# Shell **Omala** *S4 GXV 680*

Technical Data Sheet

- Extended Oil Life
- Enhanced Protection
- Improved system efficiency
- Special Applications

***Advanced Synthetic Industrial Gear Oil***

Shell Omala S4 GXV 680 is an advanced synthetic heavy duty industrial gear oil, approved by Flender, offering outstanding lubrication performance under severe operating conditions, including reduced friction, long service life, high resistance to micro-pitting for optimal gear protection and superb compatibility with seals.

## DESIGNED TO MEET CHALLENGES

### Performance, Features & Benefits

- **Long oil life - maintenance saving**

  Shell Omala S4 GXV 680 is formulated using an advanced additive system in combination with specially selected synthetic base fluids to provide outstanding resistance to breakdown over long duration and/or high temperature operation.

  Shell Omala S4 GXV 680 can operate successfully at bulk temperatures up to 120°C. Shell Omala S4 GXV 680 offers the potential to significantly extend service intervals compared to conventional industrial gear oils.

- **Excellent wear and corrosion protection**

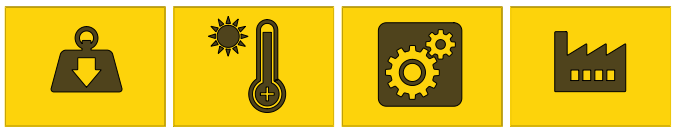
  Shell Omala S4 GXV 680 is formulated to have excellent load carrying capacity and micro-pitting performance providing long component life even under shock loading conditions. These features provide benefits over mineral oil-based products in terms of gear and bearing component life.

  Shell Omala S4 GXV 680 also has excellent corrosion protection, even in the presence of contamination by water and solids.

- **Maintaining system efficiency**

  Shell Omala S4 GXV 680 can help maintain or enhance the efficiency of industrial gear systems through improved low temperature performance and lower friction in comparison to mineral oil-based products. This provides better lubrication at low start-up temperatures.

### Main Applications



- **Gear motor systems and other inaccessible installations**

  Shell Omala S4 GXV 680 is particularly recommended for certain systems where extra long life is required, maintenance is infrequent or systems are inaccessible.

- **Excellent compatibility with seals, paints and sealants**

  Recommended for industrial reduction gear systems using a wide range of seals, including nitrile rubber and fluoro-elastomers. Meets the demanding requirements of Flender gearboxes and gear motors.

- **Enclosed industrial gear systems**

  Recommended for industrial reduction gear systems operating under severe operating conditions, such as high load, very low or elevated temperatures and wide temperature variations.

- **Other applications**

  Shell Omala S4 GXV 680 is suitable for lubrication of bearings and other components in circulating and splash-lubricated systems.

  For highly loaded worm drives the Shell Omala “W”series oils are recommended. For automotive hypoid gears, the appropriate Shell Spirax Oil should be used.

## Specifications, Approvals & Recommendations

**The product meets or exceeds the following industry standards:**

- ISO 12925-1 Type CKC, CKD, CKSMP
- DIN 51517-3 C LP,  DIN 51517-4 C LPX
- ANSI/AGMA 9005
- AIST (US Steel) Req. No. 224
- China National Standard GB 5903 L-CKC, L-CKD

**The product has been approved by:**

- Flender – According to Flender T 7300, Shell Omala S4 GXV 150-680 are approved by Flender for use in Flender helical, bevel, planetary and marine gear units without multi-disk clutches.
- GE Wabtec D50E35
- ThyssenKrupp

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk

## Typical Physical Characteristics

| Properties | | | Method | Shell Omala S4 GXV 680 |
|---|---|---|---|---|
| Kinematic Viscosity | @40$^0$C | mm$^2$/s | ASTM D445 | 680 |
| Kinematic Viscosity | @100$^0$C | mm$^2$/s | ASTM D445 | 74 |
| Viscosity Index | | | ASTM D2270 | 191 |
| Flash Point (COC) | | $^0$C  minimum | ASTM D92 | 240 |
| Pour Point | | $^0$C | ASTM D97 | -42 |
| Density | @15$^0$C | kg/m$^3$ | ASTM D4052 | 868 |
| Four Ball EP Weld load | | kg minimum | ASTM D2783 | 250 |
| FZG Load Carrying Test A/8.3/90 | | failure load stage | ISO 14635-1 | >12 |
| FZG Load Carrying Test A/8.3/90 Modified | | failure load stage | ISO 14635-1 Modified | >14 |

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

## Health, Safety & Environment

- **Health and Safety**

  Omala S4 GXV 680 is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

  Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

  Guidance on Health and Safety is available on the appropriate Safety Data Sheet, which can be obtained from https://www.epc.shell.com

- **Protect the Environment**

  Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

## Additional Information

- **Change over procedure**

  Omala S4 GXV 680 is based on synthesized hydrocarbon fluids and is compatible with petroleum mineral oil-based industrial gear lubricants - no special change-over procedure is necessary. However, to achieve the complete benefit of Omala S4 GXV 680, it should not be mixed with other oils.

  It is also advisable to ensure that oil systems are clean and free from contamination.

- Advice on applications not covered here may be obtained from your Shell representative.