



Product Data

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 optimized.

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

Test	Method	Units	Tribol 4020/220-1	Tribol 4020/220-2	*Tribol 4020/460-1	Tribol 4020/460-2
Appearance, Visual	-	-	Light amber	Light amber	Amber	Amber
Thickener Type	-	-	Lithium complex	Lithium complex	Lithium complex	Lithium complex
Base Oil Type	-	-	Mineral oil	Mineral oil	Mineral oil	Mineral oil
NLGI Grade	-	-	1	2	1	2
Density @ 20°C/68°F	ASTM D1475	g/ml	0.920	0.916		0.908
Worked Penetration, 60 Strokes @ 25°C/77°F	ISO 2137 ASTM D217	0.1mm	310-340	265-295	310-340	265-295
Dropping Point	ISO 2176 ASTM D2265	°C/°F	240/464	240/464	240/464	240/464
Base Oil Viscosity @ 40°C/104°F @100°C/212°F	ISO 3104 ASTM D 445	mm ² /s	220 19	220 19	460 28.5	460 28.5
Base Oil Flash Point	ISO 2592 ASTM D92	°C/°F	225/437	225/437	232/450	232/450
Rust Test, 48 hrs @ 52°C/126°F	ASTM D1743	Rating	Pass	Pass	Pass	Pass
Corrosion Protection (SKF Emcor)	ISO 11007 ASTM D 6138	Rating	0/0	0/0	0/0	0/0
Copper Corrosion, 24 hrs, 100°C/212°F	ISO 2160 ASTM D4048	Rating	1b	1b	1b	1b
Four Ball Wear Test (1 hr, 40 kg, 1200 rpm, 75°C/167°F), Scar Diameter	ASTM D2266	mm	0.5	0.5	0.5	0.5
Four Ball EP Test Load Wear Index Weld Load	ASTM D2596	kg	80 400	80 400	80 500	80 500
Four Ball Wear, (1000 N, 1 min) Scar Diameter	DIN 51350-5E	mm	0.7	0.7	0.7	0.7
Four Ball EP Test, Weld load	DIN 51350-4	N	4200/4400	4200/4400	4200/4400	4200/4400
Timken EP Test, OK Load	ASTM D2509 IP 326	kgs/lbs	23/50	23/50	23/50	23/50
SRV Test, 50°C, 300 N, 2 hrs, Coefficient of Friction	ASTM D5707 DIN 51834-02	--	0.08	0.08	0.08	0.08
FAG FE9 test (A/1500/6000-140), F ₅₁	DIN 51821-02	hrs	> 100	> 100		> 100
Water Washout @ 79°C/175°F	ASTM D1264	% loss	4	4	4	4
Water Resistance, 90°C/194°F, 3h	DIN 51807-1	Rating	1	1	1	1
Roll Stability, 2 hours, 25°C/77°F, Penetration Change	ASTM D1831	% change	10	10	10	10
Flow Pressure @ -20°C	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

*Currently available in US, Canada and Mexico. Please contact your local Castrol representative to check availability in other areas.

Subject to usual manufacturing tolerances.

Additional Information

In order to minimize 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.

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