






# Shell Alexia 40 XC

A low-base number (BN), high-performance cylinder lubricant designed for modern low-speed, two-stroke marine engines using low (< 0.5%) sulphur fuels

**Shell Alexia 40 XC oil is designed to deliver value to you.** A low-BN oil with a cleanliness benefit equal to BN100 oils<sup>1</sup> – the easy choice for customers seeking to improve engine cleanliness, engine reliability and onboard operational efficiency.

 <p><b>Cleanliness</b></p>	<p><b>&gt; 30% cleaner</b> than Category I BN40 cylinder oils<sup>2</sup></p>	<p><b>Equal cleanliness</b> to Category II BN100 cylinder oils<sup>1</sup></p>	<p><b>Less frequent overhauls</b> helping to lower maintenance cost</p>
 <p><b>Reliability</b></p>	<p><b>Acid-neutralising properties</b> to prolong component life</p>	<p><b>Minimises deposits</b> on pistons and ring grooves</p>	<p><b>Controls wear</b> of cylinder liners and piston rings</p>
 <p><b>Efficient on-board Operations</b></p>	<p><b>Time saved</b> No switching between high-BN and low-BN lubricants</p>		<p><b>Fully miscible</b> and compatible with cylinder lubricants in the Shell portfolio</p>

## A proprietary formulation designed by Shell's in-house R&D team



Formulation design and testing at the Marine Power and Innovation Centre (Hamburg)



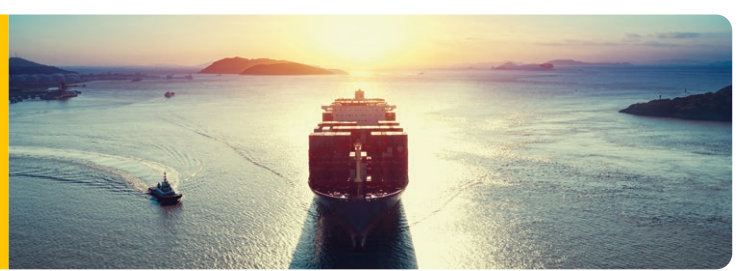
> 6,000 hours of rigorous testing and extensive field trials



In collaboration with MAN Energy Solutions and customers

### Shell Alexia 40 XC oil is

- approved for use in all MAN ES B&W two-stroke engines Mark 9 and above
- suitable for all MAN ES B&W two-stroke engines, including Mark 8 and lower engines.



<sup>1</sup> Based on results of field trials conducted in collaboration with MAN Energy Solutions (MAN ES) in which Shell Alexia 40 XC oil was tested against a Category II BN100 cylinder oil (Vessel Mingzhou); based on testing procedures for Category II cylinder oils by MAN ES, approved Category II cylinder oils have a cleaning ability equal to or better than a classical BN 100 cylinder oil.

<sup>2</sup> Based on results of field trials conducted in collaboration with MAN ES in which Shell Alexia 40 XC oil was tested against a Category I BN40 cylinder oil (Vessel TS Sydney (Songa Toscana)).

Product	BN, mg KOH/g	MAN ES category	SAE grade	Viscosity index	Flash point, °C	Pour point, °C	Density at 15°C, kg/m <sup>3</sup>	Fuel	Engine type
Shell Alexia 140	140	II	60	> 95	> 225	< -6	975	High-sulphur fuel oil + scrubber	All MAN ES, WinGD
Shell Alexia 100	100	II	50	> 95	> 210	< -6	949	High-sulphur fuel oil or 0.5%-sulphur fuel oil (if needed for cleanliness) + scrubber	All MAN ES, WinGD, Japan Engines
Shell Alexia 70	70	I	50	> 95	> 210	< -6	932	0.5%-sulphur fuel or high-sulphur fuel (up to 2.5%)	MAN ES Mark 8 and below, WinGD, Japan Engine
<b>Shell Alexia 40 XC</b>	40	II	50	> 98	> 210	< -9	915	Low- to zero-sulphur fuels	All MAN ES engines (recommended for Mark 9 and above)
Shell Alexia 40	40	I	50	> 95	> 210	< -6	915	0.5%-sulphur fuel; 0.1%-sulphur fuel in emission control areas (ECA)	MAN ES Mark 8 and below, WinGD, Japan Engine

## Digital solutions and technical expertise can help further optimise operations

### Shell Lube Monitor

- The go-to solution for cylinder condition monitoring, made simpler using digital technology.
- Log measurements and observations from on-board engine inspections to obtain expert advice from Shell technical advisors.
- Logging data on engine conditions helps support discussions with warranty and service providers.
- Monitoring cylinder oil performance helps you optimise feed rate when switching to Shell Alexia 40 XC oil.
- Easier processing of on-board and laboratory testing results with engine inspection results, for comparison against OEM requirements.

## Frequently asked questions

### Q: Is Shell Alexia 40 XC oil miscible with other Shell Alexia products? What is the percentage miscibility?

Yes, Shell Alexia 40 XC oil is fully miscible and compatible with other Shell Alexia grades. If you are changing lubricants due to compliance with different fuel requirements, then please ensure that tanks are at 20% or less before topping up with the new-BN product.

### Q: Will Shell Alexia 40 XC oil replace Shell Alexia 40 oil?

No, both BN40 products will be maintained in our portfolio. Shell Alexia 40 XC oil is recommended for MAN ES two-stroke engines Mark 9 and above, while Shell Alexia 40 is recommended for engines Mark 8 and below.

### Q: What is the difference between switching between, or mixing, a BN100 Category II and a BN40 Category I lubricant, and using Shell Alexia 40 XC oil?

Operationally, it is simpler to use one grade on board, which also helps to avoid mistakes on product application. This is also the recommendation from MAN ES.

### Q: Do I need to adjust my feed rate when switching to Shell Alexia 40 XC oil?

Engine cylinder monitoring solutions such as Shell LubeMonitor can help you understand if your feed rate is optimal based on the engine, fuel and lubricant in use, as well as monitoring lubricant compatibility when you switch.

### Q: How do I know if my vessel should switch to Shell Alexia 40 XC oil?

It is advisable to follow the latest manufacturer recommendations when selecting a lubricant, and Shell Alexia 40 XC oil could be appropriate if you are facing cleanliness challenges when using a < 0.5% sulphur fuel with a BN40 Category I lubricant.

