



Alphasyn PG 220

Synthetic gear oils

Description

Castrol Alphasyn™ PG 220 gear oil is a synthetic lubricant based on polyalkyleneglycol (PAG) fluids enhanced with antioxidants, rust inhibitors and Extreme Pressure (EP) additives of high thermal stability.

Application

Alphasyn PG 220 gear oil is primarily intended for use in worm reduction gearboxes, where the low coefficient of friction of the PAG base fluid improves efficiency and consequently reduces power consumption and operating temperatures. This is particularly important in applications where sliding contact is high.

The use of a PAG base stock provides inherently high Viscosity Index (VI) and low pour point makes the product suitable for use over a wide temperature range. Alphasyn PG 220 meets the requirements of most OEM's that allow the use of PAG based gear oils.

Advantages

- Low coefficient of friction reduces energy consumption and lowers operating temperatures, this leads to longer oil life.
- Good thermal and oxidative stability provides reliable operation and extended operating life when compared to mineral oil based products.
- Inherently high VI makes the product suitable for operations over a wide temperature range.
- High load carrying capacity and good wear protection reduces maintenance.

Typical Characteristics

Name	Method	Units	Alphasyn PG 220
Density @ 15C	ASTM D4052	g/ml	1.056
Appearance	Visual	-	Clear & Bright
Viscosity, Kinematic 40C	ASTM D445	mm ² /s	220
Viscosity Index	ASTM D2270	None	235
Foam Sequence I, Tendency	ASTM D892	ml	20
Flash Point, PMCC	ASTM D93	°C	210
Pour Point	ASTM D97	°C	-39
Air Release Value @ 90C	IP 313	minutes	10
Copper Corrosion, 3hrs @ 100C	ASTM D130	-	1B
Rust Test, Procedure A	ASTM D665	-	Pass
Oxidation Stability @ 120C (KV @ 100C)	ASTM D2893	% Increase	6
Four Ball Wear	ASTM D2783	mm Scar	0.28
Timken OK Load	ASTM D2782	lb	70
FZG Gear Failure Load Stage (A/8.3/90)	DIN 51354	-	12
Acid Number, Total (Potentiometric)	ASTM D664	mg KOH/g	0.6
Viscosity, Kinematic 100C	ASTM D445	mm ² /s	40
Four Ball EP Properties, Weld Point (Kg)	ASTM D2783	Kg Load	225

Subject to usual manufacturing tolerances.

Additional Information

Normal industrial paints are not compatible with these lubricants. Gearboxes should be left unpainted internally, or alternatively should be painted with two component coatings such as epoxy resins. Care must be taken that seal materials are compatible with these lubricants. The recommended materials are nitrile rubber (NBR), silicone (VMQ), fluoro-silicone rubber (FMQ), and fluoroelastomers (FKM). Incompatible materials are likely to shrink or swell, thus causing either severe leakage or seizure of the seal. These products are not miscible with mineral oils.

Storage

All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and damage to drum markings. Products should not be stored above 60°C, exposed to hot sun or freezing condition.

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