

Technical Data Sheet Nuts N' Bolts[®] 410

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Product Description

Hernon[®] Nuts N' Bolts[®] 410 is a single component, low viscosity anaerobic adhesive/sealant designed especially for wicking applications. It has the ability to penetrate porous structures and cracks by capillary action, filling voids as large as 0.005 in.

Typical Applications

- Sealing porous welds on storage and fuel tanks.
- Sealing welded transformer housings.
- Sealing brazed and soldered joints on air conditioner coils, heater cores and piping system.
- Sealing porous die and sand castings such as engine blocks, manifolds and compressor parts.
- Sealing press fitted and other cylindrical assemblies where leakage is a problem.

Product Benefits

- Easy to use, one part, self hardening.
- Eliminates leakage through porosities and cracks.
- Reduces warranty costs by sealing microporosity not found during leak testing.

Performance Testing

Each batch of **Nuts N' Bolts[®] 410** is tested to the lot requirements of ASTM D5363 (AN0241), and meets the requirements of obsolete MIL-S-46163A (Type III Grade P).

Typical Properties (Uncured)

Property	Value
Chemical Type	Methacrylate Ester
Appearance	Blue fluorescent liquid
Specific Gravity	1.16
Viscosity @ 25°C, cP	10-30
Flash Point	See MSDS

Typical Cured Performance

Torque Strength

Cured 24 hours at 22°C, tested on M10 steel nuts and bolts according to ISO 10964. Results in N•m (in-lb)

Breakaway	Prevail
2.3-11.3 (20-100) Steel	2.3-11.3 (20-100)
1.1-11.3 (10-100) Plated	1.1-11.3 (10-100) Plated

Typical Environmental Resistance

Cured for 1 week @ 22°C

Breakloose Torque, ISO 10964, pretorqued to 5 N•m M10 zinc phosphate nuts and bolts

Chemical/Solvent Resistance

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

Chemical/Solvent	Temp (°C)	% of Initial Strength			
		100h	500h	1000h	5000h
Water Glycol 50/50	87	80	80	80	80
Brake fluid	22	95	95	95	90
Ethanol	22	95	95	90	90
Leaded Gasoline	22	95	95	95	95
Motor Oil	125	100	95	90	85
Acetone	22	100	90	90	90

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

Shake the product thoroughly before use. For best performance surfaces should be clean and free of grease. **Nuts N' Bolts® 410** should be applied to the bolt in sufficient quantity to fill all engaged threads.

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

Nuts N' Bolts® 410 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 9001:2008 Quality Standard.