Shell Argina XL

Medium-speed trunk-piston diesel engine oil

Shell Argina XL is a multifunctional crankcase lubricant for highly rated medium-speed diesel engines operating on residual fuel. Argina XL is designed for conditions of very 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 very high oil stress. These conditions usually occur:

  - in newer engine designs, with flame rings, especially from Wartsila,

  - where oil consumption is <0.5g/kWh

  - where load factors are >90%

  - where fuels with sulphur >3% are in use

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.

Modern engines are more demanding than ever. Oil consumption has been drastically reduced by the use of "flame" or "anti-polishing" rings. Lower oil consumption reduces the rate of renewal of the oil through top-up. This means that the average age of the oil charge is far greater than it used to be. Consequently the oil is exposed for much longer than before to the stresses of high temperatures, contamination and acid combustion by-products. *Argina XL* has been specially designed for very high stress conditions, found most often in modern Wartsila engines in power plant or ship propulsion applications.

Note: Due to its high base number, this oil has a high ash content. To avoid excessive ash deposits, do not use with low sulphur fuels, or engines with high oil consumption.

Performance Features

- ***Excellent engine cleanliness***
  Higher detergency than even *Argina X*, leading to exceptionally clean crankcase, valve deck and pistons. The formulation has been further optimised to reduce deposits in critical areas, e.g. piston undercrown.
- ***Very high oxidation resistance***
  Longer oil life and greater resistance to oxidative thickening.
- ***Extra high Base Number (50)***
  Longer oil life in engines where life is limited by depletion of Base Number (BN). In many cases a satisfactory equilibrium BN level can be maintained, in conditions where this would be impossible with a 40BN oil.
- ***Very good Base Number retention***
  Resists secondary loss of Base Number due to oxidation.
- ***Suitability for centrifugal separators***
  high detergency/low dispersancy formulation releases contaminants and water readily in centrifugal separators.
- ***Full compatibility with Argina family***
  Argina XL 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.

Specifications and Approvals

Argina XL is approved by Wartsila and meets the engine test criteria for API CF.

Health & Safety

Argina XL 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.

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

Argina XL	40
Kinematic Viscosity @ 40°C cSt 100°C cSt (ASTM D 445, IP 71)	 135 14
Viscosity Index (ASTM D 2270, IP 226)	100
Density @ 15°C kg/l (ASTM D 4052, IP 365)	0.921
Flash Point °C (Pensky-Martens Closed Cup) (ASTM D 93, IP 34)	229
Pour Point °C (ASTM D 97, IP 15)	-18
Base Number mg KOH/g (ASTM D 2896, IP 276)	50
Sulphated Ash % wt (ASTM D 874, IP 163)	6.1

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