

SHELL ARGINA XL 40

MEDIUM-SPEED TRUNK-PISTON DIESEL ENGINE OIL

DESIGNED TO MEET CHALLENGES

Shell Argina XL 40 is a multi-functional crankcase lubricant for highly rated medium-speed diesel engines operating on residual fuel. Shell Argina XL 40 is designed for conditions of very high oil stress and has been further optimised to improve deposit control.

PERFORMANCE FEATURES

EXCELLENT ENGINE CLEANLINESS

- Higher detergency than even Shell 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 (BN)

- Longer oil life in engines where life is limited by depletion of Base Number. 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 with low dispersancy formulation releases contaminants and water readily in centrifugal separators.

FULL COMPATIBILITY WITH SHELL ARGINA FAMILY

- Shell Argina XL can be used to top up engines already running on any other member of the Shell Argina family, giving immediate control of BN without the need for an oil change.

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 Wärtsilä;
 - where oil consumption is <0.5g/kWh;
 - where load factors are >90%; or
 - 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. Shell Argina XL 40 has been specially designed for very high stress conditions, found most often in modern Wärtsilä engines in power plant or ship propulsion applications.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

MEETS THE ENGINE TEST CRITERIA FOR:

- API CF.

APPROVED BY:

- Wärtsilä.

TYPICAL PHYSICAL CHARACTERISTICS

| CHARACTERISTICS | 40 |
|--|-----|
| Kinematic Viscosity (ASTM D 445, IP 71) @ 40°C mm ² /s | 135 |
| @ 100°C mm ² /s | 14 |
| Viscosity Index (ASTM D 2270, IP 226) | 100 |
| Density @ 15°C kg/m ³ (ASTM D 4052, IP 365) | 916 |
| Flash Point (PMCC) °C (ASTM D 93, IP 34) | 205 |
| Pour Point °C (ASTM D 97, IP 15) | -18 |
| Total Base Number mg KOH/g (ASTM D 2896, IP 276) | 20 |
| Sulphated Ash % wt (ASTM D 874, IP 163) | 6.1 |
| Load Carrying Capacity (FZG) Fail Load Stage | 11 |

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.