

Technical Data Sheet Nuts N' Bolts[®] 422

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Product Description

Hernon[®] Nuts N' Bolts[®] 422 is a medium strength, general purpose thread-locking compound, ideal for all nut and bolt applications. Especially well-suited for 1/4" or larger fasteners. Removable with hand tools. Curing occurs only when adhesive is confined between two mating surfaces. The cured adhesive is a thermoset plastic suitable for temperatures up to 300°F and exposure to most solvents.

Typical Applications

- Hydraulic piston nuts
- Rocker nuts
- Typewriter screws
- Railroad bolts on wear plates
- Carburetor adjusting screws
- Machinery keys
- Machine tool access bolts
- Conveyor roller bolts
- Gear box bolts
- Bearing cover cap screws
- Drive shaft fasteners
- Mounting bolts on motors, pumps, etc
- Shaft coupling bolts

Product Benefits

- High temperature resistance.
- Prevents movement of screw threads and eliminates self-loosening
- Seals against leakage
- Prevents rusting of threads
- Cures without cracking or shrinking

Performance Testing

Each batch of Nuts N' Bolts[®]422 is tested to the lot requirements of MIL-S-46163A (Type I Grade J), and to the detail requirements of ASTM D5363 (AN0231).

Typical Properties (Uncured)

Property	Value
Chemical type	Dimethacrylate ester
Appearance	Blue fluorescent liquid
Viscosity @ 77°F (25°C), cP	115-135
Specific gravity	1.06
Flash point	See SDS

Typical Properties (Cured)

Property	Value
Temperature Range, °F	-65 to 300

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	N _{em} (in-lb)
90 Minutes	Steel	Breakaway	5.6 to 11.3 (50 to 100)
		Prevailing	2.8 to 8.5 (25 to 75)
24 Hours	Steel	Breakaway	11.3 to 22.6 (100 to 200)
		Prevailing	3.4 to 22.6 (30 to 200)
	Plated	Breakaway	3.4 to 16.9 (30 to 150)
		Prevailing	2.3 to 22.6 (20 to 200)

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 _{em} (in-lb)
Steel	Breakaway	≥5.6 (≥50)
	Prevailing	≥2.8 (≥25)

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 _{em} (in-lb)
Steel	121°C	Breakaway	≥5.6 (≥50)
		Prevailing	≥2.8 (≥25)

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

For best performance surfaces should be clean and free of grease. **Nuts N' Bolts® 422** 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® 422 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 ISO9001 Quality Standard.