



## Alpha CLP

Industrial Gear Oil Range

### Description

The Castrol Alpha™ CLP range fulfils the requirements of DIN 51517-3 for CLP type gear oils and other key industrial specifications as listed below. The Alpha CLP range offer good wear protection, safety against scuffing, aging resistance and a high thermal endurance. In addition, the products behave neutral towards conventional seals and bearing metals.

### Application

The Castrol Alpha CLP range offers good gear performance for most types of Industrial gears.

Alpha CLP is formulated to meet the requirements of the following key Industrial specifications:-

- AGMA 9005-F16 Antiscuff
- David Brown S1.53.101 E
- DIN 51517 Part III
- ISO 12925-1 (CKD) - 2002
- Key Requirements of Chinese Specification GB5903-2011 (CKC)
- Japanese National Specification JIS K 2219:2006 (Class 2)

### Advantages

- Meets industry specifications.
- Good wear protection, safety against scuffing, aging resistance and a high thermal endurance.
- Good neutrality towards conventional seals and bearing metals.

# Typical Characteristics

Test	Method	Units	CLP 68	CLP 150	CLP 220	CLP 320	CLP 460	CLP 680
Appearance	Visual	-	Clear& Bright	Clear& Bright	Clear& Bright	Clear& Bright	Clear& Bright	Clear& Bright
Density @ 15°C / 59°F	DIN 51757 / ISO 12185 / ASTM D4052	kg/m <sup>3</sup>	889	891	892	895	898	910
Kinematic Viscosity @40°C/104°F	(DIN EN) ISO 3104 / ASTM D445	mm <sup>2</sup> /s	68	150	220	320	460	680
Kinematic Viscosity @100°C/212°F	(DIN EN) ISO 3104 / ASTM D445	mm <sup>2</sup> /s	8.5	14.7	18.8	24.4	29.5	36.7
Viscosity Index	(DIN) ISO 2909 / ASTM D2270	-	92	96	95	97	91	88
Pour Point	(DIN) ISO 3016 / ASTM D97	°C/°F	-24/-11	-18/-0.4	<-9/<-16	<-9/<-16	<-9/<-16	<-9/<-16
Flash Point - open cup method	(DIN EN) ISO 2592 / ASTM D92	°C/°F	215/419	232/450	232/450	232/450	232/450	232/450
Rust test - synthetic seawater (24 hrs)	(DIN) ISO 7120 / ASTM D665B	Rating	Pass	Pass	Pass	Pass	Pass	Pass
Copper corrosion (3 hrs @100°C/212°F)	(DIN EN) ISO 2160 / ASTM D130	Rating	1	1	1	1	1	1
Water Separation @ 54°C / 129°F (40/37/3)	(DIN) ISO 6614 / ASTM D1401	minutes	10	-	-	-	-	-
Water Separation @ 82°C / 180°F (40/37/3)	(DIN) ISO 6614 / ASTM D1401	minutes	-	15	15	20	20	-
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	ml/ml	0/0	0/0	0/0	0/0	0/0	0/0
FZG Gear Scuffing Test A/8.3/90	(DIN) ISO 14635-1	Failure Load Stage	>=12	>=12	>14	>14	>14	>14
FE-8 Bearing Wear test (F.562831.01-7.5/80-80)	DIN 51819-3	Roller wear (Mw50), mg	-	-	8	8	8	-
Oxidation Stability - EP oils (95°C@312 hrs). Viscosity @100°C/212°F increase	(DIN EN) ISO 4263-4 / ASTM D2893	%	-	-	4	4	4	-
Elastomer Compatibility, SRE-NBR 28/SX	(DIN) ISO 1817	Vol %	-	-	3.8	-	-	-
Brugger test	DIN 51347	N/mm <sup>2</sup>	-	-	46	-	-	-

Subject to usual manufacturing tolerances.

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