Product Data

Optigear Synthetic™ 1510/320

Synthetic gear oils

Description

Castrol Optigear Synthetic™ 1510/320 (previously named Tribol™ 1510/320) gear oil with TGOA represent a significant advancement in gear oil technology. TGOA is an oil additive package designed to reduce friction while providing surface improvement and protection. The TGOA additive package can outperform most other EP and anti-wear additives because of its unique action on friction surfaces.
The synthetic base fluid in these gear oils is a polyalphaolefin which can be used in a temperature range from - 45 °C to +120 °C.

The TGOA additive package is activated by relatively high specific loads and corresponding temperatures, causing a chemical-physical reaction. This results in an equalization of surface roughness without creating abrasion. This process can be compared with a rolling process. The surface roughness is gradually leveled and smoothed. Through smoothing of the working surfaces the actual load carrying area is enlarged. During the running-in process, the TGOA package creates an optimum of smooth contact surfaces. If, because of shock loads or stop- and-go operation, surface roughness peaks redevelop, the TGOA additive package is automatically reactivated. Surface roughness is again smoothed and lubrication optimized.
Optigear Synthetic 1510 gear oil is available in viscosity grade of 320

Application

Optigear Synthetic 1510/320 gear oil may be used in a temperature range from -45°C to +120°C. It is most valuable during the running-in process as well as in applications where the surfaces have already been damaged in the micro-range.
Typical applications are spur, helical, herringbone, bevel and planetary gears. They are also used in geared couplings, rolling and sliding bearings as well as in gear drive circulating systems.

Advantages

- Considerable decrease in maintenance costs by prolonged service life of lubricant and machine parts
- The excellent friction reducing characteristics are demonstrated through the results of the FZG test (damage load stage > 14)
- Micropitting load capability: high (stage 10)
- Regenerating of damaged friction surfaces on a micro-scale range
- Reduced friction and consequently reduced wear
- Reduced operating temperature
- Lower noise level
- Longer life of gearings and bearings
- Running-in oils or additives may no longer be required
- Preventing and stopping of running-in pittings – if not caused by faulty design or heavy loading of gears due to synthetic base fluid excellent oxidation stability ensures the formation of a pressure-stable lube film over a wide temperature range thus providing excellent anti-wear protection

Berreteaga N°6, A, 48150, Sondika (Bizkaia) · mendoza@comercialmendoza.es

Expertos en lubricación industrial y automoción

Experts in industrial and automotive lubrication

Typical Characteristics

Name	Method	Unit	Optigear Synthetic 1510/320
ISO Viscosity Grade	-	-	320
Density @ 15°C / 59°F	ASTM D4052 / ISO 12185	kg/m³	864
Kinematic Viscosity @ 40°C / 104°F	ASTM D445 / ISO 3104	mm²/s	330
Kinematic Viscosity @ 100°C / 212°F	ASTM D445 / ISO 3104	mm²/s	33.2
Viscosity Index	ASTM D2270 / ISO 2909	-	142
Flash Point - open cup method	ASTM D92 / ISO 2592	°C/°F	255/491
Pour Point	ASTM D97/ ISO 3016	°C/°F	-39/-38
FZG Gear Scuffing test - A/8.3/90	ISO 14635-1	Failure Load Stage	>14
FZG Micropitting test @ 60°C/140°F	FVA 54-7	Failure Load Stage / Micropitting Rating	>10
Foaming Properties Sequence I, II, III	ISO 6247	ml	50/0

Subject to usual manufacturing tolerances.

Additional Information

Optigear Synthetic 1510/320 synthetic gear oil is compatible with mineral oils and esters. Traces (up to 3%) of previous oil in the gear case after draining will not pose any problems. However, the beneficial effects of the TGOA additives are reduced, when Optigear Synthetic 1510/320 oil are mixed with other gear oils.
Optigear Synthetic 1510/320 oil is not compatible with polyglycols. After draining a polyglycol fill, the gear case must be flushed well with a mineral oil or flushing oil.

This product was previously called Tribol 1510/320. The name was changed in 2015.

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

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