

## Nuts N' Bolts<sup>®</sup> 410

### Product Description

Hernon<sup>®</sup> Nuts N' Bolts<sup>®</sup> 410 is a single component, low viscosity anaerobic adhesive/sealant designed especially for wicking applications. It can 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 micro porosity not found during leak testing.

### Performance Testing

Each batch of Nuts N' Bolts<sup>®</sup> 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	1.06
Viscosity @ 25°C, cP	10-30
Flash Point	See SDS

### Typical Properties (Cured)

Property	Value
Temperature Range, °F	-65 to 300
Set Time, Steel, minutes	45-60
Gap Fill	0.004 in.

### Typical Cured Performance

Tested on 3/8 x 16 grade 2 nuts and grade 5 bolts according to ASTM D5363. Cured and tested at 22°C

Cure	Substrate	Torque	Value N•m (in-lb)
15 Minutes	Steel	Breakaway	1.1-11.3 (10-100)
		Prevailing	1.1-11.3 (10-100)
24 Hours	Steel	Breakaway	2.3-11.3 (20-100)
		Prevailing	2.3-11.3 (20-100)
	Plated	Breakaway	1.1-11.3 (10-100)
		Prevailing	1.1-11.3 (10-100)

### Typical Environmental Resistance

#### Hot Strength

Cured for 24 hours at standard conditions,  
Heated to 121°C for 2 hours,  
3/8 x 16 Steel -Grade 2 Nuts and grade 5 Bolts  
Tested hot according to ASTM D5363

Substrate	Torque	N•m (in-lb)
Steel	Breakaway	≥1.1 (≥10)
	Prevailing	≥1.1 (≥10)

#### Heat Aging

Cured for 24 hours at standard conditions,  
Aged for 1000 hours at temperature and tested at room temperature, according to ASTM D5363,  
3/8 x 16 Steel -Grade 2 Nuts and grade 5 Bolts

Substrate	Temperature	Torque	N•m (in-lb)
Steel	121°C	Breakaway	≥1.1 (≥10)
		Prevailing	≥1.1 (≥10)

# Hernon® Technical Data Sheet

## Nuts N' Bolts® 410

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### 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.

### 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 45°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.