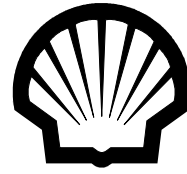


Shell Argina X

Medium-speed trunk-piston diesel engine oil



Shell Argina X is a multifunctional crankcase lubricant for highly rated medium-speed diesel engines operating on residual fuel. Argina X is designed for conditions of high oil stress and has been further optimised to improve deposit control.

Applications

- Medium-speed industrial or marine propulsion and auxiliary engines, burning residual fuel oils, which create conditions of high oil stress. These conditions usually occur:
 - in newer engine designs, less than 10 years old and/or fitted with flame rings,
 - where oil consumption is 0.5 – 1 g/kWh
 - where load factors are >85%
 - where fuels with sulphur >3% are in use
- Marine engine reduction gears (SAE 40 only) and certain other ship-board applications, where specialist lubricants are not required.

Medium-speed engines burning residual fuel need very specialised lubricants. Heavy fuels contaminate the oil with asphaltenes, requiring special types of detergency to avoid sludges. The combustion of high sulphur fuels produces sulphur acids, which cause high wear rates of piston rings and cylinder liners unless neutralised by a high basicity reserve in the oil. The oil is in service for very long periods, so centrifugal separators are used to remove water and combustion contaminants from the oil. Medium-speed engine oils must be specially designed to release these contaminants in the separator.

Performance Features

- **Engine cleanliness**

Has built a reputation over many years for very good engine cleanliness. The formulation has been further optimised to reduce deposits in critical areas, e.g. piston undercrown
- **Rapid neutralisation of acidic combustion products**

Gives long-term protection against corrosion of ferrous and non-ferrous metals.
- **Thermal stability and resistance to oxidation**

Provides excellent high temperature deposit control and contributes to long oil life

- **Suitability for centrifugal separators**

high detergency/low dispersancy formulation releases contaminants and water readily in centrifugal separators.

Specifications and Approvals

Argina X enjoys a comprehensive range of Original Equipment Manufacturers' approvals through field experience over many years and meets the engine test criteria for API CF .

Health & Safety

Argina X oils are 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.

For further guidance on Product Health & Safety refer to the appropriate Shell Product Safety Data Sheet.

Protect the environment

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

Typical Physical Characteristics

Shell Argina X	30*	40
Kinematic Viscosity @ 40°C cSt 100°C cSt (ASTM D 445, IP 71)	110 12	135 14
Viscosity Index (ASTM D 2270, IP 226)	100	100
Density @ 15°C kg/l (ASTM D 4052, IP 365)	0.913	0.916
Flash Point °C (Pensky-Martens Closed Cup) (ASTM D 93, IP 34)	212	205
Pour Point °C (ASTM D 97, IP 15)	-18	-18
Base Number mg KOH/g (ASTM D 2896, IP 276)	40	40
Sulphated Ash % wt (ASTM D 874, IP 163)	4.9	4.9
Load Carrying Capacity (FZG Gear Machine) Failure load Stage (IP 334 A/8.3/90)	not quoted	10

* SAE 30 available only for use in power plant engines.

These characteristics are typical of current production. Whilst future production will conform to Shell's specification variations in these characteristics may occur.

