## **Shell Marine**

# **SHELL ALEXIA 140**



Ultra-high base number lubricant for modern efficient engines and mixing systems

Shell Alexia

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GIVES YOU THE FLEXIBILITY TO MEET THE DEMANDS OF CHANGING FUEL SULPHUR LEVELS AND OPERATING CONDITIONS.



Modern fuel-efficient engine designs are driving down operating costs. This is great news for operators, but it can come with a significant lubricant or engine-component price.

High-sulphur fuels can increase lubricant costs owing to their demands for high cylinder lubricant feed rates to control corrosion. To protect engine components at lower lubricant feed rates, Shell has created a new ultrahigh base number (BN) cylinder lubricant, Shell Alexia 140.

This high-performance cylinder lubricant can be used on its own in low-speed, two-stroke diesel engines with conditions of extreme oil stress. It can also be mixed onboard with low-BN lubricants to give you the flexibility to meet the demands of changing fuel sulphur levels and operating conditions and the option to order and store just two lubricants.

### IS AN ULTRA-HIGH BN LUBRICANT THE ANSWER?

New Shell Alexia 140 is an ultra-high BN lubricant. It can be used on its own or mixed with low-BN lubricants to help protect against cold corrosion and to reduce feed rates.

Shell Alexia 140's high levels of alkalinity and detergency make it suitable for use in newer, more-demanding engines, especially those operating under challenging slow and flexible steaming conditions and with highsulphur fuels.

Its 140 BN helps the lubricant to provide extra protection at engine manufacturers' recommended feed rates for engines burning residual fuels with >2.5% sulphur.

Shell Alexia 140 is also suitable for onboard cylinder lubricant mixing systems using lower-BN Shell Alexia products or Shell Melina system oils. This offers flexibility for vessels operating demanding engines with changing fuel sulphur levels and operating conditions.

The advantage of using Shell Alexia 140 is the flexibility it gives. With Shell Alexia S3, a BN range of 25 (100% Shell Alexia S3) to 140 (100% Shell Alexia 140) can be covered with just two lubricants.

The Shell LubeMonitor service can help you to get the right balance between feed rate and BN, and engine wear for different fuel sulphur levels and operating conditions.



#### **ONBOARD LUBRICANT MIXING SYSTEMS**

Onboard lubricant mixing systems can help to achieve the optimum BN lubricant for changing operating conditions and fuel sulphur contents with two onboard lubricants. Consequently, they can provide flexibility with simplicity.

There are two mixing systems:

- MAN Diesel & Turbo's Automated Cylinder Oil Mixing (ACOM) system blends two approved products to achieve the target BN.
- Maersk Fluid Technology's SEA-Mate Blending On-Board system (BOB) uses an additive concentrate or an ultra-high BN cylinder lubricant mix with system oil to blend cylinder lubricant with a target BN.

#### **PROVING THE VALUE OF SHELL ALEXIA 140**

Shell Alexia 140 has been developed in close co-operation with MAN Diesel & Turbo. It has proved its value in exhaustive laboratory and field tests over the last 18 months.

Shell Alexia 140 has been designed by considering cylinder lubricant blending applications. When Shell Alexia 140 is used with Shell Alexia S3 (25 BN) lubricant, the MAN Diesel & Turbo's ACOM system provides the flexibility to target the blended lubricant BN at an optimum feed rate suitable for the entire fuel sulphur range in marine fuels. ACOM system operation with Shell Alexia 140 and Shell Alexia S3 has collected more than 1,000 hours of data in a successful trial in a MAN S90ME-C9.2 engine.

Shell was the first to trial MAN Diesel & Turbo's ACOM system by using Shell Alexia S6 (100 BN) and Shell Alexia S3 for over 3,500 running hours in a MAN 6S50ME-B engine without any issues.

#### HELPING YOU TO FIND THE OPTIMUM BALANCE

The Shell LubeMonitor service can help you to find the right balance between lubricant BN, feed rate (i.e., cylinder oil costs), and wear-related cylinder maintenance expenses. Sophisticated software enables full engine system and oil analysis data integration with secure data transfer between your vessel and Shell. Our engineering team then provides expert feedback and recommendations.

The new faster, simpler Shell LubeMonitor service<sup>1</sup> includes

- Shell LubeMonitor sweep tests, which equipment manufacturers require for finding the optimal feed rate when changing, for example, fuel (different sulphur level) or load. This test is especially advisable for engines suffering from cold-corrosion problems.
- Shell LubeMonitor for feed rate optimisation, which helps to save you money on cylinder oil by finding the lowest possible feed rate and optimum wear rate combination for an engine
- Shell LubeMonitor for cylinder condition monitoring, which helps you to understand the condition of an engine and is particularly useful for the latest engine designs that suffer from cold-corrosion problems. Equipment manufacturers are advising customers to take part in cylinder condition monitoring when they are operating a latest-engine design. The programme can also help you to understand the root cause of high-wear problems.

#### **FIND OUT MORE**

To find out more about our products and services, please contact your local Shell Marine account manager or email to shellmarine-info@shell.com.



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