LOCTITE® N-5000™ High Purity Anti-Seize

April 2010

PRODUCT DESCRIPTION

LOCTITE® N-5000™ High Purity Anti-Seize provides the following product characteristics:

Technology	Anti-Seize
Chemical Type	Nickel-based
Appearance	Silver colored paste[LMS]
Components	One component - requires no mixing
Cure	Non-curing
Application	Anti-seize

LOCTITE® N-5000™ High Purity Anti-Seize is a nickel-based anti-seize lubricant, produced under 100% controlled conditions for the highest purity. It is formulated to have the lowest practical levels of halogens, sulfur and heavy metals, including copper. It has a general composition of nickel and graphite flake in petroleum carrier. All ingredients are selected for extreme purity. Typical applications include bolts, studs, valves, pipe fittings, slip fits and press fits in nuclear power generating plants, chemical plants, pharmaceutical plants, paper mills and other locations where stainless steel fasteners are used. During assembly, it prevents high friction, galling and seizing and promotes uniform and predictable clamping. During operation, the high purity prevents stress corrosion. During disassembly, it prevents seizing, galling and destruction of threads. This product is typically used in applications with an operating range of -29 °C to +1315 °C.

TYPICAL PROPERTIES

Specific Gravity @ 25 °C	1.12 to 1.27[LMS]
Unworked Penetration, ISO 2137, 1/10 mm	330 to 380[LMS]
Weight Per Gallon, lbs/gal	9.5 to 10.4
Flash Point - See MSDS	
Ionic Contaminants, ppm:	
Chloride	≤50[LMS]
Sulfur	≤100[LMS]
Lead	≤25[LMS]
Zinc	≤25[LMS]
Tin	≤25[LMS]
Cadmium	≤2[LMS]
Mercury	≤2[LMS]
Fluorine	≤200[LMS]
Copper	≤50[LMS]

TYPICAL PERFORMANCE

An anti-seize lubricant used on a bolt helps to develop greater clamp load for the same torque compared to an unlubricated bolt. An additional benefit is greater uniformity in clamp load among a series of bolts. The relationship between torque and clamp load is expressed in the following equation:

$$T = K \times F \times D$$

T = Torque (N·m, lb.in, lb.ft)
K = Torque coefficient or nut factor, determine experimentally
F = Clamp load (N, lb.)
D = Nominal diameter of bolt (mm, in.)

Torque coefficient, k:	
12.7 mm steel bolts (grade 8) and nuts (grade 5)	0.15
12.7 mm 304 stainless steel bolts (grade 8) and nuts (grade 5)	0.18
12.7 mm steel bolts (grade 8) and nuts (grade 5), solvent cleaned, not lubricated	0.27

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).

Directions for use:

1. Before or during assembly, wipe or brush onto threads and other joint surfaces needing protection.
2. Use full strength. Do not thin.

Loctite Material Specification[LMS]

LMS dated December 08, 2009. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Quality.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.
Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °C can adversely affect product properties. Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Note
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Reference 1.1