HERNON®
High Performance Adhesives and Sealants
ISO 9001 Registered

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Technical Data Sheet
Cylinlock® 822

Product Description

Hernon® Cylinlock® 822 is a high performance, single component, 100% active anaerobic adhesive/sealant formulated for dependable bonding of fitted cylindrical parts.

Cylinlock® 822 offers high strength as well as superior heat and chemical resistant bonding at room temperature.

Cylinlock® 822 is formulated for applications, which require superior strength with temperature resistance up to 300°F (149°C).

PRODUCT BENEFITS

- Increases reliability.
- Reduces coat.
- Cures at room temperature.
- Single component (no mixing).
- Allows relaxed tolerance.
- Prevents corrosion.
- Easily joins dissimilar materials
- Allows slip fits instead of press and interference fits.

Typical Applications

- Retaining pins, sleeves, gears, wheels, rotors, pulleys, fan on shafts, etc.
- Retaining keys in worn keyways.
- Mounting of bearings, bushings, sleeves, and plugs in housing.

Performance Testing

Each batch of **Cylinlock® 822** is tested to the lot requirements of MIL-R-46082B (Type I), and to the detail requirements of ASTM D5363 (AN0411).

Typical Properties (Uncured)

Property	Value
Chemical Type	Dimethacrylate Ester
Appearance	Green fluorescent liquid
Specific Gravity	1.07
Viscosity @ 25ºC, cP	100 to 150
Flash Point	See MSDS

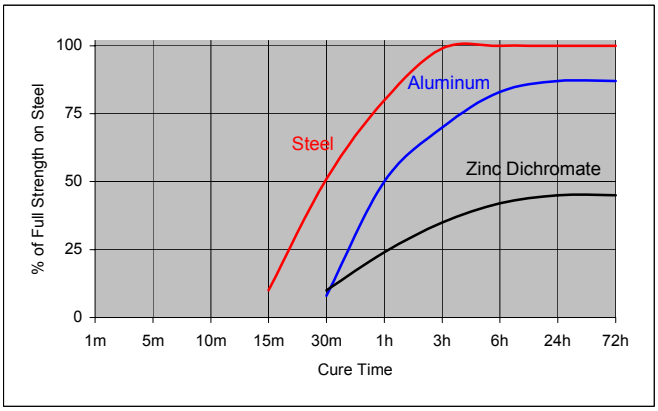
Typical Properties (Cured)

Property	Value
Coefficient of thermal expansion, ASTM D696, K^{-1}	100×10^{-6}
Coefficient of thermal conductivity, ASTM C177, W / m°K	0.1
Temperature Range, ºF	-65 to 300

Typical Curing Performance

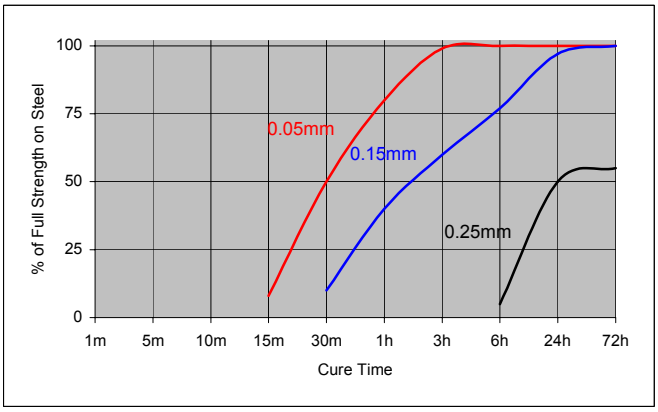
Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The graph below shows shear strength developed with time on steel pins and collars compared to different materials and tested according to ISO 10123.



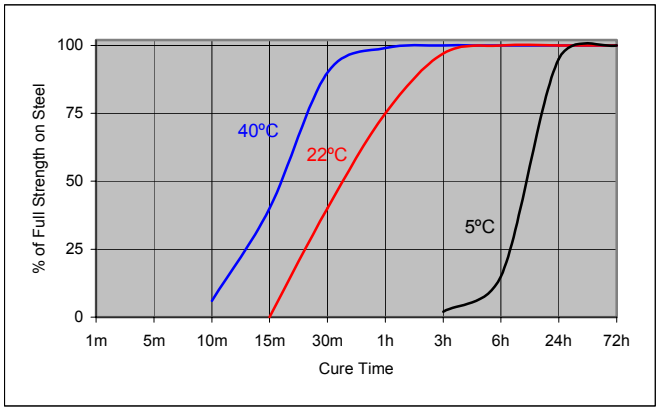
Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. The following graph shows shear strength developed with time on steel pins and collars at different controlled gaps and tested according to ISO 10123.



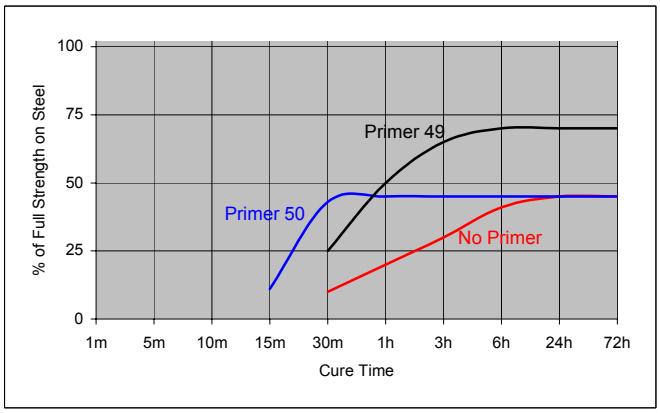
Cure Speed vs. Temperature

The rate of cure will depend on the ambient temperature. The graph shows the shear strength developed with time at different temperatures on steel pins and collars and tested according to ISO 10123.



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 shear strength developed with time using **EF® Primer 49 and 50** on M10 zinc dichromate steel pins and collars and tested according to ISO 10123.



Typical Cured Performance

Torque Strength

M10 black oxide nuts and bolts, cured 24 hours at 22ºC, tested according to ISO 10964

Torque	N•m(in-lb)
Breakaway	14.7 to 39.5 (130 to 350)
Prevailing	24.9 to 49.7 (220 to 440)
Breakloose Pretorqued to 5 N•m 45 in-lb)	39.5 to 59.9 (350 to 530)
Max. Prevailing Pretorqued to 5 N•m (45 in-lb)	39.5 to 59.9 (350 to 530)

Shear Strength

Steel pins and collars, cured 24 hours at 22ºC, tested according to ISO 10123

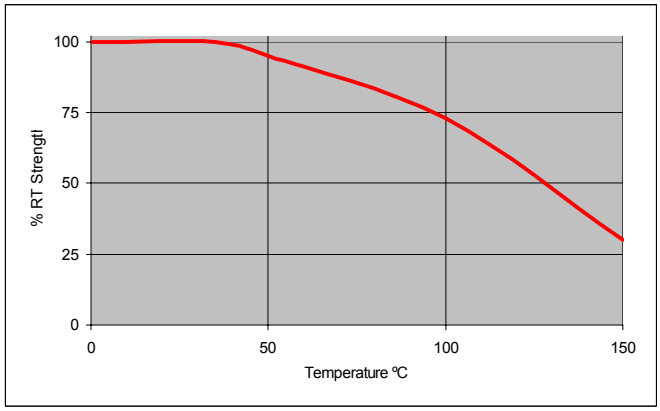
Shear Strength, N/mm² (psi)
> 15.2 (> 2200)

Typical Environmental Resistance

Shear Strength, cured for 1 week @ 22ºC steel pins and collars, tested according to ISO 10123

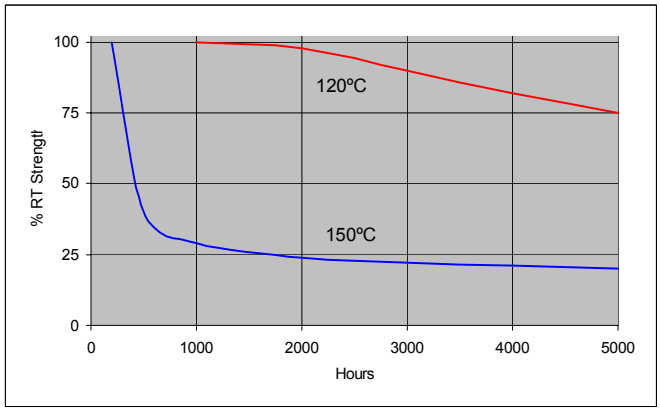
Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated - Tested at (22ºC).



Chemical/Solvent Resistance

Aged under condition indicated - Tested at 72ºF (22ºC).

Chemical/Solvent	Temp (ºC)	% of Initial Strength 100 h	500 h	1000 h
Water Glycol 50/50	87	100	85	80
Brake fluid	22	100	100	100
Ethanol	22	100	100	100
Unleaded Gasoline	22	100	100	100
Motor Oil	125	100	100	100
Acetone	22	100	100	85

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 cue 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
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 to slow, apply **EF® Primer 49 or 50** and allow to dry.

For Slip Fitted Assemblies, apply adhesive around the leading edge of the pin and the inside of the collar and use a rotating motion during assembly to ensure good coverage.

For Press Fitted Assemblies, apply adhesive thoroughly to both bond surfaces and assemble at high press on rates.

For Shrink Fitted Assemblies the adhesive should be coated onto the pin, the collar should then be heated to create sufficient clearance for free assembly.
Parts should not be disturbed until sufficient handling strength is achieved.

Disassembly and Cleanup
To aid in disassembly anaerobic compounds can be weakened by heating to at least 500ºF (260ºC). Once disassembled, cured adhesive can be removed with **Hernon® Gasket Remover 30**.

Storage
Cylinlock® 822 should be stored in a cool, dry location in unopened containers at a temperature between 46ºF to 82ºF (8ºC to 28ºC) 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.