

Cylinlock® 824

Product Description

Hernon® Cylinlock® 824 is a general-purpose, single-component anaerobic adhesive designed for bonding cylindrical assemblies of various types. This low-viscosity, self-curing adhesive polymerizes in the absence of air when confined between ferrous or copper alloy metal surfaces. Once cured, it forms a durable thermoset plastic with excellent resistance to most solvents, making it well-suited for demanding industrial applications.

Typical Applications

- Retains keys and splines. eliminates backlash in worn assemblies.
- Retains bearings in place, preventing spin out.
- Retains rotor to shafts in fractional and sub-fractional horsepower motors.
- Retains bushing and sleeves in housings and on shafts.
- Augments press fits.
- Restores the fit to worn assemblies or out of tolerance parts.

Product Certification

Certified from NSF for NSF/ANSI Standard 61 for domestic hot water systems not exceeding 60°C (140°F).

Each batch of **Cylinlock® 824** is tested to the lot requirements of MIL-R-46082B (Type III), and to the detail requirements of ASTM D5363 (AN0421).

Product Benefits

- Enables the use of slip fits in place of press or interference fits
- Restores proper fit in worn or out-of-tolerance assemblies
- Facilitates easy bonding of dissimilar materials
- Eliminates the need to resize bushings due to deformation from pressing
- Replaces set screws for a cleaner, more secure assembly
- Prevents fretting and corrosion by fully sealing and reinforcing joints
- Enhances the strength and reliability of interference fits and mechanical assemblies

Typical Properties (Uncured)

Property	Value
Chemical Type	Methacrylate ester
Appearance	Green fluorescent liquid
Specific Gravity	1.09
Viscosity @ 25°C, cP	1,500 to 2,100
Flash Point	See SDS

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® 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 Cured Performance

Compressive Shear Strength
Tested at RT, on steel pins and collars according to ASTM D4562.

Cure Conditions	Shear Strength, psi
24 hours at 22°C	≥ 3,500

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 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.

Hernon® Technical Data Sheet

Cylinlock® 824

Directions for Use

In using **Cylinlock® 824**, several parameters must be considered:

- **Cleanliness**

Cylinlock® 824 relies upon keying into surfaces as well as chemical adhesion to develop its strength. Cleanliness is very important. If adhesive is applied to an oily or dirty substrate, ultimate strength will low and inconsistent. For best results, clean all surfaces (external and internal) with a **Hernon®** cleaning solvent and allow to dry.

- **Bondline Thickness**

Bondlines of .001" to .002" are ideal. Larger gaps result in lower strength. For large gaps, care must be taken to maintain concentricity. Fixtures are recommended since the adhesive provides minimal centering action.

- **Surface Finish**

Rougher surfaces generally produce higher strengths. For surface finishes below 20μ inches, cleanliness is extremely important for high strength. Surface finishes above 125μ inches create excessive gaps, which reduce strength. Tolerances cannot be maintained with rougher finishes. Recommended finish range is 30-80μ inches.

- **Materials to be Bonded**

Cylinlock® 824 cures best on iron and steel surfaces. For maximum strength on nonferrous metallic surfaces, passivated coatings, oxide coatings or for lower temperature or larger gaps, the use of **Hernon Primer 49 or 50** is recommended.

- **Bond Area**

When the engagement area between two parts exceeds 5 square inches, a size correction factor must be use. This is necessary since with large bond area force is not evenly distributed. The size of correction factor compensates for this uneven loading.

- **Operating Temperature and Differential Thermal Expansion**

At elevated temperatures, all adhesives experience a reduction in strength. If an assembly is to operate at an elevated temperature, heat aging must be accounted for. (Refer to section on Environmental Resistance) If thermal cycling occurs, heat aging data can then be used for accumulating total time at temperature.

Assembly

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 a solvent.

Storage

Cylinlock® 824 should be stored in a cool, dry location in unopened containers at a temperature between 46°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.