Technical Data Sheet

Shell Gadinia 40

Lubricants for medium-speed marine diesel engines running on distillate fuels

Shell Gadinia are premium quality multifunctional diesel engine lubricants that are specially designed for the most severe service main propulsion and auxiliary marine trunk piston engines burning distillate fuels with a sulphur content up to 1%. They also perform satisfactorily in smaller high-speed engines of fishing fleets that operate under arduous conditions and have small sumps.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Improved engine reliability:**
  Greater tolerance to engine overload or poor combustion due to improved piston cleanliness.

  Reduced deposits in piston ring belt and cylinder liners.
- **Lower maintenance costs:**
  Extended diesel engine life through reduced risk of ring sticking and breakage.

  Longer oil life, especially in high stress engines, because of Gadinia's excellent resistance to oxidation and thermal degradation under severe operating conditions.

  Superior protection against corrosion for all engine components, due to Shell Gadinia's unique formulation giving excellent alkalinity retention.

  Improved control of liner lacquer leads to better control of oil consumption and contributes to lower cost of operation.
- **Re-assurance:**
  Greater safety margin to protect highly loaded bearings, in the event of water contamination, because of Shell Gadinia's improved water tolerance and separation in separators.

  OEM endorsement by leading diesel engine manufacturers following extensive field approval trials, means that Shell Gadinia is suitable for the widest range of modern diesel engines.

Main Applications

- Highly rated, medium speed, main propulsion & auxiliary trunk-piston marine diesel engines.
- Turbochargers, oil filled stern tubes and variable pitch propellers.
- Deck machinery & other marine applications requiring SAE 30 or 40 viscosity oils.

Specifications, Approvals & Recommendations

- Shell Gadinia is approved by leading trunk piston engine manufacturers.
- API CF

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

Typical Physical Characteristics

Properties			Method	Shell Gadinia 40
Kinematic Viscosity	@40°C	mm^2/s	ASTM D445	139
Kinematic Viscosity	@100°C	mm^2/s	ASTM D445	14.4
Density	@15°C	kg/l	ASTM D4052	0.900
Flash Point (PMCC)		°C	ASTM D93	225+
Pour Point		°C	ASTM D97	-18
BN		mg/KOH/g	ASTM D2896	12
Sulphated Ash		% wt	ASTM D874	1.35

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**

  Shell Gadinia 40 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, 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.

- **Condition Monitoring**

  Shell RLA engine condition monitoring service enables the ship operator to monitor the condition of the oil and equipment and to take remedial action when necessary. This helps to avioid breakdowns and costly downtime.

  Shell RLA OPICA is an integrated software system enabling RLA data to be received electronically in the office and/or on the vessel. It contains powerful data management and graphics, enabling efficiency gains in report handling and machine condition monitoring.