

Technical Data Sheet Self Locker 521

July 2006

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Product Description

Hernon[®] Self Locker 521 is a pre-applied, micro-encapsulated adhesive for threaded fasteners. **Self Locker 521** stays dry-to-the-touch until the shearing action of an engaging nut and bolt causes the capsules to break allowing the adhesive to cure. This material securely locks and seals against vibration loosening and fluid leakage.

Typical Applications

Locking & Sealing:

- Head bolts
- Truck Axle bolts
- Transmission nuts
- Pipe plugs and fittings

Product Benefits

- Improves reliability
- Prevents loosening of bolts due to vibration
- Seals against leakage
- Prevents threads from corroding
- Easily visible for inspection
- Pre-coated parts can be packaged and shipped in normal fashion
- Excellent solvent resistance

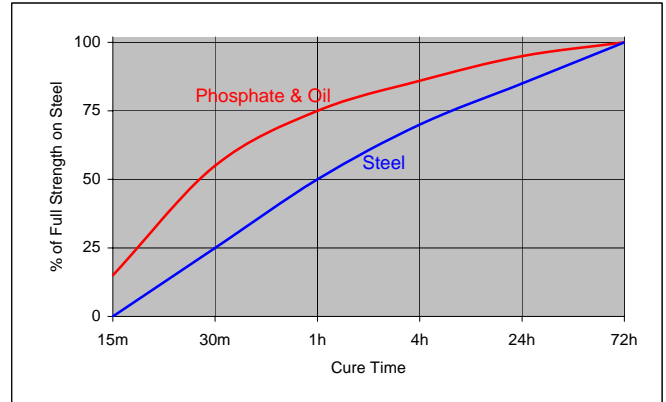
Typical Properties (Uncured)

Property	Value
Chemical Type	Dimethacrylate Ester
Color – Part A	Light Tan
Color – Part B	Yellow
Flash point	See MSDS

Typical Curing Performance

Cure Speed vs. Substrate

The graph below shows the rate of cure on 3/8 x 16 nuts and bolts made from different materials. Breakaway torque strength was determined and tested according to ISO 10964.



Typical Properties (Cured)

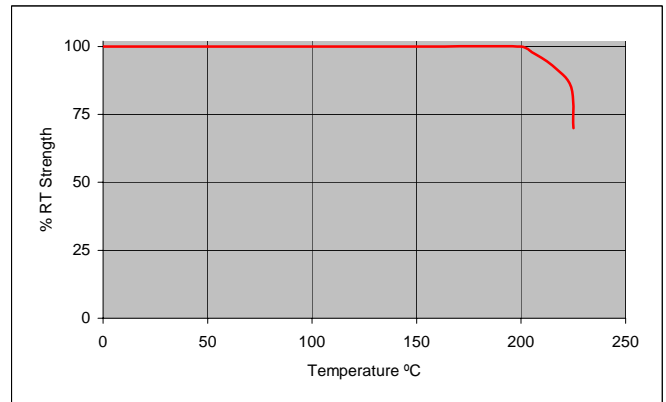
Property	Value
Breakaway Torque, in-lb	250
Temperature Range, °C (°F)	-54 to 204 (-65 to 400)
On Part Life, years	4
Cure Time at RT, hours	72
Fixture Time at RT, minutes	10

Typical Environmental Resistance

Cured for 72 hours at 22°C
Breakaway Torque, ISO 10964
3/8 x 16 phosphate & oil nuts and bolts

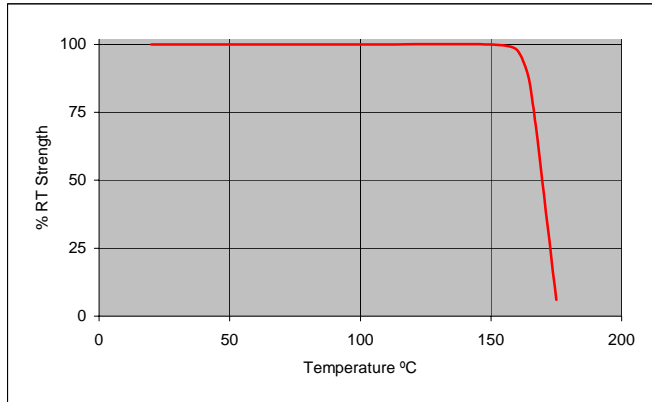
Hot Strength

Tested at temperature



Heat Aging

Aged 2000 hours - Tested at (22°C).



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
Motor Oil	125	120	95	85
Motor Oil	87	125	110	105
ATF	125	100	100	100
Gasoline	22	100	115	120
Brake fluid	22	100	105	115
Ethanol	22	100	110	110
1,1,1-Trichloroethane	22	105	115	110
Water Glycol 50/50	87	120	110	110

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.

Mixing Procedure

Self Locker 521 must be mixed with **Hernon® Activator 21** in order to obtain strength.

For small amounts: Add **Activator 21** to stock solution (Self Locker) and stir until well blended.

For larger amounts (1,000 grams and up): Place stock solution (self locker) on a mixer and begin mixing. Slowly add **Activator 21**. Mix approximately ten minutes.

Use the following mixing proportions: (Weights in grams)

Total Amt.	Part A	Part B	Activator 21
100	48.26	48.26	3.47
454	217.60	217.60	15.75
1000	482.60	482.60	34.70

Application

1. Make sure parts are clean.
2. Mix Self Locker with Activator as described above.
3. Application by Hand: Roll threads across a flat surface in material making sure to leave the lead threads clean and fill the rest of the thread roots completely.
4. Application by Machine: Adjust machine to keep lead threads clean and coat with a band width minimum of 1 inch diameter.
5. Dry as soon as possible after coating.
6. Dry for 15 minutes at 65°C. Do not allow coated parts to air dry. Do not over-dry parts.
7. Once cooled to room temperature coated parts may be stored or packaged but do not assemble until 24 hours after drying.

Storage

Self Locker 521 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.