

## Alphasyn™ EP Range

Synthetic heavy duty (PAO) EP gear oils

### Description

The Castrol Alphasyn™ EP gear oil range of high quality synthetic lubricants are based on poly-alphaolefin (PAO) fluids and sulphur/phosphorus Extreme Pressure (EP) additive technology providing good thermal stability and high load carrying capacity.

### Application

The Alphasyn EP range have been formulated for use in all types of enclosed gears including heavy and shock-loaded gears and bearings where EP properties are required.

They are suitable for use in gear boxes where micro-pitting resistance is required and for a wide range of applications in extreme environments, for example mining and quarrying, marine applications and paper production.

The use of a PAO base stock provides an inherently high Viscosity Index (VI) and low pour points making these products suitable for use over a wide temperature range.

The Alphasyn EP range is fully compatible with nitrile, silicone and fluropolymer seal materials.

Alphasyn EP is classified as follows:  
DIN Classification is CLP.

The Alphasyn EP range meets the requirements of:

- DIN 51517 Part 3
- Flender (Excluding Alphasyn EP 680)
- AGMA 9005 - E02
- AIST 224
- David Brown Type E
- GE D50E35 Approved

### Advantages

- Full EP performance\* gives maximum protection of gears against wear and shock loading, including protection against micro-pitting.
- Good 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 (VI) makes the product suitable for operations over a wide temperature range.
- Rapid air release and good performance in the Flender Foam Test prevents foaming and bearing damage.
- Good water separation and demulsification characteristics means reduced down time through prolonged lubricant life and increased equipment reliability.
- PAO based lubricant provides good compatibility with seals, paints and mineral oil based lubricants.

## Typical Characteristics

Name	Method	Units	Alphasyn EP 150	Alphasyn EP 220	Alphasyn EP 320	Alphasyn EP 460	Alphasyn EP 680
Density @ 15°C/ 59°F	ISO 12185 / ASTM D4052	kg/m <sup>3</sup>	860	860	860	860	870
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	151	223	326	455	671
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	19.8	26.4	35.5	46.5	63.4
Viscosity Index	ISO 2909 / ASTM D2270	-	150	152	155	159	165
Pour Point	ISO 3016 / ASTM D97	°C / °F	-54/-65	-45/-49	-42/-44	-39/-38	-39/38
Flash point, open cup method	ISO 2592 / ASTM D92	°C / °F	220/428	240/464	242/468	248/478	254/489
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	ml	0/0	20/0	20/0	20/0	20/0
Rust Test - synthetic seawater (24h)	ISO 7120 / ASTM D665B	Rating	Pass	Pass	Pass	Pass	Pass
FZG Gear Scuffing Test - A/8.3/90	ISO 14635-1	Failure Load Stage	>12	>14	>14*	>14*	>14*
FZG Gear Scuffing Test - A/16.6/90	ISO 14635-1 (modified)	Failure Load Stage	>12	>14	>14*	>14*	>14*
FZG Micropitting test @ 90°C/194°F	FVA 54-7	Failure Load Stage / Micropitting Rating	10 (High)	10 (High)	10 (High)*	10 (High)*	10(Hight)*
FE-8 Bearing Wear test (roller weight loss)	DIN 51819-3	mg	<5	<5	<5*	<5*	>5*

\* ISO 320 grade achieved FZG >14 rating under A16.6./90 (double speed) test conditions. Subject to usual manufacturing tolerances. It is not recommended filtering the finished fluid through a filter which is <5microns, as this has potential to filter out the antifoam.

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