



## Optigear Synthetic CT

Synthetic Gear Oils

### Description

Castrol Optigear™ Synthetic CT 320 is a synthetic polyalphaolefin (PAO) gear oil designed to perform in the most challenging of applications, especially those found in the wind industry. Its high viscosity index coupled with advanced gear oil additives make it an ideal lubricant for gear boxes where large changes in temperature and humidity can not be controlled.

### Application

Optigear Synthetic CT 320 has been formulated specifically for use in wind turbine gear box applications but it can be used for all types of enclosed gears – including heavy and shock-loaded gears and bearings where EP properties are required. It is suitable for use in gear boxes where micro-pitting resistance is required and for a wide range of applications in extreme environments including mining and quarrying, marine applications, and paper production.

Optigear Synthetic CT 320 is fully compatible with nitrile, silicone and fluoropolymer seal materials.

Optigear Synthetic CT 320 is classified as follows:

- DIN Classification is CLP

Optigear Synthetic CT 320 meets the requirements of:

- DIN 51517 Part 3

### Advantages

When compared to more conventional gear oils Optigear Synthetic CT 320 has the following advantages:-

- Maximum protection of gears against wear and shock loading, including protection against micro-pitting.
- Excellent thermal and oxidative stability provides reliable operation and extended operating life when compared to mineral oil based products.
- High corrosion protection for gears.
- Inherently high viscosity index makes the product suitable for operations over a wide temperature range.
- Good water separation and demulsification characteristics reduce down time through prolonged lubricant life and increased equipment reliability.
- PAO base provides good compatibility with seals, paints, and mineral oil based lubricants

## Typical Characteristics

Name	Method	Units	Synthetic CT 320
ISO Viscosity Grade	-	-	320
Appearance	Visual	-	Clear & Bright
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	kg/m <sup>3</sup>	856
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	335
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	40.0
Viscosity Index	ISO 2909 / ASTM D2270	-	172
Pour Point	ISO 3016 / ASTM D97	°C/°F	-45/-49
Flash Point, open cup method	ISO 2592 / ASTM D92	°C/°F	240 / 464
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	ml/ml	0/0
Water Separation @ 82°C / 180°F (40/37/3)	ISO 6614 / ASTM D1401	min	20
Rust Test - distilled water (24 hrs)	ISO 7120 / ASTM D665A	-	Pass
Rust Test - synthetic seawater (24 hrs)	ISO 7120 / ASTM D665B	-	Pass
Rust Test - SKF Emscor - distilled water	ISO 11007 / ASTM D6138	Rating	0
Rust Test - SKF Emscor - 0.5% NaCl	ISO 11007 / ASTM D6138	Rating	1
Copper Corrosion 3 hrs @ 120°C / 250°F	ISO 2160 / ASTM D130	Rating	1
FZG Gear Scuffing Test - A/16.6/90	ISO 14635-1 (modified)	Failure Load Stage	>14
FZG Micropitting Test @ 60°C/140°F	FVA 54-7	Failure Load Stage Micropitting Rating	10 high
FZG Micropitting Test @ 90°C/194°F	FVA 54-7	Failure Load Stage Micropitting Rating	10 high

Subject to usual manufacturing tolerances.

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