



Alphasyn GS

Synthetic Gear Oils

Description

Castrol Alphasyn GS are fully synthetic gear lubricants based on carefully selected polyglycol fluids and containing antioxidant, rust-inhibiting and EP additives of high thermal stability.

Application

The Alphasyn GS range has inherently superior properties relative to mineral lubricants, therefore these grades are especially suitable for the high temperature lubrication of gears and bearings, particularly in large scale mills and calenders.

In worm gears operating with mineral oil at low speeds and high torques, conditions of boundary lubrication tend to promote pitting and consequent rapid wear of bronze worm-wheels. Fatty oils (also known as compounded oils) were found to be effective in reducing pitting, but suffered from rapid oxidation at high running temperatures. Alphasyn GS grades are suitable for these applications and also allow extended drain and change intervals. Some manufacturers employ them for fill-for-life lubricants.

Advantages

- Reduced frictional losses leads to reduced energy consumption and lower sump temperatures.
- Higher thermal stability, hence minimal formation of sludge and deposits.
- Better load-carrying properties and reduced wear compared with conventional mineral oils.
- Inherently higher Viscosity Index (VI) which, with the lower pour point, results in a wider range of service temperatures (-30 °C to 150 °C continuous bulk temperatures, with intermittent operating temperatures of up to 220°C)

Typical Characteristics

Name	Method	Units	GS 150	GS 220	GS 320	GS 460	GS 680
Appearance	Visual	-	Clear	Clear	Clear	Clear	Clear
Density @ 15°C	ISO 12185 / ASTM D4052	g/ml	1.02	1.02	1.02	1.02	1.02-
Viscosity, Kinematic 40°C	ISO 3104 / ASTM D445	mm ² /s	152	223	318	448	680
Viscosity, Kinematic 100C	DIN 51562	mm ² /s	25	36.3	52	72.7	101
Viscosity Index	ISO 2909 / ASTM 2270	None	199	213	229	242	244
Pour Point	DIN-ISO 3016	°C	-45	-45	-42	-39	-36
Flash Point, COC	ISO 3016 / ASTM D97	°C	286	280	280	280	290
Rust Test, Procedure A	ISO 7210 / ASTM D665A	-	Pass	Pass	Pass	Pass	Pass
Copper Corrosion	ISO 2160 / ASTM D130	-	1a	1a	1a	1a	1a
Timken OK load	ASTM D2782 / IP 240	lbs	75	75	75	75	75
4 Ball - Welding Load	ASTM D2783 / DIN 51350	kg	315	315	315	315	315
4 Ball - Weld scar diameter (1hr/40kg)	ASTM D2783 / DIN 51350	mm	0.40	0.40	0.35	0.35	0.35
FZG Gear Failure Load Stage (A/8.3/90)	ISO 14635-1 / DIN 51451	-	>12	>12	>12	>12	>12
FZG Gear Failure Load Stage (A/16.6/90)	ISO 14635-1 / DIN 51451	-	>12	>12	>12	>12	>12

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 the Alphasyn GS lubricants. The recommended materials are nitrile rubber (NBR), fluoro-silicone rubber (FVMQ), and vinyl-methyl-polysiloxane rubber (VMQ). 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.

Alphasyn GS
26 Nov 2010
Castrol, the Castrol logo and related marks are trademarks of Castrol Limited, used under licence.

This data sheet and the information it contains is believed to be accurate as of the date of printing. However, no warranty or representation, express or implied, is made as to its accuracy or completeness. Data provided is based on standard tests under laboratory conditions and is given as a guide only. Users are advised to ensure that they refer to the latest version of this data sheet. It is the responsibility of the user to evaluate and use products safely, to assess suitability for the intended application and to comply with all applicable laws and regulations. Material Safety Data Sheets are available for all our products and should be consulted for appropriate information regarding storage, safe handling, and disposal of the product. No responsibility is taken by either BP plc or its subsidiaries for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from hazards inherent in the nature of the material. All products, services and information supplied are provided under our standard conditions of sale. You should consult our local representative if you require any further information.

Enter Address, Enter Telephone No.

www.castrol.com/industrial