

LOCTITE[®] SILVER GRADE ANTI-SEIZE

June 2014

PRODUCT DESCRIPTION

LOCTITE[®] SILVER GRADE ANTI-SEIZE provides the following product characteristics:

Technology	Anti-Seize
Chemical Type	Synthetic Grease
Appearance	Aluminum Silver Colored Paste ^{LMS}
Viscosity	Thixotropic
Cure	Non-curing
Application	Lubrication

LOCTITE[®] SILVER GRADE ANTI-SEIZE is a heavy-duty, high temperature, anti-seize lubricant that resists galling and corrosion and reduces wear in heavy pressure applications. This product is used to lubricate and to permit easy disassembly of assemblies exposed to high temperatures, heavy contact pressures in mines, power generation plants, pulp and paper plants, chemical plants, quarries, transportation, water treatment plants and general industry. Typical applications include boiler and oven parts, jet engines, studs, pumps, couplings, splines, bolts, bushings, pipes, flanges and industrial turbines. This product is typically used in applications up to 870 °C.

MIL-PRF-907

LOCTITE[®] SILVER GRADE ANTI-SEIZE meets the performance requirements of Military Specification MIL-PRF-907.

TYPICAL PROPERTIES

Specific Gravity @ 25 °C	1.0 to 1.3 ^{LMS}
Flash Point - See SDS	
Viscosity, Brookfield - RVT, 25°C, mPa·s (cP):	
Spindle TD, speed 2.5 rpm	121,000 to 258,000 ^{LMS}
Penetration, ISO 2137, worked, 1/10 mm	324
Penetration, ISO 2137, unworked, 1/10 mm	312
Drop Point, ISO 2176, °C	232
NGLI Grade	1
Timken OK Load, ASTM D2509, lbs	47
Timken Fail Load, ASTM D2509, lbs	52
Scar Width at failure, mm	0.83
Stress value at failure, N/mm ²	65

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:

3/8 x 16 steel nuts and bolts 0.18

Static Coefficient of Friction

The following information shows the static coefficient of friction between controlled mating surfaces subjected to a compressive stress that approximates the bearing stress acting on fastener threads under load (60% of proof for a 3/8-16 Grade 5 steel).

At -54°C (-65F)	0.043
At 20°C (68F)	0.077
At 870°C (1400F)	0.164

TYPICAL ENVIRONMENTAL RESISTANCE

Heat Aging

The following chart shows break and prevail torque values for plain steel 3/8-16 fasteners, degreased, coated, pre-torqued to 40 Nm (30 ft-lbs), held at noted temperatures for 24 hours, cooled to room temperature and disassembled. No signs of galling or seizing were visible.

Temperature (°C)	Break (N-m)	Prevail (N-m)
-55	270	6
22	264	6
535	96	7
760	262	160
870	132	89

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).

Directions For Use:

1. For best performance part surfaces should be clean and free of grease.
2. Apply a light coating to parts requiring lubrication, assemble.
3. Wipe away any excess compound.
4. **CAUTION:** LOCTITE® SILVER GRADE ANTI-SEIZE is not a high-speed load carrying lubricant and should not be used on ball or roller bearings, or on parts where lubrication is critical.

Loctite Material Specification^{LMS}

LMS dated October 2, 2002. 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 Henkel representative.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

Disclaimer

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Reference 0.0