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Technical Data Sheet

LOCTITE® LB 8013™

Known as LOCTITE® 8013 or LOCTITE® N-7000™ Metal Free, High Purity Anti-Seize
January 2015

PRODUCT DESCRIPTION

LOCTITE® LB 8013™ provides the following product characteristics:

Technology	Anti-Seize
Chemical Type	Calcium Oxide/Graphite Based
Appearance	Dark gray paste[LMS]
Components	One component - requires no mixing
Cure	Non-curing
Application	Lubrication

LOCTITE® LB 8013™ is a specially formulated metal-free anti-seize lubricant, produced under 100% controlled conditions for the highest purity. It is formulated with high purity raw materials and contains only trace levels of halogens, sulfur, copper, aluminum and heavy metals. Developed to protect steel, stainless steel and other proprietary alloys. 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. It provides significant improvement in anti-seize performance and gives it more uniform torque tension. Typical applications includes bolts, valves, studs, pipe fittings, slip fits and press fits in nuclear electric power generating plants, chemical plants, pharmaceutical plants, paper mills and other locations where stainless steel fasteners are used. 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]
Penetration, ISO 2137, unworked, 1/10 mm	320 to 380[LMS]
Weight Per Gallon, lbs/gal	9.3 to 10.3
Flash Point - See SDS	
Ionic Contaminants, ppm:	
Chloride	≤50[LMS]
Fluorine	≤200[LMS]
Sulfur	≤100[LMS]
Lead	≤25[LMS]
Cadmium	≤2[LMS]
Tin	≤200[LMS]
Zinc	≤25[LMS]
Copper	≤50[LMS]
Mercury	≤5[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)	0.16
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 lubricant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Safety Data Sheet (SDS).

Handling precautions

LOCTITE® LB 8013™ contains calcium derivatives and may not be compatible with some lithium based products. Therefore, all areas of application must be thoroughly cleaned before applying.

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 April 01, 2010. 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.

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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:
The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.
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