Product Data

Tribol™ GR 3020/1000 PD Range

High performance greases with TGOA

Description

Castrol Tribol™ GR 3020/1000 PD (previously called Tribol 3020/1000) is a range of greases formulated from highly refined petroleum base oils, a lithium thickener, and Tribol Grease Oil Additive (TGOA). The TGOA additive package outperforms all other Extreme Pressure (EP) and Anti-Wear (AW) additives because of its unique action on frictional surfaces.

The base oils are high-viscosity mineral oils forming a stable lubricant film to withstand high continuous loads, shock loads and vibrations. The TGOA additive package is activated by high specific loads and corresponding temperatures causing a chemical physical reaction. This results in an equalisation of surface roughness without creating abrasion.

The results of the TGOA additives can be compared with a rolling process in the micro-range. The surface roughnesses are gradually leveled and smoothed. In smoothing the working surfaces, the loads are distributed over increasing areas and the actual load carrying areas are enlarged. During the running-in process, the TGOA additive package creates an optimum of smooth contact surfaces. If, because of shock loads, or stop-and-go operation, surface roughness peaks redevelop, the TGOA additives are automatically reactivated. Surface roughness is again equalised and lubrication optimised. Corrosion and oxidation inhibitors help maximise effective rust protection and long life of the grease.

The Tribol GR 3020/1000 PD Range contains NLGI consistency grades commonly available for these types of lubricants.

Application

- Applications include large slow-speed bearings where the Tribol 3020/1000 PD greases provide a sufficient lubricating film due to their high base oil viscosity
- Typical applications for Tribol GR 3020/1000 PD fluid greases (NLGI 0,00,000) are non-oil-tight gear units, rolling and sliding bearings, bushings, slides and general lubrication designed for fluid-grease lubrication
- Tribol GR 3020/1000 PD grease (NLGI 1 &2) can be used for roller and sliding bearings, spindles, power train couplings (with exception to high speed precision couplings), carriages, cams and common grease points. They're commonly used in the steel, mineral compound, construction and mining industry
- Operating temperatures range from -40°C to +120°C/ -40°F and +248°F

Advantages

Compared to conventional greases, the Tribol GR 3020/1000 Range provides the following advantages:

- Excellent pumpability in central lubrication systems
- Repairs damaged friction surfaces (roughness) due to the TGOA additives
- Extends lubrication interval
- Reduces wear and noise
- Lowers operating temperatures
- Lowers downtime, therefore reducing maintenance and repair costs
- Optimum sealing effect, due to excellent adhesion of the grease

Typical Characteristics

Name	Method	Units	Tribol GR 3020/ 1000-2	Tribol GR 3020/ 1000-1	Tribol GR 3020/ 1000-0	Tribol GR 3020/1000-00	Tribol GR 3020/1000-000
Appearance	Visual	-	Homogeneous				
Thickener type	-	-	Lithium	Lithium	Lithium	Lithium	Lithium
Base Oil	-	-	Mineral Oil	Mineral Oil	Mineral Oil	Mineral Oil	Mineral Oil
Consistency	ASTM D217 ISO 2137	NLGI Grade	2	1	0	00	000
Worked Penetration (60 strokes @ 25°C / 77°F)	ASTM D217 ISO 2137	0.1 mm	265 - 295	310 - 340	355 - 385	400 - 430	445 - 475
Dropping Point	ASTM D566 ISO 2176	°C/°F	>175/ >350	>175/ >350	>160/ >320	-	-
Base Oil Viscosity @ 40°C / 104°F	ASTM D445 ISO 3104	mm²/s	>700	>700	>700	>700	>700
Base Oil Viscosity @ 100°C / 212°F	ASTM D445 ISO 3104	mm²/s	54	54	54	54	54
Rust Test (distilled water)	ASTM D1743	Rating	Pass	Pass	Pass	Pass	Pass
Rust Test - EMCOR (distilled water)	DIN 51802	Rating	≤ 0/1	≤ 0/1	≤ 0/1	≤ 0/1	≤ 0/1
Copper Corrosion (24 hrs,100°C /212°F)	ASTM D4048	Rating	1B	1B	1B	1B	1B
Four Ball Wear test - Wear Scar Diameter	DIN 51350-05E	mm	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Four Ball Weld Load test - Weld Point	DIN 51350-04A	N	3600/ 3800	3600/ 3800	3600/ 3800	3600/3800	3600/3800
SRV Friction and Wear test (300 N / 2hr / 50ºC)	ASTM D5707	coeff. of friction	0.08	0.08	0.08	0.08	0.08
Water Resistance	DIN 51807	Rating	1-90	1-90	1-90	test not suitable for semi-fluid greases	test not suitable for semi-fluid greases
Roll Stability Test - Shear Stability	ASTM D1831	0.1 mm	≤ 10	≤ 10	≤ 10	test not suitable for semi-fluid greases	test not suitable for semi-fluid greases
Flow pressure @ -20°C / -4°F	DIN 51805	mbar	350	250	100		

Flow pressure @ -35°C / -31°F	DIN 51805	mbar				700	500
Oil separation	DIN 51817	%	≤ 4	≤ 11			
Oil separation	ASTM D1742	%	≤ 3	≤ 3			

Subject to usual manufacturing tolerances.

Additional Information

Tribol GR 3020/1000 PD should not be mixed with greases using a different thickener.

Application may be made manually with grease guns or automatic dispensing systems designed for the respective NLGI grades.

This product was previously called Tribol 3020/1000. The name was changed in 2015.

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