Technical Data Sheet

- Extra Life & Protection
- Wind Turbine Applications

Shell **Omala** *F Wind 320*

High quality industrial gear oil

Shell Omala F Wind 320 is a high quality, lead-free, extreme-pressure oil designed, primarily, for the lubrication of main gearboxes for Siemens Gamesa wind turbine platforms until G4.X. Their high load carrying capacity and anti-friction characteristics combine to offer superior performance in main wind turbines gearboxes.

DESIGNED TO MEET CHALLENGES

Main Applications

- Shell Omala F Wind 320 should be used to lubricate the main gearbox of SGRE platforms (G52, G58, and G2.x – G4.X), where mineral oils are already in use. If remaining equipment lifetime is longer than 6 years the use of Shell Omala S5 Wind 320 is recommended due to longer oil life.
- Please consult your Shell Local Technical Advisor and Product Application Specialist.

Compatibility & Miscibility

- **Change-over Procedures**

  The following procedures and precautions are recommended when changing oils - including leaded grades:-

  As a general principle, oil that has been in use for some time should be renewed completely. For complete benefit, Shell Omala F Wind should be not be mixed with other oils.

- **Gearboxes**

  Drain the gearbox completely and inspect internally. Remove any sludge deposits manually. Flush the gearbox with new oil. Drain and refill with the appropriate viscosity Shell Omala F Wind Oil.

- **Gear systems**

  Drain off the old oil.

  The minimum amount of Shell Omala F Wind Oil necessary to maintain circulation should be pumped around the system, for as long as practicable, to flush out all pipe work and inaccessible points. Use warm oil, if possible.

  Discard the flushing charge and, provided a careful inspection shows the lubrication system, including filters, drains and sumps to be free of contamination, refill with the appropriate viscosity Shell Omala F Wind Oil. If the examination is not satisfactory, repeat the procedure.

  For newer charges of leaded gear oil, an inspection as detailed should be carried out. If the system is found to be reasonably clean, top-up the existing oil with Shell Omala F Wind Oil may be carried out observing the following safeguards:

  Make top up by adding frequent small quantities, rather than occasional large charges.

  Inspect the system regularly for an initial period of three months, particularly with regard to the cleanliness of filters. The inspection frequency may be extended gradually to normal manufacturers' recommended periods as long as conditions are satisfactory.

- **Seal and Paint Compatibility**

  Shell Omala F Wind Oils are compatible with internal gearbox paints; also solid and liquid seals.

Specifications, Approvals & Recommendations

- SGRE G52, G58, G2.X – G4.X main gearbox.

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

Typical Physical Characteristics

Properties			Method	Shell Omala F Wind 320
Viscosity Grade			ISO 3448	320
Kinematic Viscosity	@40°C	cSt	IP 71	320
Kinematic Viscosity	@100°C	cSt	IP 71	25
Viscosity Index			IP 226	100
Density	@15°C	kg/l	IP 365	0.903
Flash Point (PMCC)		°C	IP 34	202
Pour Point		°C	IP 15	-18

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 & 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**

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