



BP Enersyn SG-XP Range

Synthetic Gear Oils

Description

BP Enersyn™ SG-XP are fully synthetic gear lubricants based on carefully selected polyglycol fluids and containing anti-oxidant, rust-inhibiting and EP additives of high thermal stability.

Application

The Enersyn SG-XP 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. Enersyn SG-XP 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

Test	Method	Units	100	150	220	320	460	680
Density @ 15°C	ISO 12185 / ASTM D4052	g/ml	1.01	1.02	1.02	1.02	1.02	1.02
K.V. @ 40°C	ISO 3104 / ASTM D445	mm ² /s	100	150	220	320	460	680
Viscosity Index	ISO 2909 / ASTM 2270	-	217	228	200	220	235	263
Pour Point	ISO 3016 / ASTM D97	°C	-45	-39	-36	-36	-39	-33
Flash Point, COC	ISO 2592 / ASTM D92	°C	274	286	280	280	280	270
Rust Test (24 hrs distilled water)	ISO 7210 / ASTM D665A	-	Pass	Pass	Pass	Pass	Pass	Pass
Copper Corrosion	ISO 2160 / ASTM D130	-	1a	1a	1a	1a	1a	1a
Timken OK Load	ASTM D2782 / IP 240	lbs	75	75	75	75	75	75
4 Ball - Welding Load	ASTM D 2783 / DIN 51350	kg	315	315	315	315	315	315
4 Ball - Wear scar diameter (1hr / 40kg)	ASTM D 2783 / DIN 51350	mm	0.40	0.40	0.40	0.35	0.35	0.35
FZG fail stage (A8.3/90)	ISO 14635-1 / DIN 51354	-	-	>12	>12	>12	>12	>12
FZG fail stage (A16.6/140)	ISO 14635-1 / DIN 51354	-	-	>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 SG-XP 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.

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