

Technical Data Sheet Dripstop[®] 946

December 2009

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Product Description

Hernon[®] Dripstop[®] 946 is a high performance adhesive/sealant specifically formulated for the sealing and mild locking of hydraulic and pneumatic threaded parts used with hydraulic and pneumatic equipment. Dripstop[®] 946 will seal pipe threads, standard nuts and bolts, fittings for hydraulic and pneumatic systems, air conditioners, fittings for refrigeration equipment, and all types of water and chemical processing valves and equipment, including steam up to 300°F.

Dripstop[®] 946 is a single component, thixotropic (non-migrating) anaerobic adhesive/sealant, which will provide a rapid cure at room temperature. Upon cure, Dripstop[®] 946 becomes a highly crosslinked thermoset plastic preventing leakage from shock, vibration as well as as corrosive liquids and atmospheres.

Product Benefits

- Effectively seals a wide range of industrial fluids and gases.
- Does not shrink or crack due to solvent evaporation. (100% solid system)
- Ready to use, single component.
- Room temperature cure.

Typical Properties (Uncured)

Property	Value
Resin	Dimethacrylate ester
Appearance	Brown liquid
Viscosity @ 25°C, cP	600
Specific gravity	1.13
Flash point	See MSDS

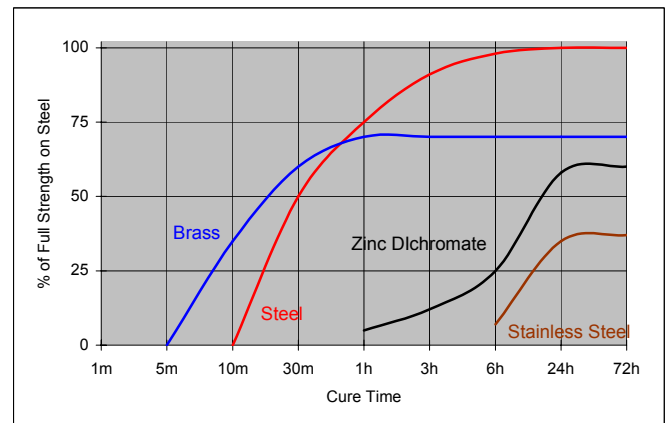
Typical Properties (Cured)

Property	Value
Coefficient of thermal expansion, ASTM D696, K ⁻¹	80 × 10 ⁻⁶
Coefficient of thermal conductivity, ASTM C177, W / m ^o K	0.1
Specific Heat, kJ/(kg·K)	0.3
Temperature Range, °C (°F)	-55 to 150 (-65 to 300)

Typical Curing Performance

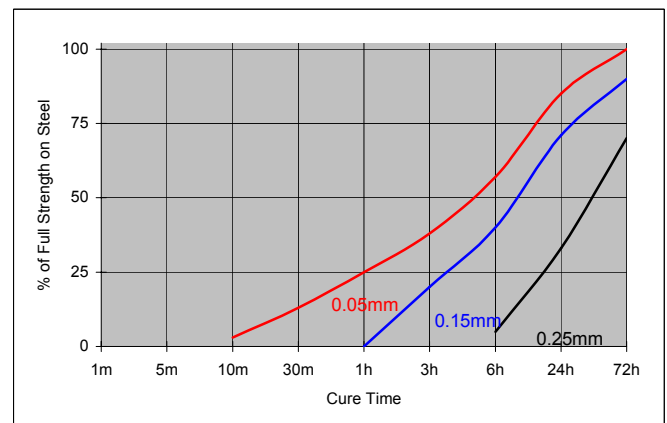
Cure Speed vs. Substrate

The rate of cure will depend on substrate used. The graph below shows the breakaway strength developed with time on M10 steel nuts and bolts compared to different materials and tested according to ISO 10964.



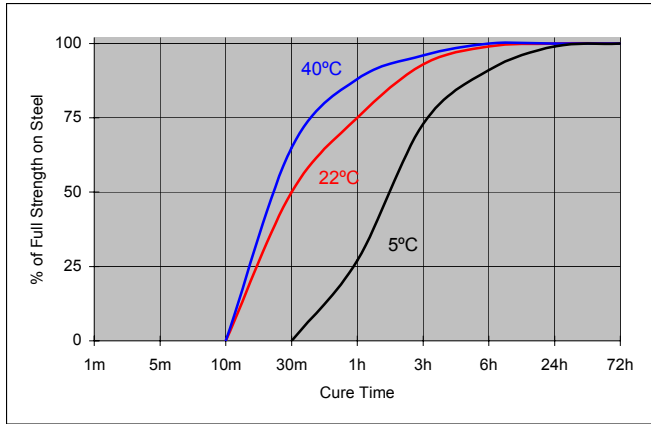
Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. Gaps in threaded fasteners depends on thread type, quality and size. The following graph shows shear strength developed with time on steel pins and collars at different controlled gaps and tested according to ISO 10123.



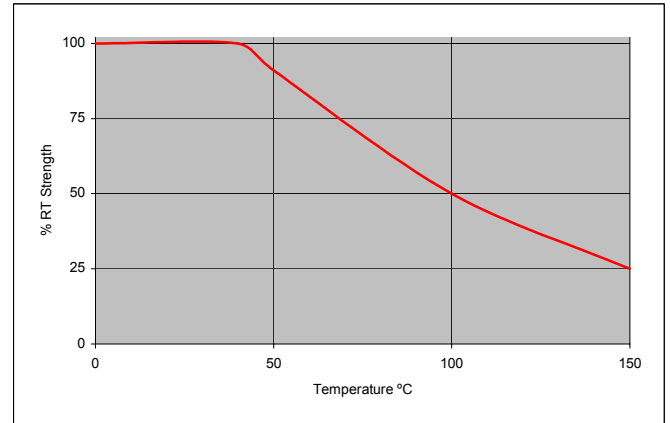
Cure Speed vs. Temperature

The rate of cure will depend on the ambient temperature. The graph shows the breakaway strength developed with time at different temperatures on M10 black oxide nuts and bolts and tested according to ISO 10964.



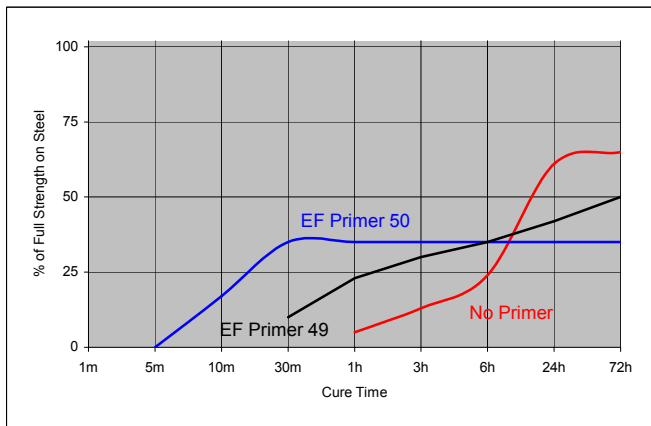
Hot Strength

Aged and tested at temperature indicated.



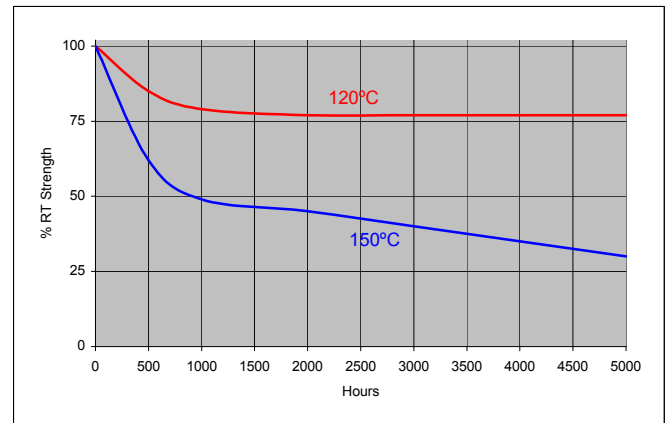
Cure Speed vs. Primer

When cure speed is unacceptably long (because of substrate, temperature or gap), performance may be improved by treating the surface with **Hernon® EF® Primer 49 or 50**. The graph below shows breakaway strength developed with time using **EF® Primer 49 and 50** on M10 zinc dichromate steel nuts and bolts and tested according to ISO 10964.



Heat Aging

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



Typical Cured Performance

Cured for 24 hours at 22°C on M10 steel nuts and bolts
Tested according to ISO 10964.

Torque Strength	Value, N•m (in-lb)
Breakaway	15 (130)
Prevailing	9 (80)
Breakloose - Pretorqued to 5 N•m	25 (220)
Max. Prevailing - Pretorqued to 5 N•m	25 (220)

Typical Environmental Resistance

Cured for 1 week @ 22°C
Breakloose Torque, ISO 10964, pretorqued to 5 N•m
M10 zinc phosphate steel nuts and bolts

Chemical/Solvent Resistance

Aged under conditions indicated and tested at 22°C.

Chemical/Solvent	Temp (°C)	% of Initial Strength		
		100 hr	500 hr	1000 hr
Water Glycol 50/50	87	90	90	90
Brake fluid	22	100	100	95
Ethanol	22	100	100	95
Unleaded Gasoline	22	100	100	95
Acetone	22	100	80	80
Motor Oil	125	100	100	100

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).

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 cases 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

Assembly

- For best results, clean all surfaces (external and internal) with a **Hernon®** cleaning solvent and allow to dry.
- If the material is an inactive metal or the cure speed is too slow, spray all threads with **Hernon® EF® Primer 49 or 50** and allow to dry.
- Apply a 360° bead of product to the leading threads of the male fitting, leaving the first thread free. Force the material into the threads to thoroughly fill the voids. For bigger threads and voids, adjust product amount accordingly and apply a 360° bead of product on the female threads also.
- Using accepted trade practices, assemble and wrench tighten fittings until proper alignment is obtained.
- Properly tightened fittings will seal instantly to moderate pressures. For maximum pressure resistance and solvent resistance allow the product to cure a minimum of 24 hours.

Disassembly and Cleanup

- Remove with standard hand tools.
- In rare instances where hand tools do not work because of excessive engagement length, apply localized heat to nut or bolt to approximately 250 °C. Disassemble while hot.
- Once disassembled, cured adhesive can be removed with **Hernon® Gasket Remover 30**.

Storage

Dripstop® 946 should be stored in a cool, dry location in unopened containers at a temperature between 46°F to 82°F (8°C to 28°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.