



Shell Alexia S5

- EXTRA PROTECTION
- HIGH PERFORMANCE

Cylinder Lubricant for two-stroke low speed diesel engines

Shell Alexia S5 is a cylinder lubricant designed for use in two-stroke low speed diesel engines running under conditions of very high oil stress. It provides additional protection in engines that require a very high performing product and is suitable for use with engines burning residual fuel with Sulphur levels >2.0%. It has been engineered to offer excellent performance under challenging operational conditions such as "slow" and "flexible" steaming regimes and very high fuel Sulphur levels. Shell Alexia S5 offers additional protection for engines running under more demanding conditions, such as Tier II tuned engines and those retrofitted with turbocharger cutout where additional support from the lubricant is required. It has been especially formulated to deal with all aspects of Oil Stress.

Shell Alexia S5 has a BN of 80 and is an SAE 50 oil cylinder lubricant.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Engine protection**

Shell Alexia S5 offers outstanding acid neutralising properties which help to prolong the life of components.

It has superior deposit control and minimises deposit build up on pistons, piston rings, ring grooves, under piston spaces and in cylinder ports.

Shell Alexia S5 has been engineered to provide enhanced boundary lubrication properties resulting in low cylinder and piston ring wear with typical cylinder wear rates below 0.05 mm per 1000 hours

Shell Alexia S5 builds on the Shell Alexia S4 technology to extend the portfolio with a product that has been designed to offer additional protection for those engines running under more demanding conditions, which result in greater oil stress. It is formulated to combat all aspects of oil stress.

Main Applications

- **Two-stroke low speed diesel engines**

Cylinder lubrication of 2-stroke low speed diesel engines running under conditions of high oil stress (for example, engines with very long strokes or fitted with turbocharger cut out) and burning residual fuel oil with Sulphur > 2.0%.

Specifications, Approvals & Recommendations

Shell Alexia S5 is approved for use by major manufacturers of low speed crosshead diesel engines including:

- Wärtsilä (To Be Confirmed)
- MAN (To Be Confirmed)
- MHI (To Be Confirmed)
- For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Help Desk.

Compatibility & Miscibility

- **Cylinder oil feed rates**

Insufficient cylinder oil feed rates can lead to corrosive wear, seized and broken rings and consequent blow-by and scavenge fire risks, and to the formation of excessive deposits. Shell Alexia S5 has a BN of 80 and should be used as per the relevant OEM service letters.

To obtain optimum performance with Shell Alexia S5 it is important to:

- Ensure the lubrication system is well maintained and properly adjusted
- Use Shell AnalexAlert to analyse used oil and seek advice from Shell's technical experts for advice on how to optimise oil feed rate
- **Mixing of cylinder lubricants**
Shell Alexia S5 is fully miscible with all other cylinder lubricants. However, for optimum performance, Shell Alexia S5 should not be used in conjunction with any other cylinder lubricant.

Typical Physical Characteristics

Properties			Method	Shell Alexia S5
SAE Viscosity Grade				50
Kinematic Viscosity	@40°C	mm ² /s	ASTM D445	180
Kinematic Viscosity	@100°C	mm ² /s	ASTM D445	16.7
Viscosity Index			ASTM D2270	>95
Density	@15°C	kg/m ³	ASTM D4052	940
Flash Point (Closed)	Pensky Martens	°C	ASTM D93	>210
Pour Point		°C	ASTM D97	<-6
BN		mg/KOH/g	ASTM D2896	80
Sulphated Ash		% wt	ASTM D874	9.8

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 Alexia S5 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 Material Safety Data Sheet, which can be obtained from your Shell representative.

• 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.