

SHELL RIMULA R6 LM CK-4



- **Low emissions¹**
- **Maintenance saving**

¹Compatible with lower emissions engine technology



YOU NEED THE ENGINES OF YOUR TRUCKS TO WORK RELIABLY AND EFFICIENTLY, WHETHER IN LONG-HAUL OPERATIONS OR THE SEVERE START-STOP DRIVING CONDITIONS OF SHORT-HAUL OPERATIONS. YOU ALSO WANT TO PROTECT THE PERFORMANCE OF YOUR EXHAUST EMISSIONS CONTROL SYSTEMS TO ENSURE YOUR VEHICLES COMPLY WITH LEGISLATIVE REQUIREMENTS. WHEN YOUR ENGINE OIL IS DESIGNED TO MEET THESE CHALLENGES, IT CAN HELP YOU TO

- extend oil-drain intervals
- cut maintenance costs.

HIGH PERFORMANCE

Shell Rimula R6 LM features low sulphated ash, phosphorus and sulphur (SAPS) additive technology and a unique anti-wear system. Its protective power is enhanced with synthetic technology that results in maintenance saving, long oil-drain capability and exceptional wear and cleanliness performance.

Meeting the latest API specification

Advanced technologies and materials, and new operating conditions such as higher internal temperatures continue to improve engine efficiency. These engine changes place more stress on the oil, which has to lubricate, cool, clean and protect over extended oil-drain intervals.

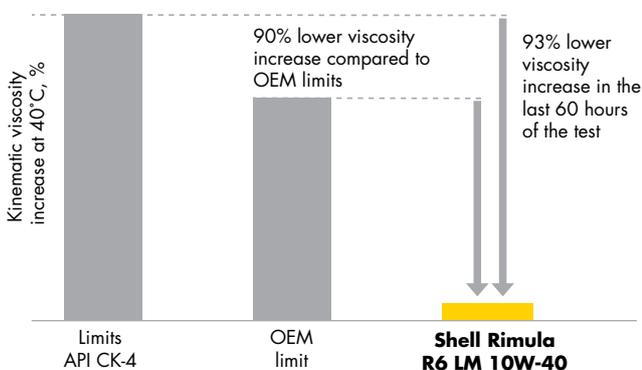
As engine manufacturers create cleaner, more-fuel-efficient diesel engines, they need a new generation of high-performing diesel engine oils to protect them. Shell Rimula R6 LM has been formulated to meet the latest API CK-4 specification, which has extended test limits in response to changes in engine hardware and operating conditions.

Low emissions

- Low-SAPS formulation for exhaust system catalyst protection
- Designed to reduce diesel particulate filter (DPF) blocking¹

Maintenance saving

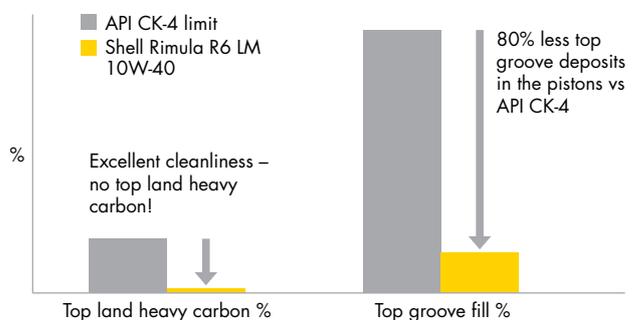
- Up to 53% better engine wear protection²
- Reformulated for up to 93% improved viscosity control³



Volvo T-13 engine test

EXCELLENT DEPOSIT RESISTANCE

Shell Rimula R6 LM demonstrates excellent resistance to deposit build-up in the Caterpillar 1N engine test.



Caterpillar 1N test

In the Caterpillar 1N test, which evaluates the aluminium piston deposit formation and oil consumption of engine oil in a direct-injection diesel engine, Shell Rimula R6 LM 10W-40 shows a strong resistance to carbon build-up.

ANTI-WEAR BOOSTER FOR ENHANCED DURABILITY

Shell Rimula R6 LM helps to protect against cam wear to keep the engine operating at optimum efficiency, as demonstrated in the results of the MB OM 646 LA engine test.



Brand new cam



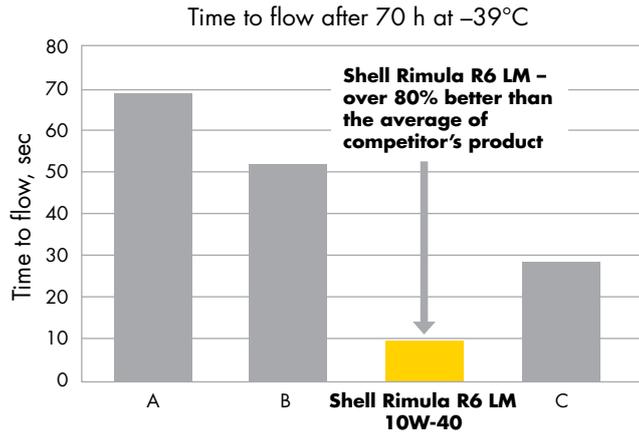
Shell Rimula R6 LM in MB OM 646 LA engine test

¹Unique low-ash additive system designed to perform with DPFs

²Compared with the revised, more stringent MB 228.51 limit, as measured in the MB OM 646 LA engine test

³In the Volvo T-13 oxidation test, Shell Rimula R6 LM 10W-40 CK-4 demonstrated up to 93% improved viscosity control over the API CK-4 limit

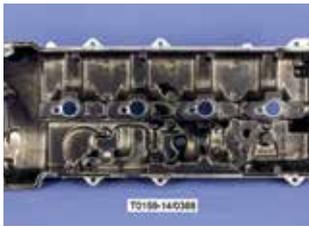
PROTECTS ENGINES AT LOW TEMPERATURES



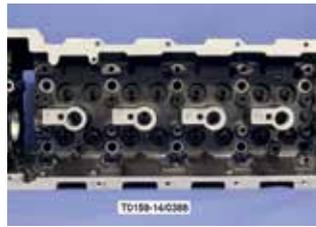
In laboratory tests, Shell Rimula R6 LM flows after less than 10 sec, more than 80% faster than competitor oils.

ADVANCED SLUDGE CONTROL

Shell Rimula R6 LM provides excellent control of sludge deposits, as demonstrated in the results of the OM 646 LA engine test for the Daimler MB 228.51, which shows a rocker cover and valve deck after testing for 300 h.



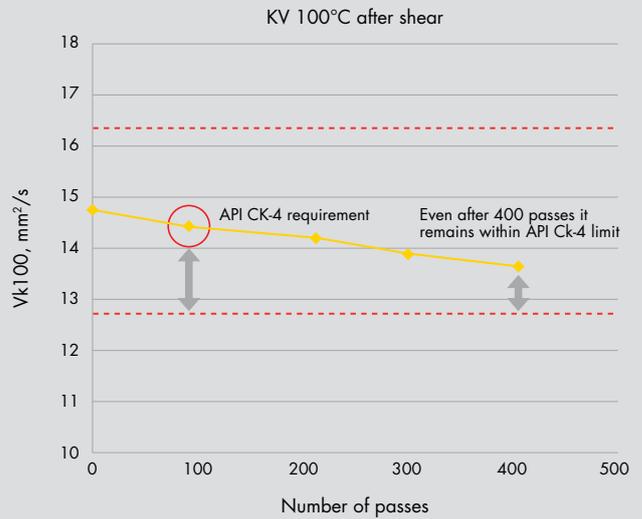
Rocker cover (OM 646 LA)



Valve deck (OM 646 LA)

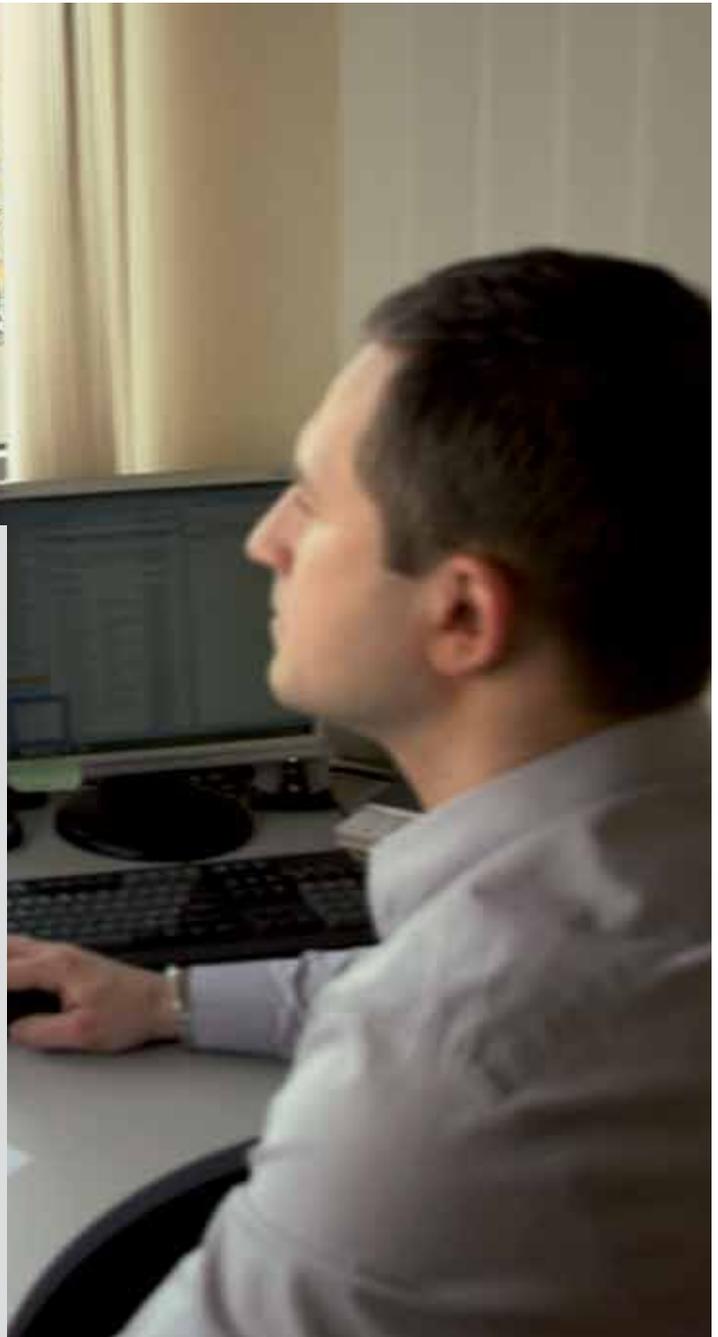
Shear stability

Shear stability is a measure of an oil's ability to resist mechanical degradation under severe stress. Being sheared into smaller parts can reduce an oil's viscosity, which may result in failure to protect vital engine parts. In the ASTM D7109 test, Shell Rimula R6 LM demonstrates strong shear stability.



Extended ASTM D7109 shear stability test with Shell Rimula R6 LM 10W-40





DYNAMIC PROTECTION PLUS

Shell Rimula R6 LM is formulated with Dynamic Protection Plus Technology that combines synthetic base oil technology and our Adaptive Additive Technology to provide outstanding engine protection:

- Its adaptive technology protects against engine wear across all terrains and weather conditions, and offers proven start-up capabilities at any temperature.
- It fights against acid and deposit build-up so that the engine is protected under all conditions.
- It helps engines to last longer across all terrains, which results in longer oil-drain intervals⁴ and engine life.

⁴Proven to deliver 150,000 km oil-drain intervals based on Daimler specification MB 228.5 or 228.51



THE VALUE TO YOU

Because Shell Rimula R6 LM helps to control deposits, acid corrosion and wear, it can help to extend engine life and reduce maintenance costs – to provide you with increased revenue.

RELATIVE PROTECTION			
	Acid/corrosion	Dirt and deposits	Wear
Shell Rimula R6 LM	✓✓✓	✓✓✓✓	✓✓✓✓
Shell Rimula R5 LE	✓✓✓	✓✓✓	✓✓✓
Shell Rimula R4 X	✓✓	✓✓✓	✓✓ ^{1/2}

Performance is a relative indication only

REAL-WORLD VALUE

Agrimer wanted to increase the operational efficiency of its delivery trucks by extending their oil-drain intervals. As a result of changing to Shell Rimula R6 LM 10W-40, Agrimer has **increased the average oil-drain interval of its trucks by 87% from 8,000 to 15,000 km.** The company benefits from **increased fleet availability, reduced oil consumption and less scheduled maintenance,** and reports a **total annual cost saving of US\$69,340.⁵**

⁵The savings indicated are specific to the calculation date and mentioned site. These calculations may vary from site to site and from time to time, depending on, for example, the application, the operating conditions, the current products being used, the condition of the equipment and the maintenance practices.



BETTER PROTECTION FOR ENGINES WITH EGR

Exhaust gas recirculation (EGR) introduces some exhaust gas into the inlet air charge to reduce peak combustion temperatures, which lowers nitrogen oxide emissions. The exhaust gases contain acids and soot particles that can have a detrimental effect on oil performance in terms of corrosion- and soot-induced wear. EGR also leads to higher oil temperatures, which stress the oil further.

Shell Rimula R6 LM with Dynamic Protection Plus technology shows excellent performance in the severe tests on engines equipped with EGR that were introduced into the API CJ-4 specification, i.e., Mack T-12 (lead corrosion and piston ring and cylinder liner wear) and Cummins ISB (valve train wear under high soot conditions).

SHELL RIMULA R6 LM – SUITABLE FOR



SPECIFICATIONS AND APPROVALS

SAE viscosity grade: 10W-40

API: CJ-4, CK-4; ACEA: E7 and E9; Caterpillar: ECF-2 and ECF-3; Cummins: CES 20081 and CES 20086; DAF: meets ACEA E6; Detroit Diesel: DFS 93K218 and 93K222; DEUTZ: DQC IV-10 LA; Iveco: NG 2 (meets requirements); JASO DH-2; MACK: EO-O Premium Plus and EOS-4.5; MAN: M2371-1 and M3477; MB approval 228.51; MTU: Category 3.1; Renault Trucks: RLD-3 and RLD-4; and Volvo: VDS-4 and VDS 4.5.

ALSO AVAILABLE

Shell Spirax gear and axle oils

Shell Spirax transmission fluids

Shell Gadus greases

For more information, please contact



shell.com/lubricants