



KLONDIKE nano Calcium Sulfonate EP

PRODUCT DESCRIPTION

KLONDIKE nano Calcium Sulfonate EP Grease represents a technical breakthrough in grease design and performance. Innovative nanotechnology enhances the performance of this lubricant into an area previously unseen in the field of industrial grease products.

APPLICATIONS

KLONDIKE nano Calcium Sulfonate EP Grease is formulated for use in technical and demanding applications. Ideally suited to heavily loaded trucking, mining, agriculture, construction, and industrial equipment. This advanced formulation has proven to outperform traditional lithium and lithium complex greases due to its incorporation of calcium sulfonate and proprietary nanotechnology. These features provide superior performance under extreme EP conditions especially when exposed to damp conditions, high humidity, or where water ingress is unavoidable.

Typical applications for KLONDIKE nano Calcium Sulfonate EP Grease include (but are not limited to):

- Heavily loaded plain and anti-friction bearings and couplings subject to shock loading and exposed to wide ambient temperature range.
- High pressure, high temperature industrial applications where long service life and maximum protection is desired.
- Severely loaded pins and bushings on heavy equipment.
- Industrial and mobile equipment used in steel mills, paper mills, raw materials handling, or mining operations.



FEATURES AND BENEFITS

KLONDIKE nano Calcium Sulfonate EP Grease brings a unique, technically advanced grease offering to the industrial and heavy equipment market. Proprietary nanotechnology is presented into a commercial lubricant in the form of submicronic, multi-layered, spherical, closed caged particles of tungsten disulfide. These unique spherical nanoparticles show outstanding resistance to extreme temperatures (-270°C to 450°C), heavy shock loading (5,076,000 PSI) and extreme pressure (4,263,000 PSI). This heavy duty grease formulation is designed to operate in extreme operating conditions, including high and low temperatures, high pressure and high vacuum, high load, and in corrosive and wet environments.

As metal parts lubricated with KLONDIKE nano grease move against each other, the layers of tungsten disulfide particles exfoliate, laying down a protective layer and bonding to the wear surfaces under the most extreme pressure. This unique quality offers outstanding EP protection, extremely low wear rate, friction reduction, and reduced energy consumption.

The incorporation of this proprietary technology into a very stable, calcium sulfonate base produces a versatile grease offering extreme temperature performance, and outstanding resistance to oxidation, metal wear, and equipment and component downtime.

KLONDIKE nano Calcium Sulfonate EP Grease delivers value through the following features:



Fills in asperities and micro cracks – nanotechnology provides surface conditioning for maximum anti-wear protection.



Exfoliates layers under heavy load – nanoparticles lay down protective layers under extreme load conditions providing outstanding metal surface wear load protection.



Spheroidal nano molecules act as ball bearings – moving surfaces glide past each other with minimum friction and heat for optimized efficiency and low heat generation.



Hollow spherical structure – nanoparticles cushion heavy shock load for maximum component protection and long life.



Unique technical characteristics – advanced calcium sulfonate formulation with unique components ensures high performance and wide compatibility.



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FEATURES AND BENEFITS

The benefits of IFWS2 nanotechnological in a high-quality grease formulation can be summarized as follows:

- **Reduction in component wear** – lubricated components have greatly reduced wear rate.
- **Extended machinery life** – lubricated components last longer in service for maximum service life.
- **Extended maintenance intervals** – lubricated components last up to twice as long using the same amount of lubricant.
- **Reduction in equipment downtime** – less required scheduled or unscheduled maintenance increases hours of productivity and reduces overall cost of ownership.
- **Improvement in equipment output** – less friction between moving parts improves usable horsepower and torque.
- **Reduction in energy consumption** – less friction between moving parts allows machinery to operate at peak efficiency.

TYPICAL TECHNICAL PROPERTIES

PROPERTY	nano Calcium Sulfonate Complex EP 1	nano Calcium Sulfonate Complex EP 2
NLGI grade	1	2
Thickener Type	CaS Complex	CaS Complex
Penetration, worked	310 - 340	265 – 295
Timken OK load, lbs	65+	65+
4-Ball Weld Load (kg)	800 kg (>8000N)	800 kg (>8000N)
4-Ball Wear (mm)	0.4	0.4
Dropping Point, °C	300	316
Viscosity, cSt @ 40 °C	220	220
Viscosity, cSt @ 100 °C	30.8	30.8
Viscosity index	100	100
Copper Corrosion	1b	1b
Rust Prevention Test	pass	pass
Water Spray off, % loss	< 1.0 %	< 1.0 %
Oxidation stability @ 100 hours, PSI loss	< 1.0 %	< 1.0 %
Appearance	Smooth, tacky	Smooth, tacky
Color	Blue	Blue
Optimum operating temperature range, °C	-35 to 180	-30 to 200



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HEALTH AND SAFETY

This product is not expected to have adverse health implications when used for its intended application. For detailed information on safe handling of this product, refer to its Material Safety Data Sheet (MSDS). To obtain an MSDS on this or any other KLONDIKE product, please visit www.klondikelubricants.com or call 1-877-293-4691. When disposing of used product, be responsible to the environment.

DISCLAIMER

KLONDIKE takes no responsibility for product misuse or misapplication.

PRODUCT NUMBERS

nano Calcium Sulfonate EP 1	Tube: 397 G / 14 OZ	nKL-GR4630
	Pail: 15.9 KG / 35 LB	nKL-GR4680
	Keg: 54.5 KG / 120 LB	nKL-GR4685
nano Calcium Sulfonate EP 2	Tube: 397 G / 14 OZ	nKL-GR4830
	Pail: 15.9 KG / 35 LB	nKL-GR4880
	Keg: 54.5 KG / 120 LB	nKL-GR4885

BRAVING THE FORCE OF MOVEMENT

KLONDIKE stands for robust, reliable, high quality products tailored to suit the requirements of the on- and off-road heavy duty, automotive and industrial markets. Our solutions span from trend-setting retail lubricants through small-batch custom formulations to large bulk orders ready for immediate delivery.

The extensive KLONDIKE product range includes premium oils, lubricants, greases, chemicals and specialty fluids formulated with virgin base oils and protective inhibitors. Designed to handle the most extreme climates and operating conditions, the KLONDIKE products protect and extend the life of your equipment, optimize performance and improve productivity while meeting and exceeding industry standards and specifications.

KLONDIKE Lubricants Corporation

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