Technical Data Sheet

Previous Name: **Shell Omala HD**

# Shell **Omala** *S4 GX 680*

- *Extra Life and Protection*
- *Special Applications*

***Advanced Synthetic Industrial Gear Oil***

**Shell Omala S4 GX is an advanced synthetic heavy duty industrial gear oil offering outstanding lubrication performance under severe operating conditions, including reduced friction, long service life and high resistance to micro-pitting for optimal gear protection.**

## DESIGNED TO MEET CHALLENGES

### Performance, Features & Benefits

- **Long oil life - maintenance saving**

  Shell Omala S4 GX 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.

  This performance is recognised by Flender AG where a formal approval for 20,000 hours (four years) at 80°C usage as been granted.

  Shell Omala S4 GX can operate successfully at bulk temperatures up to 120°C.

  Shell Omala S4 GX offers the potential to significantly extend service intervals compared to conventional industrial gear oils.

- **Excellent wear and corrosion protection**

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

- **Maintaining system efficiency**

  Shell Omala S4 GX 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



- **Wind turbines and other inaccessible installations**

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

- **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 GX oils are 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

- Approved by Siemens MD for Flender gear units and gear motors T7300
- David Brown S1.53.106, except ISO 1000
- Approved for wind turbine gearboxes by:
  Gamesa, Dongfang Wind Turbines, Dalian Heavy Industries and Sinovel
- ISO 12925-1 Type CKD, except ISO 1000
- Ansi/Agma 9005-E02 (EP), except ISO 1000
- US Steel 224, except ISO 1000
- DIN 51517-3 (CLP), except ISO 1000

  For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk, or the OEM Approvals website.

## Typical physical characteristics

| Properties | | | Method | Shell Omala S4 GX |
|---|---|---|---|---|
| Viscosity Grade | | | ISO 3448 | 680 |
| Kinematic Viscosity | @40°C | $mm^2/s$ | | 670.4 |
| Kinematic Viscosity | @100°C | $mm^2/s$ | | 64.9 |
| Viscosity Index | | | ISO 2909 | 169 |
| Flash Point | | °C | ISO 2592 (COC) | 256 |
| Pour Point | | °C | ISO 3016 | -33 |
| density | @15°C | $kg/m^3$ | ISO 12185 | 881 |
| FZG Load Carrying Test | | | DIN 51354-2 | - |
| FZG Load Carrying Test | | failure load stage | A/8,3/90 | >14 |
| FZG Load Carrying Test | | failure load stage | A/16,6/90 | >14 |
| Timken OK Load | | lbs | ASTM D 2782 | >85 |

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

- Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from http://www.epc.shell.com/
- **Protect the Environment**

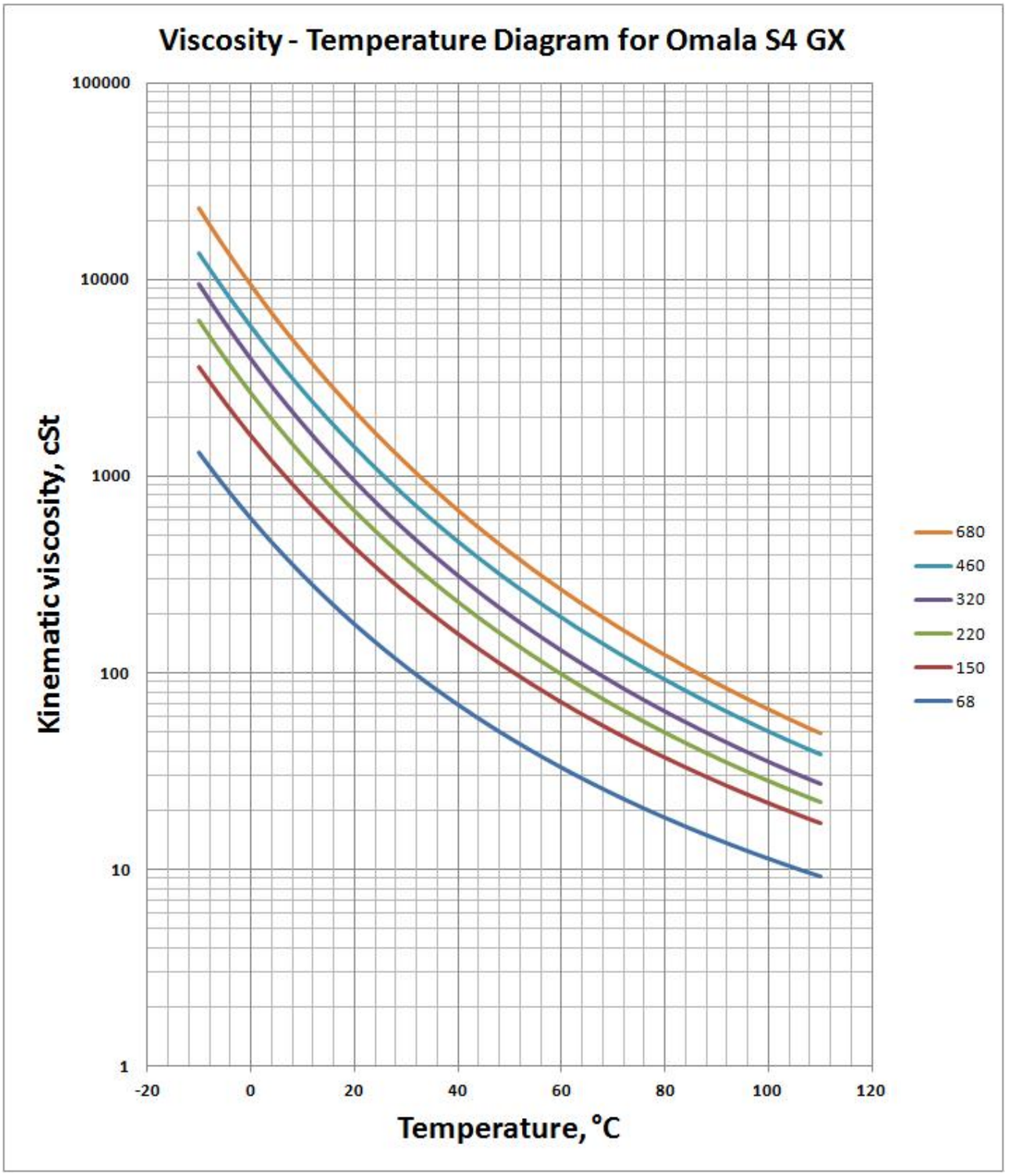
  Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

## Additional Information

- **Advice**

  Check compatibility with other products before use.

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


Viscosity - Temperature Diagram for Omala S4 GX
Kinematic viscosity, cSt
100000
10000
1000
100
10
1
-20
0
20
40
60
80
100
120
Temperature, °C
680
460
320
220
150
68