

Optipit

High performance bearing grease

Description

Castrol Optipit™ is a lithium soap based grease with an extremely high viscosity base oil containing the advanced Microflux Trans (MFT) additive package.

The Microflux Trans additive technology provides optimum wear protection and an extremely low coefficient of friction even under extremes of pressure, vibration, shock loads, at high or low speeds or varying micro-smoothing of the friction surfaces. Under severe load, components of the Microflux Trans additive combination are activated and diffuse into the surfaces initiating an improvement of their friction characteristics through plastic deformation.

The organic reaction products become a component of the tribopolymer system. Unlike the case with conventional lubricants, the tribopolymers formed by Microflux Trans are long-chained compounds with excellent lubricity and adhesion. The load carrying area is improved, a hydrodynamic lubrication film is easier to maintain. This unique physio-chemical reaction achieves a non-sacrificial micro-smoothing of the friction surfaces.

Application

Optipit is especially suited for rolling and sliding bearings in dusty and humid environments and builds up a stable grease collar at the bearing edges, supporting the seals to prevent penetration of dirt, water and other contaminations. Optipit enables a hydrodynamic lubricating film even at low speeds. Developed for lubrication of anti-friction and plain bearings running at low speeds requiring extremely high oil viscosity and operating in wet and dusty atmospheres found in applications such as:

- mining, especially open-pit mining
- the steel industry/tube mills under heavy shock loads and vibration
- equipment exposed to sea water, in harbours, and on ships and drilling platforms

Advantages

- Water and dirt repellent – the grease is still effective in adverse environments
- High load bearing capacity – extended operating period even under high loads and optimum wear protection
- Establishment of a protective layer of MFT – this additive system can effectively increase the load bearing area, thus reducing unit pressures, operating temperatures and wear, increasing service life of both parts and lubricant
- Improved bearing surfaces for longer service life result from the 'running in' effect of MFT
- Extremely low coefficients of friction – energy savings and reduced noise levels
- Good adhesion due to high oil viscosity – the film coating stays on the surface
- Reduction of running-in period

Typical Characteristics

Name	Method	Units	Optipit
Appearance	Visual	-	Brown
Thickener type	-	-	Lithium
Base Oil	-	-	Mineral oil
Consistency	ISO 2137/ASTM D217	NLGI grade	2.5
Density @ 20 °C/68 °F	inhouse method	kg/m ³	905
Worked Penetration (60 strokes @ 25 °C/77 °F)	ISO 2137/ASTM D217	0.1 mm	245-275
Worked Penetration (100,000 strokes @ 25 °C/77 °F) - change from 60 strokes	ISO 2137/ASTM D217	0.1 mm	max. 25
Dropping point	ISO 2176/ASTM D566	°C/°F	min. 250/ min. 482
Base Oil Viscosity @ 40 °C/104 °F	ISO 3104/ASTM D445	mm ² /s	1350
Rust Test - Emcor (distilled water)	ISO 11007/ASTM D6138	Rating	max. 0/1
Copper Corrosion (24 hrs, 100 °C/212 °F)	ASTM D4048	Rating	max. 1b
SRV Friction and Wear test - 5ae	ASTM D5707	coeff. of friction/wear scar diam (mm)	0.08/0.5
Oil Separation (168 hrs @ 40 °C/104 °F)	IP 121/DIN 51817	%wt	0.3
Flow pressure @ -20 °C/-4 °F	DIN 51805	hPa	700 - 1100
Water Resistance @90 °C	DIN 51807-1	Rating	0

Subject to usual manufacturing tolerances.

Additional Information

In order to minimise potential incompatibilities when converting to a new grease, all previous lubricant should be removed as much as possible prior to operation. During initial operation, relubrication intervals should be monitored closely to ensure all previous lubricant is purged.

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