Product Data

Castrol Alpha SP Range

Gear oils

Description

The Castrol Alpha™ SP gear oil range of high quality lubricants are based upon highly refined mineral oil, enhanced with an extreme pressure additive technology providing good thermal stability and high load carrying capacity. The extreme pressure additive system not only provides high load carrying capacity, but was designed to provide microscopic wear protection. Microscopic wear protection, also known as micropitting protection, is critical in preventing destructive wear at the micro level therefore extending gear life and meeting the evolving demands of smaller and higher output gear boxes.

Application

The Alpha SP range is recommended for the lubrication of industrial gear boxes using forced circulation or splash and oil bath lubrication. They may be used for the lubrication of spur and helical gears and in some lightly loaded worm type gear applications. They have very good viscosity characteristics to ensure starting torques are not excessively high in cold operating conditions. The additives are compatible with the ferrous and non-ferrous metals used in industrial gear units. The Alpha SP range is compatible with the most commonly used nitrile, silicone and fluropolymer seal materials.

Specific grades within the Alpha SP range meet the requirements of:

- DIN 51517 Part 3
- AGMA 9005 - D94
- AIST 224
- David Brown Type E
- Hansen Transmissions
- Flender

Alpha SP is classified as follows: DIN Classification is CLP

Advantages

- Extreme Pressure (EP) performance protect gears against wear and shock-loading as measured by FZG performance and demonstrated extensively in the field .
- Alpha SP ‘Clean gear’ additive technology provides low deposit formation
- Good water separation and demulsification
- High protection against corrosion and wear

Typical Characteristics

Name	Method	Units	SP 46	SP 68	SP 100	SP 150	SP 220	SP 320	SP 460	SP 680	SP 1000
AGMA No.	-	-	-	2EP	3EP	4EP	5EP	6EP	7EP	8EP	-
ISO Viscosity Grade	-	-	46	68	100	150	220	320	460	680	1000
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	kg/m³	880	880	890	890	890	900	900	920	930
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm²/s	46	68	100	150	220	320	460	680	1000
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm²/s	6.65	8.53	11.1	14.5	18.7	24	30.5	37.3	43.6
Viscosity Index	ISO 2909 / ASTM D2270	-	>95	>95	>95	>95	>95	>95	>95	85	80
Pour Point	ISO 3016 / ASTM D97	°C/°F	-21/-6	-21/-6	-21/-6	-18/-0.4	-18/-0.4	-15/5	-12/10	-9/16	-3/26.6
Flash Point - open cup method	ISO 2592 / ASTM D92	°C/°F	215/420	215/420	219/427	223/435	225/438	226/440	225/438	229/445	229/445
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	ml/ml	10/0	10/0	10/0	10/0	10/0	10/0	10/0	10/0	10/0
Copper corrosion (3 hrs@100°C/212°F)	ISO 2160 / ASTM D130	Rating	1b	1b	1b	1b	1b	1b	1b	1b	1b
Rust test - synthetic seawater (24 hrs)	ISO 7120 / ASTM D665B	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Timken OK Load test	ASTM D2782	kg/lb	-	-	-	-	32/70	32/70	32/70	32/70	32/70
FZG Gear Scuffing test - A/8.3/90	ISO 14635-1	Failure Load Stage	>12	>12	>12	>12	>12	>12	>12	>12	>12
FZG Micropitting test	ASTM D5182	Failure Load Stage / Micropitting Rating	-	-	-	-	10/High	10/High	10/High	10/High	-

Subject to usual manufacturing tolerances.

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