



## Castrol Alphasyn EP

Synthetic 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
- AGMA 9005 - D94
- US Steel 224
- David Brown Type E
- Hansen Transmissions
- Flender
- Lohmann & Stofferfoht

### 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	EP 150	EP 220	EP 320	EP 460	EP 680
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	kg/m <sup>3</sup>	860	860	860	870	870
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D 445	mm <sup>2</sup> /s	150	220	320	460	680
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D 445	mm <sup>2</sup> /s	18	25	33	45	57
Viscosity Index	ISO 2909 / ASTM D2270	-	140	140	140	140	140
Pour Point	ISO 3016 / ASTM D97	°C/°F	-48/-54	-42/-44	-36/-33	-36/-33	-33/-27
Flash Point - closed cup method	ISO 2719 / ASTM D93	°C/°F	220/428	220/428	230/446	230/446	240/464
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	ml/ml	0/0	0/0	0/0	0/0	0/0
Rust test - synthetic seawater (24 hrs)	ISO 7120 / ASTM D665B	-	Pass	Pass	Pass	Pass	Pass
Timken OK Load test	ASTM D2782	kg/lb	39/85	41/90	41/90	>41/90	>90lbs
FZG Gear Scuffing test - A/8.3/90	ISO 14635-1	Failure Load Stage	-	-	>14	>14	>14
FZG Gear Scuffing test - A/16.6/90 *	ISO 14635-1 (modified)	Failure Load Stage	>12	>12	>12	>12	>12

\* ISO 320 grade achieved FZG >14 rating under A16.6./90 (double speed) test conditions. Subject to usual manufacturing tolerances.

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