

PRODUCT INFORMATION



NANOLINE HLF UNIVERSAL **SMART LUBRICATING GREASES FOR GENERAL USE.**

The NANOLINE HLF UNIVERSAL family is a lubricating grease first manufactured in South America using NANOTECHNOLOGY. Product of more than three years of development, with international institutes, in the application of composite nanoscale in lubricants.

To be applied on them elements to lubricate, them particles nanometric of the product is activated tribologically to form layers of super lubricity and of high resistance to them impacts with which modifies them pairs of force of them surfaces in contact, reducing the friction and the temperature of work, allowing so, grant long life to them equipment, with the consequent economy for the user.

NANOLINE HLF UNIVERSAL, by its pumpability and resistance to low temperatures (- 25° C) can be applied in centralized, manual systems and spray.

Is recommended to lubricate all type of mechanisms exposed, shovels electromechanical, turntables, bearings, mangoes and zippers, etc.

NANOLINE HLF UNIVERSAL

Typical properties

PRODUCT	0	1	2	3	21A	2A
NLGI grade	0	1	2	3	21A	2A
SOAP base	Lithium Hydroxystearate					
Color	Dark					
Polymer additive	Synthetic					
Viscosity oil base @ 40°C, cSt	700	700	700	700	150	700
Flash point of the base oil	250	250	250	250	250	250
Dropping point, °C	---	185	190	190	188	190
Worked penetration, 60 hits @ 25°C	365	310/340	291	220/250	295*	291*
Oxidation Stability Test @ 100 hours	-5	-5	-5	-5	-5	-5
E.P.-4 ball test, loads of welding (kg)	>800	>800	>800	>800	>800	>800
Load wear index, (kg)	146	146	146	146	146	146
Lincoln pumpability test, Nominal psi (°C)	---	320(-11)	350(-11)	350(-11)	320(-11)	350(-11)
Copper corrosion test, 24 hours @ 100°C	1B					
Scour by wáter, % of loss @ 79°C	--	6.22	5.16	5.16	5.16	---
Protection against oxidation, ASTM 1743, A, B and C	Pass					
Protection against corrosion EMCOR, DIN 51802	0					

*Once applied.

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BENEFITS OBTAINED WITH THE APPLICATION OF NANOLINE HLF UNIVERSAL 2 Series:

- Decrease in the friction between parts in dynamic contact that can reach up to be 60% lower with respect to conventional fats. *This translates into a reduction in the energy required to power systems*
- To be applied in areas clean, free of other lubricant NANOLINE HLF UNIVERSAL develops a layer of nanoparticles, inorganic Fullerenes, which modify the torque from the parts in contact with respect to the coefficient of friction, texture and strength.
- For the reason indicated above, the new generated surface doesn't catch the ambient dust and parts remain clean to avoid damage and wear caused by the silica.
- It reduces the formation of metallic wear particles and increases the life of gears, breaks and bearing systems.
- Reduces wear by sliding parts by filing including Fullerenes in the form of thousands of small spheres that work, at the same time, like thousands of small bearings.
- Reduces noise and vibrations and decreases the temperature of operation of lubricated systems.

INFORMATION: In order to avoid any possible type of incompatibility, when you begin to use this new fat, take care to clean as much as possible the previous grease before applying UNIVERSAL HLF NANOLINE. Do not mix with inorganic fats.

The typical properties listed above are a guide for industrial use and should not be understood as manufacture and sale specifications.

For more information regarding safe handling and storage conditions, refer to the HDS's product.

SAP 127250/127249

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