



## Research, Development & Engineering

Tallaght Business Park,  
Dublin, Ireland

# Technical Data Sheet Product 767

October 1998

### PRODUCT DESCRIPTION

LOCTITE® Product 767 is a heavy-duty, high-temperature anti-seize thread compound applicable for heavy pressure applications. It can be used in high temperature areas up to 870°C (1600°F).

### TYPICAL APPLICATIONS

Product 767 is used to lubricate and to permit easy disassembly of assemblies exposed to high temperatures and heavy contact pressures, such as boiler and oven parts, jet engines, and industrial turbines.

### PROPERTIES OF MATERIAL

	Value	Typical Range
Chemical Type	Synthetic grease	
Appearance	Aluminium (silver) paste	
Specific Gravity @ 25°C	1.17 (base)	
Viscosity @ 25°C mPa.s (cP)		
Brookfield RVT, Helipath Spindle TD @ 5 rpm	200,000	150,000 to 250,000
Flash Point (TCC)		
Concentrate, °C (°F)	>93 (>200)	
Propellant, °C (°F)	-104 (-156)	
Particle Size(µm)	22.5	

### TYPICAL PERFORMANCE PROPERTIES

#### Static Coefficient of Friction

The following chart 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).

Temperature	Coefficient of Friction
-65°F (-54°C)	0.043
68°F (20°C)	0.077
1400°F (870°C)	0.164

#### Torque Tension

Tested on degreased 3/8x16 nuts & bolts in a Skidmore-Wilhelm apparatus. Data reported are the k-factors calculated from torque @ 5000 lbs tension.

**Lubricity "k" Factor** 0.18

### CAUTION

**Product 767 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.**

#### Torque vs. Elevated Temperatures

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

Temperature	Torque (in-Lbs)	
	Break	Prevail
-54°C (-65°F)	270	6
22°C (72°F)	264	6
537°C (1000°F)	96	7
760°C (1400°F)	262	160
870°C (1600°F)	132	89

### Corrosion Resistance

Degreased steel specimens (3/8-16 Grade 5 bolts) were treated with an even coating of Anti-seize and assembled into test blocks of aluminium and carbon steel drilled and tapped with 3/8-16 holes. A small amount of Anti-seize was applied under the bolt heads where high bearing stresses are present. The assemblies were placed in a 95°F condensing humidity salt fog chamber for 180 hours. After conditioning, the bolts were removed and inspected visually for corrosion both in the threads and under the bolt heads. There were no visible signs of corrosion on any of the treated specimens.

The product was tested for corrosive effects on plain copper strips. There was no sign of corrosion, discoloration, pitting or etching upon completion of the test.

### Physical Properties (Base)

	Value	Typical Range
Unworked Penetration (ASTM D-217)	312	325 to 299
Worked Penetration (ASTM D-217)	324	310 to 338
Dropping Point (ASTM D-217) °C	232	
NLGI Grade	1	

### Wear Resistance

Extreme pressure testing with a Timken Lubricant Tester (ASTM D2509) indicated Product 767 would resist seizure, scoring and wear under adverse pressure conditions. The test on Anti-seize consisted of a rotating spindle loaded and held constant for a ten-minute interval. If no scoring of the test block was noted, the load was increased and the test run.

The following chart shows the load at which failure occurred. The load at which failure occurs is then reported to be the fail load. The last acceptable load is considered to be the OK load, or non weld load

Load Type	Pressured Applied
OK load, lbs	47
Fail Load, lbs	52
Scar width at failure, mm	0.83
Stress value at failure, N/mm <sup>2</sup> (psi)	65 (9458)

### Torque, Galling and Seizing

Five (5) bolts, 3/4"-10 were pre-torqued to approximately 230 ft lbs. (based on elongation) then conditioned for three six hour cycles @ 1050°F with retorquing after each cycle. After heating, the entire block assembly was exposed to a 20% salt solution for seven days. Break torque didn't exceed 250 ft lbs. There was no seizing of any nuts during the test. There was no galling evident on the threads of the nuts or studs.

## 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 oxidising materials.

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

### Directions for use

1. For best results, ensure part surfaces are clean and free of debris.
2. Apply a light coating of product to parts requiring lubrication.
3. Assemble parts.
4. When part is assembled, wipe away any excess compound.

### Storage

Product shall be ideally stored in a cool, dry location in unopened containers at a temperature between 8°C to 28°C (46°F to 82°F) unless otherwise labelled. Optimal storage is at the lower half of this temperature range. To prevent contamination of unused product, do not return any material to its original container. For further specific shelf life information, contact your local Technical Service Centre.

### Data Ranges

The data contained herein may be reported as a typical value and/or range. Values are based on actual test data and are verified on a periodic basis.

### Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite Corporation's products. Loctite Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Loctite Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.