

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 reaction 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/m ³ | 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 | mm ² /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.

Tribol™ GR 100 PD Range

27 Apr 2015

Castrol, the Castrol logo and related marks are trademarks of Castrol Limited, used under licence.

This data sheet and the information it contains is believed to be accurate as of the date of printing. However, no warranty or representation, express or implied, is made as to its accuracy or completeness. Data provided is based on standard tests under laboratory conditions and is given as a guide only. Users are advised to ensure that they refer to the latest version of this data sheet. It is the responsibility of the user to evaluate and use products safely, to assess suitability for the intended application and to comply with all applicable laws and regulations. Material Safety Data Sheets are available for all our products and should be consulted for appropriate information regarding storage, safe handling, and disposal of the product. No responsibility is taken by either BP plc or its subsidiaries for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from hazards inherent in the nature of the material. All products, services and information supplied are provided under our standard conditions of sale. You should consult our local representative if you require any further information.

Castrol Industrial, Technology Centre , Whitchurch Hill , Pangbourne , Reading , RG8 7QR , United Kingdom

www.castrol.com/industrial