

Grease Calcium Complex XL

Calcium complex based grease

Description

Specialty greases intended for the lubrication of roll mills bearings and generally for heavy loaded mechanisms operated under temperatures and water action.

Benefits

From the statistics on equipments in the steel industry, we can estimate that approx. 20% of the mechanical failures reported in a steel production plant are related to bearing problems. Consequently, if the different causes of a bearing failure are evaluated, we will reach the following conclusion :

Approx. 45% of the problems or failures detected in the bearings related to undebitted lubrication. When observing and analyzing the failed bearings, we can see that usually they present the following problems:

- Excessive wear
- Seizing
- Overheating
- Reduction of the useful life
- Corrosion
- Breakage
- Overloading

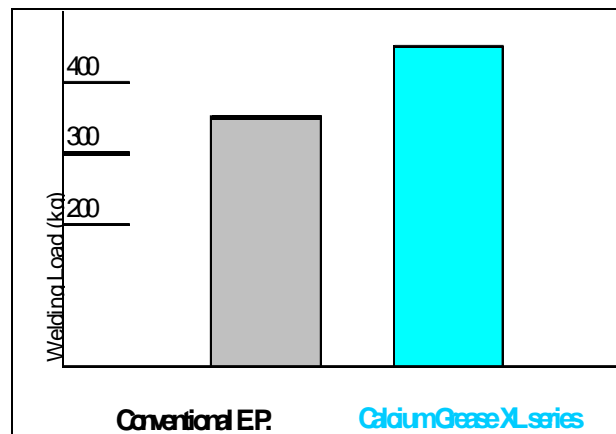
From the above it is easy to understand that optimizing the lubrication is a good way to reduce the failure and consequently to improve the whole operation of our equipments, reducing the production shutdowns, costs and maintenance, etc.

The conventional greases which are being used presently (multifunction type) either lithium or lithium-calcium greases, do not meet the whole technical requirements of a steel production equipment (hot rolling mill, continuous casting). This is the reason why it was

necessary to develop specific products for such kind of application:

Water resistance

The Calcium Complex XL greases show superior E.P. properties, i.e. the lubricating film built on the metallic surfaces will provide an excellent resistance to high and instant loads. Then the metal-metal contact will be avoided, consequently the typical seizing or grip page due to a poor lubrication will be avoided.



Temperature resistance

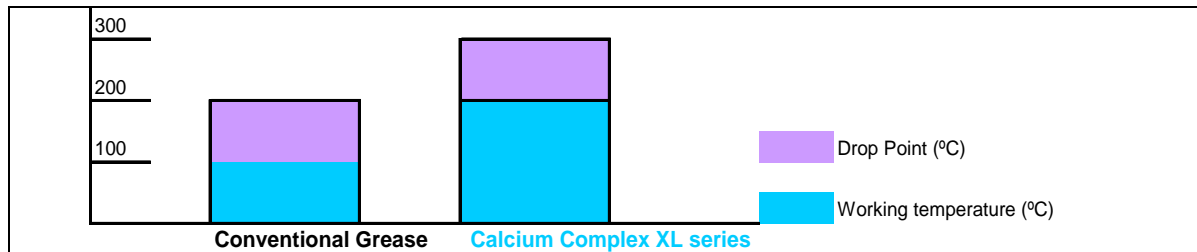
The lubricating capacity will depend as well on the temperatures to which the mechanism is exposed. A significant increase in temperature will reduce the thickness of the lubricant film and then the limit values will be exceeded (drop point), the oil will separate and lose its lubricating capacity.

The Calcium Complex XL series drop point is much superior to the conventional greases (lithium, lithium-calcium), maintaining outstanding lubrication conditions in a major temperatures range, even in emergency situation, when the cooling system is interrupted and consequently the temperatures in the bearings do increase.

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The very high viscosity of Calcium Complex XL series base oils will ensure a proper viscosity to the grease even at high temperatures, and will maintain a

constant lubricating film, which will avoid the overheating of the bearings and their breakage.



Resistance to water

One of the main characteristics of a bearing grease in a water cooled mill is to provide an outstanding sealing capacity and a very good water-resistance. Calcium Complex XL greases are provided with a good water resistance and consequently will avoid early changes of bearing due to bad lubrication, water presence or metal corrosion in the running path.

Lower costs

The special lubricating characteristics of Calcium Complex XL greases will allow to reduce the re-greasing frequency with respect to the conventional greases and therefore will decrease the grease consumption. An improved lubrication will reduce breakage and early changes in bearings, with the consequent saving and economical reduction. The reduction of failures due to lubrication will allow to get less stop of machines and less repairs, reducing the maintenance costs and production loss.

Typical performance data

	Test Method	XL 1	XL 2	XL 1X
Thickener		Calcium complex		
Base oil nature		Mineral	Mineral	Mineral
Penetration @ 25 °C, x 0,1 mm	ASTM D217	310-340	265-295	310-340
Drop point, min., °C	ASTM D566	250	250	250
Colour		Brown	Brown	Brown
NLGI class	DIN 51818	1	2	1
Penetration 60W, x 0,1mm	ASTM D217	310-340	265-295	10-340
4-ball wear test	IP-239			
<ul style="list-style-type: none"> • Welding load, kg • Wear scar diameter 1'/80 kg, mm 		400 0,6	450 0,6	400 0,6
EMCOR corrosion test	DIN 51802	0	0	0
Copper corrosion, 24hr/100 °C	ASTM D4048	1b	1b	1b
Oxidation stability, 100 °C max., kg/cm ²	ASTM D942	0,5	0,8	0,8
Water washout, 80 °C, %	ASTM D1264	0,5	0,3	0,4

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TECHNICAL DATA SHEET

Water resistance, 90 °C	DIN 51807	0	0	0
Speed factor		400.000	300.000	300.000
Operating temperatures, °C		-15 - 150	-10 - 150	-10 - 150