Technical Data Sheet

Shell Omala *S2 GX 320*

- *EXTRA PROTECTION*
- *Against contamination*
- *Against oxidation*
- *Against micropitting*

Industrial Gear Oils

Shell Omala S2 GX oils are high quality extreme-pressure oils designed primarily for the lubrication of heavy duty industrial gears. Their high load carrying capacity and anti-friction characteristics combine to offer superior performance in gears.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

Performance Benefits can be summarised in OMALA. C O M (Protection against Contamination, Oxidation and Micropitting)

- **Handling Contamination and hence maintaining system efficiency**

  Shell Omala S2 GX oils display a combination of excellent water shedding capability and low foaming tendency. The oils are designed to minimize the potential for foaming in the most testing of environments.

  Shell Omala S2 GX oils have excellent water separation properties, such that excess water can be drained easily from lubrication systems to help extend the life of the gears and ensure efficient lubrication of the contact areas.

  Water can greatly accelerate surface fatigue of gears and bearings as well as promoting ferrous corrosion on internal surfaces. Water contamination should therefore be avoided or removed as quickly as possible after the occurrence.

- **Long oil life through Oxidation stability – leading to maintenance saving**

  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 in certain applications.

- **Excellent wear & corrosion protection incl. protection against Micro-pitting**

  Shell Omala S2 GX oils have superb load carrying capacity that helps reduce gear tooth and bearing wear on steel components.

Shell Omala S2 GX oils offers:

- Excellent micropitting performance to help prolong component life.
- Low sludge tendency, which reduces wear on rollers and helps ensure bearing protection.
- Outstanding corrosion protection, protecting steel components, even in the presence of contamination by water and solids.

  Shell Omala S2 GX oils offers excellent shear stability by maintaining its viscosity, thereby protecting the component from friction and wear.

Main Applications

- **Enclosed industrial gear systems**

  Shell Omala S2 GX technology provides an extreme EP system which allows trouble-free application in most enclosed industrial gearboxes using steel spur and helical gear drives with circulation or splash lubrication systems.

- **Highly loaded gears**

  Shell Omala S2 GX oils have an effective full extreme pressure (EP) additive system allowing them to be used in highly-loaded gear systems.

- **Other applications**

  Shell Omala S2 GX oils are suitable for lubrication of bearings and other components in circulating and splash-lubricated systems. For loaded worm drives Shell Omala S4 WE, Shell Morlina S4 B and Shell Omala S1 W are recommended. For automotive hypoid gears, the appropriate Shell Spirax Oil should be used.

  Shell do not recommend/support use in systems with fine filtration (<10 microns) because sustained foam control performance is not assured. Please consult your Shell Local Technical Advisor and Product Application Specialist.

Specifications, Approvals & Recommendations

Meets requirements of:

- ISO 12925-1 Type CKD (ISO 68 through 460)
- ISO 12925-1 Type CKC (ISO 680, 1000)
- DIN 51517- Part 3 CLP (ISO 68 through 1000)
- AGMA EP 9005- EO2 (ISO 68 through 1000)
- AIST (US Steel) 224 (ISO 68 through 680)
- Fives Cincinnati P-63 (ISO 68), P-76 (ISO 100), P-77 (ISO 150), P-74 (ISO 220), P-59 (ISO 320), P-35 (ISO 460), P-34 (ISO 680), P-78 (ISO 1000)
- Siemens AG

  Shell Omala S2 GX 150, 220, 320, 460 and 680 are approved by Siemens AG for use in Flender gearboxes.

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

Compatibility & Miscibility

Shell Omala S2 GX oils are compatible with various seal materials to help prevent premature failure of seals and thus avoid leakage.

Typical Physical Characteristics

Properties			Method	Shell Omala S2 GX 320
Kinematic Viscosity	@ 40°C	mm^2/s	ISO 3104	320
Kinematic Viscosity	@ 100°C	mm^2/s	ISO 3104	24.4
Viscosity Index			ISO 2909	97
Flash Point COC		°C	ISO 2592	>250
Pour Point		°C	ISO 3016	-15
Density	@ 15°C	Kg/m^3	ISO 12185	897

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 Material Safety Data Sheet (MSDS), which can be obtained from http://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