Technical Data Sheet

- Longer Oil Life
- Extra Wear & Corrosion Protection
- High Micro Pitting Resistance
- Improved Foam Control

Shell Omala *S2 GX 680*

High Performing Industrial Gear Oils

Shell Omala S2 GX oils are high quality extreme-pressure (EP) oils designed primarily for the lubrication of heavy duty industrial gearboxes. Their high load carrying capacity, protection against micropitting and compatibility with seals and paints, combine to offer excellent performance in enclosed gear applications.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Longer oil life through oxidation stability and resistance to thermal stress – leading to reduced total cost of ownership**

  Shell Omala S2 GX oils are formulated to reduce the risk of thermal and chemical breakdown throughout the maintenance interval. They withstand high thermal loading and resist the formation of sludge to provide extended oil life capability, even with bulk oil temperatures of up to 100^{0}C.

- **Extra wear and micropitting protection**

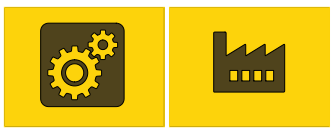
  Shell Omala S2 GX is formulated to have excellent load carrying capacity and micropitting performance, providing long component life.

- **Gear system efficiency is maintained by enhanced water shedding capability and Extra corrosion protection and better foam control.**

  Water can greatly accelerate surface fatigue of gears and bearings as well as promoting ferrous corrosion on internal surfaces. Extra corrosion protection is provided, even in the presence of contamination by seawater and solids.

  The oils are designed to minimize the potential for foaming, often experienced in applications where oil reservoir residence times are marginal. Excellent shear stability, maintains viscosity stability throughout the service interval. Further system efficiencies are gained through compatibility with popular seals, sealants, and engineering adhesives, to help avoid leakage. Shell Omala S2 GX is compatible with prevalent paint finishes.

Main Applications



- **Enclosed industrial gear systems**

  Shell Omala S2 GX technology provides an effective extreme pressure (EP) formulation designed specifically for enclosed industrial gearboxes using steel-on-steel, spur, helical, or planetary gear drives, including highly loaded systems with splash or forced circulation systems.

- **Other applications**

  Shell Omala S2 GX oils are also suitable for the lubrication of non-geared applications, that include bearings and other steel-on-steel components with splash or forced circulation systems.

- Shell offers a wide range of products for other gear applications that have their own specific requirements.
- Shell Omala S4 GXV Plus is recommended for gear systems where a synthetic lubricant is specified, when the longest lifespan is required, or when operating in environments that experience large temperature variations.
- Shell Omala S5 Wind 320 is recommended for wind turbine main gear drives.
- Shell Omala S4 WE, Shell Morlina S4 B and Shell Omala S1 W are recommended for worm-wheel drives.
- Shell Omala S4 GXV Plus and Shell Omala S2 GX Plus are recommended if SEW approval is required.
- Shell PANOLIN S4 Gear and Shell PANOLIN S4 Gear EAL are recommended if bio-degradable lubricants are required.
- For automotive gear applications, the appropriate Shell Spirax Oil should be used.
- For geared systems, or other applications that employ a filtration unit finer than 10 microns, please consult your Shell Local Technical Advisor and Product Application Specialist before using Shell Omala S2 GX.

Specifications, Approvals & Recommendations

Meets or exceeds the following industry standards:

- ISO 12925-1 Type CKC
- DIN 51517-3 C LP
- China National Standard GB 5903 L-CKC
- ANSI/AGMA 9005-F16

The product has been approved by:

- Flender – According to Flender T 7300, Shell Omala S2 GX 100-680 are approved by Flender for use in Flender helical, bevel, planetary and marine gear units without multi-disk clutches.

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

Typical Physical Characteristics

Properties			Method	Shell Omala S2 GX 680
Kinematic Viscosity	@ 40°C	mm^2/s	ISO 3104	680
Kinematic Viscosity	@ 100°C	mm^2/s	ISO 3104	40
Viscosity Index			ISO 2909	105
Flash Point COC		°C	ISO 2592	>250
Pour Point		°C	ISO 3016	-9
Density	@ 15°C	Kg/m^3	ISO 12185	912

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**

  This product 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 (SDS) 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

- **Advice**

  Advice on applications not covered here may be obtained from your Shell Representative