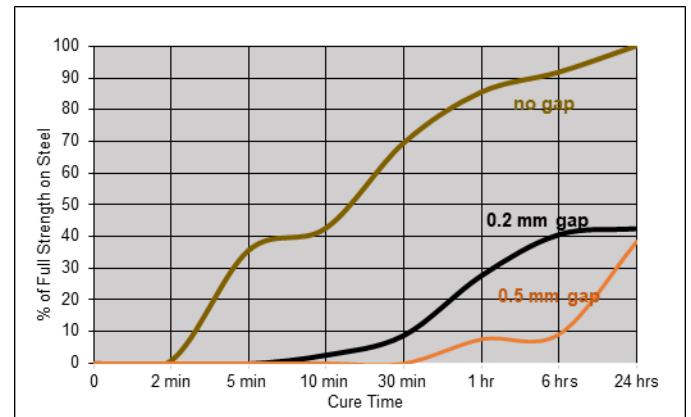
The rate of cure will depend on the substrate used. The graph below shows the shear strength developed with time on grit blasted steel lap shears and tested

according to ASTM D1002. (**EF<sup>®</sup> Primer 50** applied to one surface).



#### Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. The following graph shows the shear strength developed with time on grit blasted steel lap shears at different controlled gaps and tested according to ASTM D1002. (**EF<sup>®</sup> Primer 50** applied to one surface).



### Typical Cured Performance

Shear Strength, ASTM D1002  
Grit blasted lap-shear specimens

Cure at 22°C	Activation	Shear Strength (psi)
1 Hour	EF <sup>®</sup> Primer 50 - 2 sides of Steel	≥ 1000
24 Hours (0.20 mm Gap)	EF <sup>®</sup> Primer 50 - 2 sides of Steel	≥ 650
24 Hours	EF <sup>®</sup> Primer 50 - 1 side of Steel	1500-2500

24 Hours	EF® Primer 50 – 1 side of Aluminum	1000-2000
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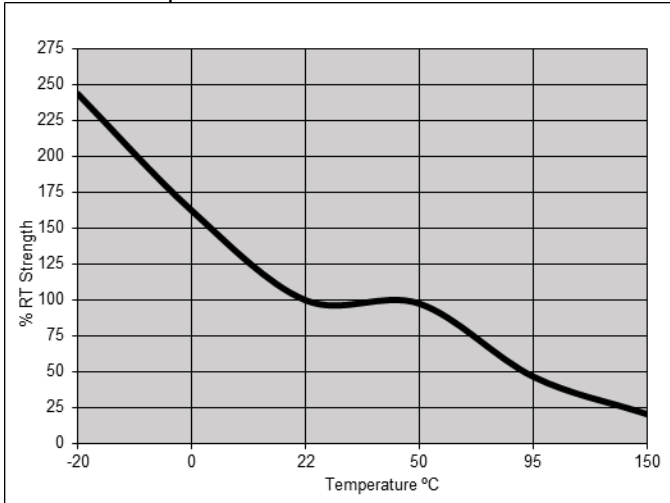
Gasoline	22	<10
Motor Oil	87	123
Humidity, 95% RH	45	95

**Typical Environmental Resistance**

Cured for 1 week @ 22 °C, EF Primer 50 on 1 side  
Shear Strength, ASTM D1002  
Steel (grit blasted)

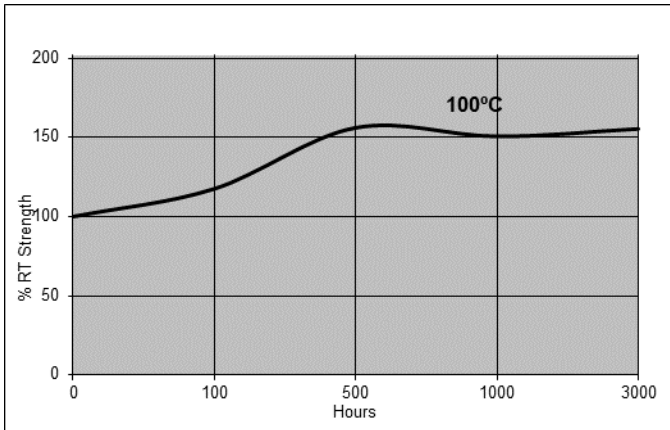
**Cold and Hot strength**

Tested at temperature



**Heat Aging**

Aged at temperature indicated - Tested at 72°F (22°C).



**Chemical/Solvent Resistance**

Aged under condition indicated for 720 hours.  
Tested at 72°F (22°C).

Chemical/Solvent	Temperature	% of Initial Strength
	(°C)	720hrs
Water Glycol 50/50	87	28
ATF	87	110
Hydraulic Fluid	87	<10

**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).

Where aqueous washing systems are used to clean the surfaces before bonding, it is important to check for compatibility of the washing solution with the adhesive. In some case, these aqueous washes can affect the cure and performance of the adhesive.

This product is not normally recommended for use on plastics (particularly thermoplastic materials where stress cracking of the plastic could result). It is recommended to confirm compatibility of the product with such substrates.

**Directions for Use**

1. For best performance, bond surfaces should be clean and free of grease.
2. To ensure a fast and reliable cure, EF® Primer 50 should be applied to one of the bond surfaces and the adhesive to the other surface. Parts should be assembled within 15 minutes.
3. The recommended bondline gap is 0.1 mm. Where bond gaps are large, (up to a maximum of 0.5mm), or faster cure speed is required, activator should be applied to both surfaces. Parts should be assembled immediately, (within 1 minute).
4. Excess adhesive can be wiped away with organic solvent.
5. Bond should be held clamped until adhesive has fixture.
6. Product should be allowed to develop full strength before subjecting to any service loads, (typically 24 to 72 hours after assembly depending on bond gap and materials).

**Storage**

HASA 716 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.

**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.