

Technical Data Sheet Cylinlock[®] 827

December 2009

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Product Description

Hernon[®] Cylinlock[®] 827 is a single component anaerobic retaining adhesive for cylindrical joints. The product cures when confined in the absence of air between close fitting metal surfaces. This product develops medium strength to facilitate disassembly.

Typical Applications

Used to bond cylindrical fitting parts, particularly where disassembly is required for service operations. Applications included retention of bearings onto shafts and into housings.

Typical Properties (Uncured)

Property	Value
Chemical Type	Methacrylate ester
Appearance	Yellow fluorescent liquid
Specific Gravity	1.08
Viscosity @ 25°C, cP	400 to 800
Flash Point	See MSDS

Typical Properties (Cured)

Property	Value
Coefficient of thermal expansion, ASTM D696, K ⁻¹	0.1
Coefficient of thermal conductivity, ASTM C177, W / m ² K	0.1
Temperature range, °C, (°F)	-55 to 177 (-65 to 350)
Maximum diametral clearance, mm (in.)	0.18 (0.007)

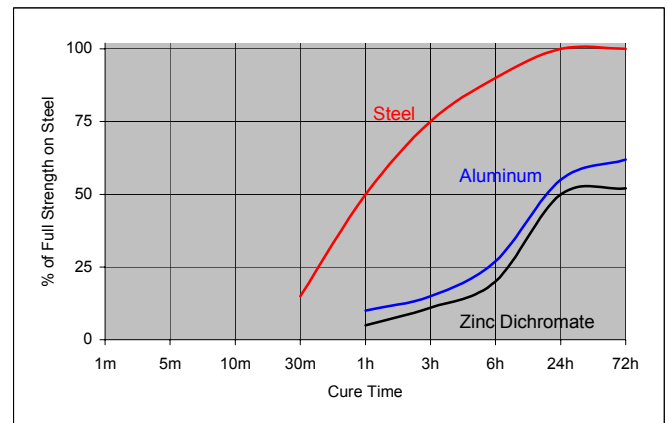
Curing Specifications

Curing occurs when the resin is confined between metallic surfaces. The metal acts as a catalyst for the curing process. On nonmetallic surfaces the use of **Hernon[®] EF[®] Primer 49 or 50** or heat is necessary to effect a cure. Hot air oven heat or induction heat will fully cure these compounds.

Typical Curing Performance

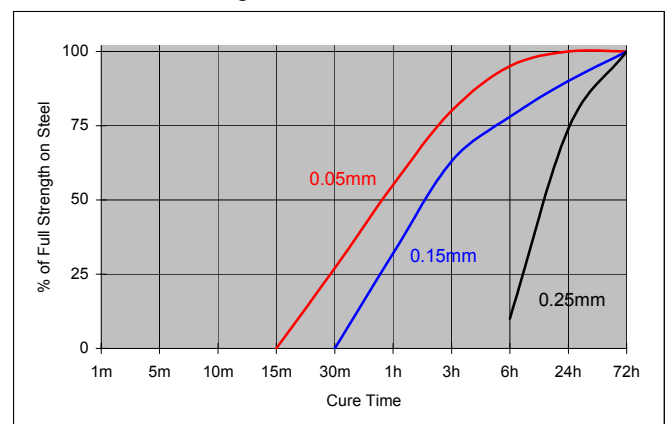
Cure Speed vs. Substrate

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.



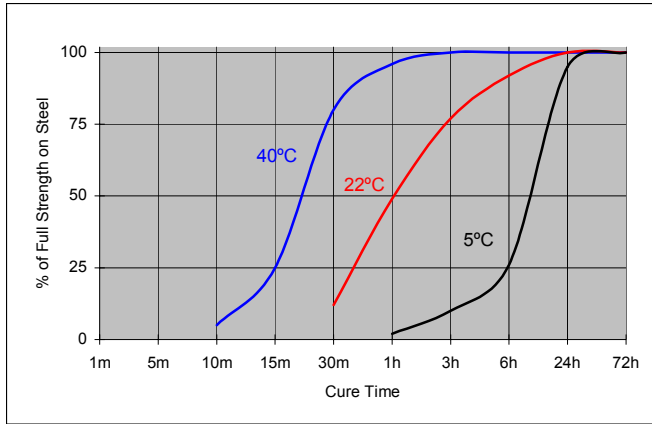
Cure Speed vs. Bond Gap

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.

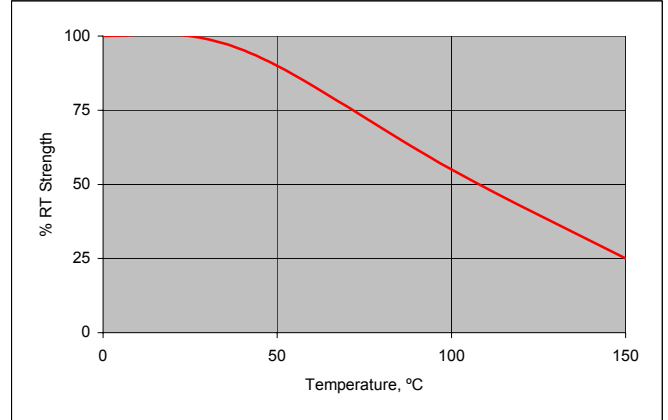


Cure Speed vs. Temperature

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.

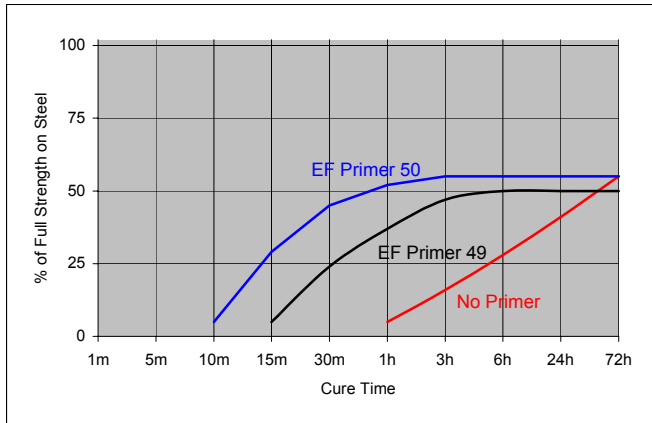


Hot Strength
 Tested at temperature



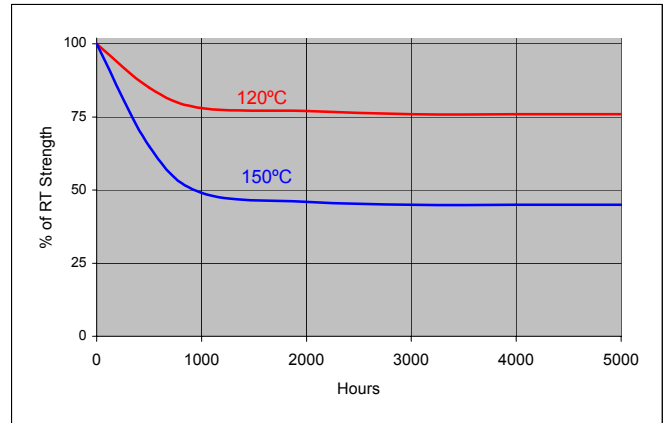
Cure Speed vs. Primer

Where cure speed is unacceptably long, or large gaps are present, applying primer to the surface will improve cure speed. The graph below shows the shear strength developed with time on zinc dichromate steel pins and collars using **EF® Primer 49 or 50** 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	>13.8 (>2000)

Typical Environmental Resistance

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

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	90	90	90
Brake fluid	22	100	100	100
Ethanol	22	100	100	100
Unleaded Gasoline	22	100	100	95
Motor Oil	125	95	95	90
Acetone	22	100	80	80

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 with **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® 827 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.