Product Data

Tribol™ GR 100 PD Range

High performance bearing greases

Description

Castrol Tribol™ GR 100 PD (previously called Longtime™ PD) is a range of lithium based greases containing highly refined mineral oils, enhanced with the MicroFlux Trans (MFT) additive system.

The MFT 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 MFT additive combination are activated, initiating an improvement of surface friction characteristics through plastic deformation. The products of that organic reation become a component of the tribopolymer system.

Unlike the case with conventional lubricants, the tribopolymers formed by MFT are long-chained compounds with excellent lubricity and adhesion. This means that the load carrying area is improved and a hydrodynamic lubrication film is easier to maintain. This unique physio-chemical reaction achieves a non-sacrificial micro-smoothing of the friction surfaces.

Application

The Tribol GR 100 PD Range can be used for long term lubrication even under the most difficult operating conditions such as extreme pressure, vibrations, shock loads and a wide temperature range (-35°C to 140°C / -31°F to 284°F) in highly loaded rolling and sliding bearings. Typical applications include bearings of spinning and grinding spindles, gear motors exposed to shock loads, screening / wood shaping machines and bearing surfaces of printing plates.

These greases are also suitable for bearings with a rotating outer ring and undergoing high stresses due to centrifugal load. Examples are spreader rolls, roll neck bearings in steel mills, and bearings with changing rotational directions or slewing movements. They are also used in curved teeth couplings and centralised lubricating systems.

Tribol GR 100-0 PD and 100-00 PD can be used as semi-fluid grease lubricants in gears such as flange, drum-type and worm gears. These two products are also suitable for use in gears without oil-tight enclosures, gear wheels and rolling bearings with a grease reservoir

Advantages

Compared to conventional greases, the Tribol GR 100 PD Range provides the following advantages:

- High load bearing capacity – extends the operating period under high loads leading to optimum wear protection
- Superior lubrication and surface smoothing effects due to MFT can reduce failures, leading to less downtime and repair work. PD technology can prolong the life of damaged components
- Establishment of a protective layer of MFT – this additive system can effectively increase the load bearing area, 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 – generating energy savings and reduced noise levels
- Multi-functional – Tribol GR 100-0 PD and 100-00 PD are highly recommended for anti-friction bearings with grease reservoir and for leaky gearboxes.
- Easily pumpable in central lubrication systems – does not channel on gears running at high speeds when using 100-0 PD 0 and 100-00 PD

Typical Characteristics

Name	Method	Units	100-00 PD	100-0 PD	100-1 PD	100-2 PD
Appearance	Visual	-	Brown			
Thickener type	-	-	Lithium			
Base oil	-	-	Mineral oil			
Consistency	ISO 2137/ ASTM D217	NLGI Grade	00	0	1	2
Density @ 20 °C/68 °F	inhouse method	kg/m³	910	890	890	890
Worked Penetration (60 strokes @ 25 °C/77 °F)	ISO 2137/ ASTM D217	0.1 mm	400 - 430	355 - 385	310 - 340	265 - 295
Worked Penetration (100,000 strokes @ 25 °C/77 °F) - change from 60 strokes	ISO 2137/ ASTM D217	0.1 mm	-	-	<20	<20
Dropping point	ISO 2176/ ASTM D566	°C/°F	-	-	190/374	200/392
Base Oil Viscosity @ 40 °C/104 °F	ISO 3104/ ASTM D445	mm²/s	130	130	95	95
Copper Corrosion (24 hrs,100 °C/ 212 °F)	ASTM D4048	Rating	1b			
SRV Friction and Wear test (400N/ 2h/50 °C)	ASTM D5707	coeff. of friction/ wear scar diam (mm)	0.08/0.65	0.07/0.65	0.07/0.65	0.07/0.65
Flow pressure @ -35 °C/-31 °F	DIN 51805	hPa	500	1000	1100	1200
Water Resistance	DIN 51807-1	Rating	-		1 - 90	
DIN Classification	DIN 51502	-	KP 00 N-40	KP 0 N-40	KP 1 N-30	KP 2 N-30
ISO Classification	ISO 6743/9	-	L-XDDHB-00	LXDDHB-0	LXCDHB-1	LXCDHB-2

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, re-lubrication intervals should be monitored closely to ensure all previous lubricant is purged.

This product was previously called Longtime PD. The name was changed in 2015.

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