

Technical Data Sheet Cylinlock[®] 842

January 2007

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Product Description

Hernon[®] Cylinlock[®] 842 is a high temperature, high strength anaerobic adhesive designed to retain and seal cylindrical assemblies. This compound will cure on metallic or non-metallic substrates and is suitable for exposure to most solvents and withstands temperatures of 450°F (232°C).

Typical Applications

- Heat exchanger tubes
- Engine cylindrical liners
- Brazed or soldered joints

Typical Properties (Uncured)

Property	Value
Resin	Dimethacrylate ester
Appearance	Green fluorescent liquid
Viscosity @ 25°C, cP	6000 to 8000
Specific gravity	1.15
Flash point	See MSDS

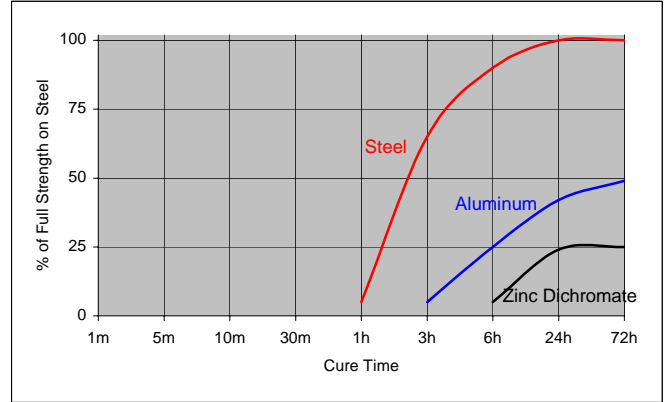
Typical Properties (Cured)

Property	Value
Coefficient of thermal expansion, ASTM D696, K ⁻¹	80 x 10 ⁻⁶
Coefficient of thermal conductivity, ASTM C177, W / m ^o K	0.1
Specific Heat, kJ/(kg·K)	0.3

Typical Curing Performance

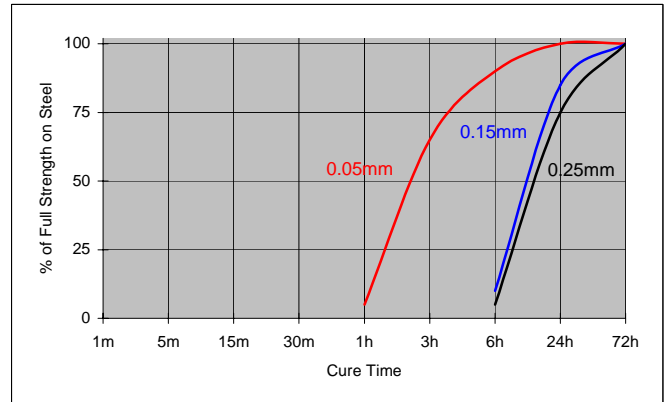
Cure Speed vs. Substrate

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.



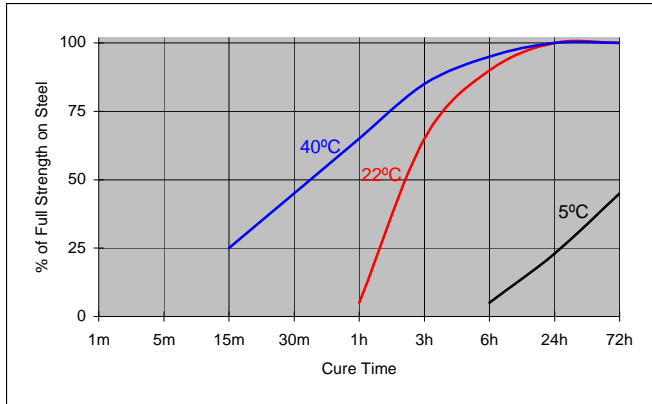
Cure Speed vs. Bond Gap

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 below shows the shear strength developed with time at different temperatures on steel pins and collars and tested according to ISO 10123.

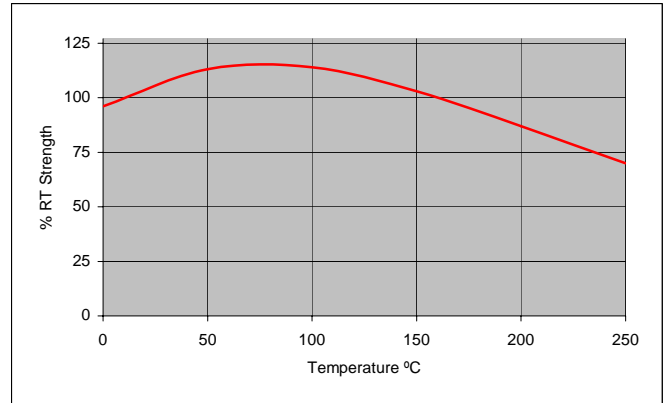


Typical Environmental Resistance

Cured for 1 week @ 22°C
 Shear Strength, ISO 10123
 Steel Pins and Collars

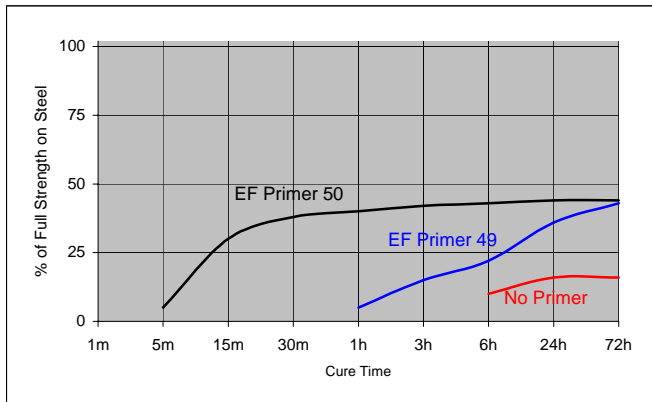
Hot Strength

Tested at temperature



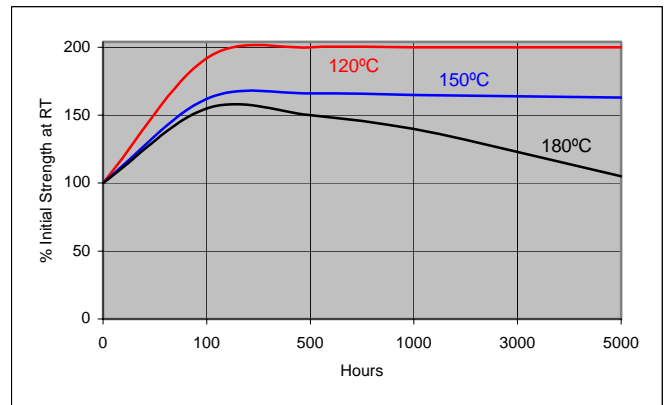
Cure Speed vs. Primer

Where cure speed is unacceptably long, or large gaps are present, applying primer to the surface will improve cure speed. The graph below shows shear strength developed with time using Heron® EF® Primer 49 and 50 on Zinc Dichromate steel pins and collars and tested according to ISO 10123.



Heat Aging

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



Typical Cured Performance

Shear Strength, ISO 10123
 Steel Pins and Collars

Cure Conditions	Shear Strength, N/mm ² (psi)
24 hours at 22°C	≥ 17.2 (≥ 2500)
24 hours at 22°C + 24 hours at 177°C, tested at RT	≥ 24.1 (≥ 3500)

Chemical/Solvent Resistance

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

Chemical/Solvent	Temp (°C)	% of Initial Strength		
		100 h	500 h	1000 h
Water Glycol 50/50	87	95	80	80
Brake fluid	22	100	100	100
Ethanol	22	100	100	75
Unleaded Gasoline	22	95	95	95
Motor Oil	125	100	100	100
Acetone	22	95	95	95

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

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 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 500°F (260°C). Once disassembled, cured adhesive can be removed with **Hernon® Gasket Remover 30**.

Storage

Cylinlock® 842 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 ISO9001:2000 Quality Standard.