



Castrol Tribol 4020

High performance bearing grease

Description

Castrol Tribol™ 4020 greases are formulated from highly refined petroleum base oils, a lithium complex thickener, and Tribol Grease Oil Additive (TGOA), the latest advancement in the field of friction reducing and surface improving additive technology. These multi-service greases are designed to extend the service life of bearings in heavy duty and elevated temperature applications. The load-carrying, anti-wear, and friction reducing capabilities of Tribol 4020 greases exceed conventional complex greases due to the advanced TGOA additive technology. Under relatively high specific loads and related temperatures, this technology promotes a non-destructive smoothing of surface roughness in the micro-range. This smoothing effect reduces friction and leads to an increase of the actual load-bearing surface. If surface roughness peaks redevelop because of shock loads or stop-and-go operation, the TGOA additive package automatically reactivates. Surface roughness is again smoothed and lubrication optimised.

Application

Tribol 4020 greases were formulated as multi-service lubricants for heavy duty applications of plain and anti-friction bearings under medium to high loads. The TGOA additives are very effective in protecting the machined surfaces of bearings during the critical 'running-in' period. Good bearing surfaces are essential for long bearing life. Tribol 4020 is commonly used as a plant wide lubricant in the automotive industry as well as industries where the preference is for a high performance non-dark grease.

Advantages

- Advanced TGOA additive technology – multiple benefits including reduced friction, temperatures and noise, increased load carrying ability, and superior surface protection
- Excellent water resistance – the coating film stays on the surface even in the presence of water
- Excellent mechanical stability and adhesion – the grease keeps its consistency in service ensuring long term protection and reduced consumption as film stays between lubricated surfaces
- Superior oxidation resistance – prevents corrosive activity on bearings in aggressive environments
- Formulated to address environmental concerns – it is free of antimony, barium, lead, and zinc

Typical Characteristics

Name	Method	Units	220-1	220-2	460-1	460-2
Appearance	Visual	-	Light amber	Light amber	Amber	Amber
Thickener type	-	-	Lithium complex	Lithium complex	Lithium complex	Lithium complex
Base oil	-	-	Mineral oil	Mineral oil	Mineral oil	Mineral oil
Consistency	ISO 2137 / ASTM D217	NLGI Grade	1	2	1	2
Density @ 20°C / 68°F	ASTM D4052	kg/m ³	920	916	-	908
Worked Penetration (60 strokes @ 25°C / 77°F)	ISO 2137 / ASTM D217	0.1 mm	310-340	265-295	310-340	265-295
Dropping Point	ISO 2176 / ASTM D566	°C/°F	240/464	240/464	240/464	240/464
Base Oil Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D 445	mm ² /s	220	220	460	460
Base Oil Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D 445	mm ² /s	19	19	28.5	28.5
Flash Point - open cup method	ISO 2592 / ASTM D92	°C/°F	225/437	225/437	232/450	232/450
Rust Test (distilled water)	ASTM D1743	Pass	Pass	Pass	Pass	Pass
Rust Test - EMCOR (distilled water)	ISO 11007 / ASTM D6138	Rating	0/0	0/0	0/0	0/0
Copper Corrosion (24 hrs, 100°C / 212°F)	ASTM D4048	Rating	1b	1b	1b	1b
Four Ball Wear test - Wear Scar Diameter (40 kgf / 75°C / 1200 rpm / 1 hr)	ISO 51350 / ASTM D2266	mm	0.5	0.5	0.5	0.5
Four Ball Weld Load test - Load Wear Index	ISO 11008 / ASTM D2596	-	80	80	80	80
Four Ball Weld Load test - Weld Point	ISO 11008 / ASTM D2596	kgf	400	400	400	400
Four Ball Wear test - Wear Scar Diameter	DIN 51350-5E	mm	0.7	0.7	0.7	0.7
Four Ball Wear test - Weld Load	DIN 51350-4A	N	4200/4400	4200/4400	4200/4400	4200/4400
Timken OK Load	ASTM D2509	kg / lbs	23/50	23/50	23/50	23/50
SRV Friction and Wear test (300 N / 2 hr / 50°C)	ASTM D5707	coeff. of friction	0.08	0.08	0.08	0.08
FE-9 Bearing Life test - A/1500/6000-140	DIN 51821-2	Pass	>100	>100	-	>100
Water Wash-out @ 79°C/175°F	ISO 11009 / ASTM D1264	%wt loss	4	4	4	4
Water Resistance	DIN 51807-1	Rating	1	1	1	1
Roll Stability test - Shear Stability	ASTM D1831	0.1 mm	10	10	10	10
Flow pressure @ -20°C / -4°F	DIN 51805	mBar	500	850	1150	1300
DIN Classification	DIN 51502	-	KP 1 N-30	KP 2 N-30	-	KP 2 N-20
ISO Classification	ISO 6743/9	-	L-XBDHB-1	L-XBDHB-2	-	L-XBDHB-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.

Castrol Tribol 4020
02 Aug 2012
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