# Enersyn SG-XP

**Premium Synthetic Gear Lubricant**

## Description; Description

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.

## Applications; Applications

Because of their inherently superior properties relative to mineral lubricants, 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.
These products are NOT miscible with mineral oils. 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.

## Main Benefits; Main Benefits

- 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)

## Storage; 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 the obliteration
; 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 the obliteration of drum markings. Products should not be stored above 60°C, exposed to hot sun or freezing conditions.; of drum markings. Products should not be stored above 60°C, exposed to hot sun or freezing conditions.

**Health, Safety and Environment; Health, Safety and Environment**

Health, safety and environmental information is provided for this product in the Materials Safety Data Sheet. This gives details of potential hazards, precautions and First Aid measures, together with environmental effects and disposal of used products.; Health, safety and environmental information is provided for this product in the Materials Safety Data Sheet. This gives details of potential hazards, precautions and First Aid measures, together with environmental effects and disposal of used products.

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**Typical Characteristics; Typical Characteristics**

| | **Test Methods; Test Methods** | **Units; Units** | **Grade :; Grade :** | | | | |
|---|---|---|---|---|---|---|---|
| | | | 100 | 150 | 220 | 460 | 680 |
| Density at 15 °C | ISO3675/ASTM D1298 | kg/m³ | 1009 | 1015 | 1025 | 1010 | 1020 |
| Flash Point (COC) | ISO2592/ASTM D92 | °C | 274 | 286 | 280 | 280 | 270 |
| Kinematic Viscosity: | | | | | | | |
| @ 40 °C | ISO3104/ASTM D445 | mm²/s | 100 | 150 | 240 | 480 | 680 |
| @ 100 °C | | | | | | | |
| Viscosity Index | ISO2909/ASTM D2270 | | 217 | 228 | 200 | 235 | 263 |
| Pour Point | ISO3016/ASTM D97 | °C | -45 | -39 | -36 | -39 | -33 |
| Corrosion - rust protection | ISO7210/ASTM D665A | | no rust | no rust | no rust | no rust | no rust |
| Copper corrosion | ISO2160/ASTM D130 | | 1a | 1a | 1a | 1a | 1a |
| Timken OK Load | IP 240 | lb | 75 | 75 | 75 | 75 | 75 |
| Four Balls EP Tests : | | | | | | | |
| Welding load | ASTM D2783/IP 239 | kg | 315 | 315 | 315 | 315 | 315 |
| Wear scar diameter (1h / 40 kg) | | mm | 0.40 | 0.40 | 0.40 | 0.35 | 0.35 |
| FZG gear test : | IP 334/DIN 51 354 | stage failure | | | | | |
| A/8.3/90 °C | | | - | >12 | >12 | >12 | >12 |
| A/16.6/140 °C | | | - | >12 | >12 | >12 | >12 |

*The above figures are typical of those obtained with normal production tolerance and do not constitute a specification.*

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