Technical Data Sheet

Shell **Omala** *Oil HD 1000*

Synthetic heavy duty industrial gear oils

Shell Omala HD is an advanced synthetic heavy duty industrial gear oil offering outstanding lubrication performance under severe operating conditions, including improved energy efficiency, long service life and high resistance to micro-pitting for optimal gear protection

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Excellent load carrying capacity and micro-pitting performance providing long component life**

  Provides high levels of load carrying capacity even under shock loading conditions, along with high resistance to micro-pitting (gy staining). These features provide benefits over mineral oil-based products in terms of gear and bearing component life.

- **Excellent oxidation and thermal stability extending lubricant life**

  Resists the formation of harmful products of oxidation at high operating temperatures, improving system cleanliness and therefore reliability of the equipment. Omala HD is formally approved by Flender AG for at least 20,000 operating hours or four years, assuming an average operating temperature of 80 ^{0}C. Omala HD can operate successfully at bulk operating temperatures of up to 120^{0}C.

- **Longer service intervals**

  Extended component and lubricant life offers the opportunity to extend service intervals and to reduce maintenance and disposal costs.

- **Superior lubricant performance improving gear efficiency**

  Offers improved low temperature performance and reduced change in viscosity with increase in temperature in comparison to mineral oil-based products. This provides better lubrication at low start-up temperatures and the opportunity for energy savings by optimising the viscosity for normal operating conditions.

- **Outstanding rust and corrosion protection of all metal surfaces**

- **Rapid water shedding and air release performance**

Main Applications



- Enclosed industrial reduction gear systems operating under severe operating conditions, such as high load, very low or elevated temperatures and wide temperature variations
- Particularly recommended for certain ‘lubricated-for-life’ systems
- Plain and rolling element bearings
- Oil circulation systems

Specifications, Approvals & Recommendations

- Meets ISO 12925-1 Type CKD
- Meets ANSI/AGMA 9005-D94
- Meets US Steel 224
- Fully approved by Flender AG
- Meets David Brown S1.53.101
- Meets the requirements of DIN 51517-3

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

Compatibility & Miscibility

- **Seal and paint compatibility**

  Omala HD is compatible with all seal materials and paints normally specified for use with mineral oils.

- **Change over procedure**

  Omala HD is based on synthesized hydrocarbon fluids and is compatible with petroleum mineral oils - no special change-over procedure is necessary. However, to achieve the complete benefit of Omala HD they should not be mixed with other oils.
  It is also advisable to ensure that oil systems are clean and free from contamination.

Typical Physical Characteristics

Properties			Method	Shell Omala Oil HD 1000
ISO Viscosity Grade			ISO 3448	1 000
Kinematic Viscosity	@40°C	mm^2/s	ISO 3104	1 002
Kinematic Viscosity	@100°C	mm^2/s	ISO 3104	94.4
Viscosity Index			ISO 2909	183
Flash Point		°C	ASTM D92	260
Pour Point		°C	ISO 3016	-24
Density	@15°C	kg/m^3		901
FZG Load Carrying Test		failure load stage	DIN 51354-2 A/8.3/90	>14
FZG Load Carrying Test		failure load stage	DIN 51354-2 A/16.6/90	>14
Timken OK Load		lbs	ASTM D2782	>90

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, 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**

  Check compatibility with other products before use.

- Advice on applications not covered in this leaflet may be obtained from your Shell representative.