Technical Data Sheet

Replacement For: **Shell Argina S 40**

Shell **Argina** *S2 40*

- *PROTECTION FROM DEPOSITS AND CORROSION*
- *SUITABLE FOR RESIDUAL, BLENDED AND DISTILLATE FUELS*

Lubricants for medium-speed trunk piston engines

Shell Argina S2 40 is a multifunctional crankcase lubricant for highly rated medium-speed diesel engines operating on residual, blended or distillate fuels. Shell Argina S2 40 has a BN of 20 and is designed for conditions of low oil stress.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Extended oil life**

  Shell Argina S2 40 is a BN 20 oil which can be used with multiple fuel types.

  Please contact your Shell technical representative who will be able to offer additional support in product selection and guidance on extending oil life and minimising sweetening.

- **Engine protection**

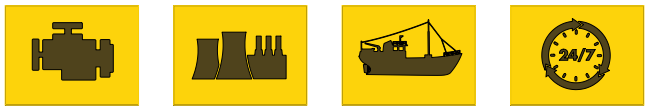
  Shell Argina S2 40 has an optimised level of detergency leading to exceptionally clean crankcase, valve deck and pistons.

- **System efficiency**

  Shell Argina S2 40 has a high detergency/low dispersancy formulation in order to effectively release contaminants and water in centrifugal separators.

  Shell Argina S2 40 can be used to top up engines already running on any other member of the Argina family, giving immediate control of BN without the need for an oil change. Shell Argina S2 40 may be particularly applicable as a balancing grade for engines which switch between residual fuel and distillate operation.

Main Applications



Medium-speed industrial or marine propulsion and auxiliary engines, burning residual, blended or distillate fuel oils, which create conditions of low oil stress. These conditions usually occur:

- In newer engine designs, less than 10 years old
- Where oil consumption is > 1.5 g/kWh
- Where load factors are <70%
- Where fuels with sulphur <2% are in use

Shell Argina S2 40 can also be used in marine engine reduction gears and certain other ship-board applications, where specialist lubricants are not required.

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

Specifications, Approvals & Recommendations

Shell Argina S2 40 is approved by Wartsila and MAN Energy Solutions

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

Typical Physical Characteristics

Properties			Method	Shell Argina S2 40
SAE grade (viscosity class)				40
Kinematic Viscosity	@40°C	mm^2/s	ASTM D445	131
Kinematic Viscosity	@100°C	mm^2/s	ASTM D445	13.7
Viscosity Index			ASTM D2270	100

Properties			Method	Shell Argina S2 40
Density	@15°C	kg/m³	ASTM D4052	900
Flash Point (PMCC)		°C	ASTM D93	230
Pour Point		°C maximum	ASTM D97	-9
Base Number		mg KOH/g	ASTM D2896	20
Sulphated Ash		% m/m	ASTM D874	2.6
Load Carrying Capacity (FZG Gear Machine)		Failure load stage	ISO 14635-1 A/8.3/90	11

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 Argina S2 40 is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and 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.

- **Oil 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.