Product Data

Optigear Synthetic 1300

Synthetic Gear Oil

Description

Castrol Optigear Synthetic ™ 1300 synthetic gear oils have been developed for the lubrication of highly loaded gears, especially worm gears as well as bearings even when subjected to high operating temperatures.
They differ from gear oils based on mineral oils in the following characteristics: they feature excellent oxidation resistance (even at high temperatures), an outstanding shearing stability and a good viscosity-temperature behaviour.
Optigear Synthetic 1300 are synthetic high-temperature gear oils based on polyglycol and are available in the viscosity grades in the data table.

Application

For all types of gears used in severe applications, especially worm gears and circulating systems that lubricate gears, journals, and anti-friction bearings. Recommended for use where oil and reservoir temperatures are unusually high.
Optigear Synthetic 1300 gear oils are especially suited for the lubrication of worm gears with steel/bronze combinations.
Also for the lubrication of spur, bevel and planetary gears.
Formulated using polyglycol base fluids chosen for their chemical and thermal stability and compatibility with metals and elastomers typically found in machine components. Compatible with most seals except neoprene, butadiene-mixed polymers, polystyrene-butadiene or methacrylate elastomer materials.

Advantages

- In worm gears the coefficients of friction are reduced due to the polyglycol base oils and the wear rates are lowered owing to the optimum additive package
- They feature a high scuffing load capacity and an excellent wear protection: in the FZG test (A/8.3/90) they reach the damage load stage of > 12
- High load-carrying capacity
- Excellent extreme pressure performance
- Long service life
- Suitable for use over a wide range of temperatures

Typical Characteristics

Name	Test Method	Units	1300/220	1300/460	1300/680
ISO Viscosity	-	-	220	460	680
Density @ 15°C / 59°F	ASTM D4052 / ISO 12185	kg/m³	1070	1075	1070
Kinematic Viscosity @ 40°C / 104°F	ASTM D 445 / ISO 3104	mm²/s	220	475	680
Kinematic Viscosity @ 100°C / 212°F	ASTM D 445 / ISO 3104	mm²/s	36,4	76,5	108
Viscosity Index	ASTM D2270 / ISO 2909	-	218	242	250
Flash Point - open cup method	ASTM D92 / ISO 2592	°C	>240	>240	>240
Pour Point	ASTM D97 / ISO 3016	°C	-36	-33	-30
Rust test - distilled w ater (24 hrs)	ASTM D665A / ISO 7120	Rating	no rust	no rust	no rust
Copper corrosion (3 hrs@100°C/ 212°F)	ASTM D130 / ISO 2160	Rating	1	1	1
FZG Gear Scuffing test - A/16.6/90	ISO 14635-1	Failure load stage	>12	>12	>12
FZG Micropitting test @ 90°C/194°F	FVA 54-7	Failure Load Stage / Micropitting Rating	10/ high[1]	-	-
Foam Sequence I - tendency / stability	ASTM D892 / ISO 6247	ml / ml	50/0	10/0	10/0

Note 1 : Measured on ISO 220 grade

Subject to usual manufacturing tolerances.

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