



Shell Omala S2 GX 680

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.

Technical Data Sheet

- EXTRA PROTECTION
- Against oxidation
- Against wear & micropitting
- Against corrosion & foaming

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Long 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°C.

- **Excellent 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 optimized water separation performance, corrosion and foam control**

Shell Omala S2 GX oils display a combination of excellent water shedding capability, corrosion protection and low foam forming tendency.

Water can greatly accelerate surface fatigue of gears and bearings as well as promoting ferrous corrosion on internal surfaces. Excellent 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.

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

- **Other applications**

Shell offers a wide range of products for other gear applications that have their own specific requirements

- Shell Omala S4 GXV 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.
- 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 requirements of:

- ISO 12925-1 Type CKC (ISO 680)
- DIN 51517- Part 3 CLP (ISO 680)
- AGMA EP 9005- F16 (ISO 680)
- Fives Cincinnati: P-34 (ISO 680)

Approved or Recommended by

- Flender – approved according to Flender T 7300

Shell Omala S2 GX 680 is approved by Flender for use in Flender helical, bevel, planetary and marine gear units.

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

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