Technical Data Sheet

Replacement For: **Shell Gadinia 40**

Shell **Gadinia** *S3 40*

- *DEPOSIT/CORROSION PROTECTION*
- *NON-ENGINE APPLICATIONS*

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

Shell Gadinia S3 40 is a high quality, multifunctional diesel engine lubricant which has been specially designed for the most severe service main propulsion and auxiliary marine trunk piston engines burning distillates, bio-fuels and 0.1% sulphur hybrid fuels.
The newly formulated Shell Gadinia S3 40 has also been optimised for use in non-engine applications which are typically found on board such as gearboxes, clutches and stern tubes.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Extended oil life**

  Shell Gadinia S3 40 offers excellent resistance to oxidation and thermal degradation so it can offer longer oil life, especially in high stress engines under severe operating conditions.

- **Engine protection**

  Shell Gadinia S3 40 can help to extend engine life by reducing deposit formation in the piston ring belt and cylinder liners reducing the risk of ring sticking and breakage.

  In addition the new formulation has been designed to minimise laquer formation resulting in greater control of oil consumption and reduced operating costs.

- **System efficiency**

  Shell Gadinia S3 40 has been designed to have greater tolerance to engine overload or poor combustion. It will also offer a greater safety margin to protect highly loaded bearings, in the event of water contamination, due to Shell Gadinia S3 40's improved water tolerance and separation in separators.

  Shell Gadinia S3 40 is also approved for use in a number of non-engine applications such as gearboxes, clutches and stern tubes – this can help smaller operators to minimise inventory by removing the requirement to keep multiple specialist lubricants on board.

Main Applications

- Highly rated, medium speed, main propulsion & auxiliary trunk-piston stationary & marine diesel engines.
- Shell Gadinia S3 40 will also perform satisfactorily in smaller high-speed engines typically used in fishing fleets which operate under arduous conditions and have small sump sizes.
- Turbochargers, oil filled stern tubes and variable pitch propellers.
- Deck machinery & other marine applications requiring SAE 40 viscosity oils.

Specifications, Approvals & Recommendations

- Yanmar
- Daihatsu
- MTU CAT I
- Simplex B&V
- Reintjes
- Siemens/Flender
- Renk, Rheine

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

Typical Physical Characteristics

Properties			Method	Shell Gadinia S3 40
SAE grade (viscosity class)				40
Kinematic Viscosity	@40°C	mm^2/s	ASTM D445	128
Kinematic Viscosity	@100°C	mm^2/s	ASTM D445	13.7
Viscosity Index			ASTM D2270	103
Density	@15°C	kg/m^3	ASTM D4052	890
Flash Point		°C	ASTM D93	230
Pour Point		°C	ASTM D97	-21
Base Number		mg KOH/g	ASTM D2896	12
Sulphated Ash		% m/m	ASTM D874	1.5
Load Carrying Capacity (FZG Gear Machine)		Failure load stage	ISO 14635-1 A/8.3/90	12

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 S3 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 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**

  When changing from high Sulphur fuel oil to a distillate, bio-fuel or 0.1% sulphur hybrid fuel, care should be taken if switching from Shell Argina S to Shell Gadinia S3 so as to avoid sludge formation.

  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 avoid 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.