

NEW AND IMPROVED

Shell Rimula R6 LM



- Low emissions
- Maintenance saving

Shell Rimula



TECHNOLOGY THAT ADDS VALUE

You need to know your oil will protect your engine under all conditions. No matter how hot, cold, steep, dusty, muddy or extended your operations, you demand protection.

Shell Rimula heavy-duty diesel engine oils provide protection in three critical areas:

1. **Acid control** – protects against corrosion from the acids formed as fuel burns
2. **Deposit control** – keeps engine clean for optimum performance and long life
3. **Wear control** – keeps moving metal engine surfaces apart for long engine life.

Shell Rimula R6 LM provides an advanced technology solution to meet the technical and operational needs of diesel and CNG powered heavy-duty truck and bus fleet operators. Providing versatile protection Shell Rimula R6 LM can help contribute to efficient transport operation through

 **LOW EMISSIONS**

 **MAINTENANCE SAVING.**

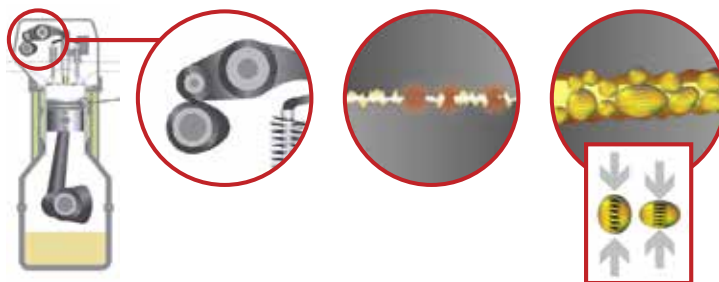
PROTECTIVE POWER

Shell Rimula R6 LM uses a three-fold approach to delivering protection: **1) synthetic technology base oils for increased additive activation, 2) advanced additive technology and 3) an anti-wear booster system.** The low-SAPS formulation also protects exhaust catalysts and helps control deposit formation in CNG-fuelled engines, which makes Shell Rimula R6 LM an ideal choice for operators of mixed-fuel, low-emission trucks and buses.

YOUR PROTECTION – OUR EXPERIENCE

Shell technologists have developed an anti-wear booster that provides extra protection in highly stressed areas of the engine. In laboratory simulations, this system can help reduce wear by up to 50%.

Hot spots form when lubrication breaks down. An anti-wear booster enhances the protective power of the oil.



Shell Rimula R6 LM has special molecules that resist compression to keep moving parts separated and reduce wear.

*Compared with SAE 10W-40 oil.

RELATIVE PROTECTION

	Acid/corrosion	Dirt and deposits	Wear
Shell Rimula R6 LME ■ Low emissions ■ Maintenance saving ■ Energy saving	✓✓✓	✓✓✓✓	✓✓✓✓
Shell Rimula R6 LM ■ Low emissions ■ Maintenance saving	✓✓✓	✓✓✓✓	✓✓✓✓
Shell Rimula R6 ME ■ Maintenance saving ■ Energy saving	✓✓✓	✓✓✓	✓✓✓

Performance level is a relative indication only.



LOW EMISSIONS

Ash is the residue formed when lubricants are burned and typically comes from the additives used to fight acids and wear.

Shell Rimula R6 LM is formulated with an advanced low-ash additive system designed to

- control filter blocking
- maintain control of wear and deposits.

DEMONSTRATED TO REDUCE DPF BLOCKING

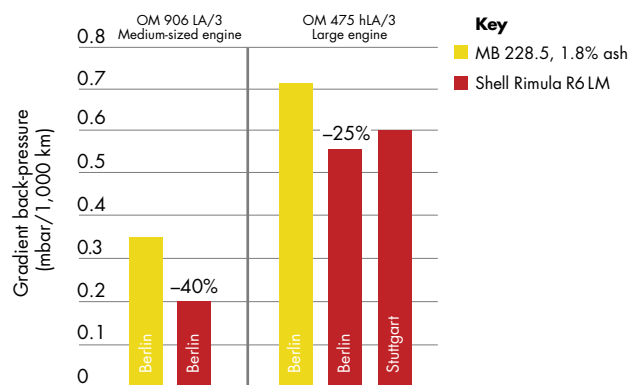
Field-testing in city bus operations confirms that Shell Rimula R6 LM increases the maintenance interval of diesel particulate filters (DPF) by maintaining an acceptable operational back-pressure for longer.

Monitoring the back-pressure of a medium-sized engine (Daimler OM 906 LA) shows that the DPF can be operated for at least 50% longer with Shell Rimula R6 LM than with a typical top-tier high-ash product (see graph) and this means:

- a longer DPF maintenance interval
- improved fuel consumption performance.

Diesel particulate filter – fewer blockages, lower back-pressure, better fuel economy.

Lower back-pressure with Shell Rimula R6 LM



VERSATILE PROTECTION – DEMONSTRATED PERFORMANCE

The advanced wear protection and deposit control of Shell Rimula R6 LM 10W-40 has been demonstrated in

- over 20 million kilometres of bus and truck field testing
- extended oil-drain-interval trials with low-sulphur fuel
- extreme conditions in South Africa using high-sulphur fuel
- exhaust gas recirculation engines operating with higher-sulphur fuel in the USA.

MAINTENANCE SAVING – EXTRA PROTECTION AGAINST WEAR AND DEPOSITS

Shell Rimula R6 LM maintenance saving:

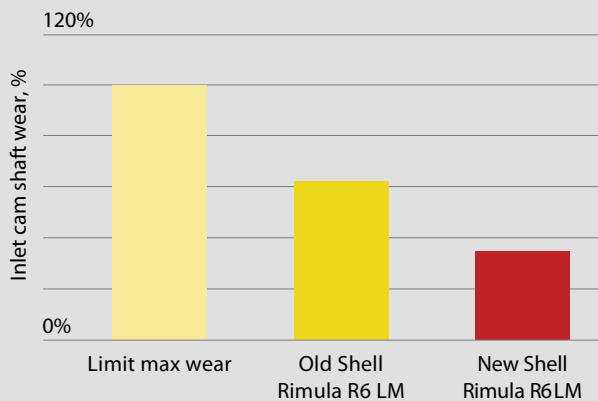
- extra protection against wear and deposits
- only 30% wear level against test limit maintenance.

In engine tests that evaluate aspects of engine wear such as valve train wear (Daimler OM 646, Cummins ISM) and bore polish (Daimler OM 646 LA, Volvo D12D) Shell Rimula R6 LM demonstrated less wear in all tests.*

Shell Rimula R6 LM protects against cam wear to keep the engine operating at optimum efficiency.

Shell Rimula R6 LM has shown significantly increased wear protection in the MB OM 646 test.

* Compared with the previous Shell Rimula R6 LM.



Cam after test with new Shell Rimula R6 LM



New cam



MAINTENANCE SAVING – ENGINE CLEANLINESS

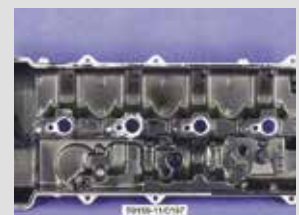
Shell Rimula R6 LM

- has been improved by the addition of carefully selected more-active additives and molecules that are designed and optimised to provide additional performance in the key areas of engine cleanliness and engine wear
- clearly demonstrates improvements in each of the key areas of engine test performance required for industry and original equipment manufacturer specifications. Its performance considerably exceeds the highest specification requirements of major European engine manufacturers
- has been developed to provide excellent performance in engine cleanliness, as has been demonstrated by engine tests such as MB OM 646 LA and MAN Meistersinger. In these tests the rocker cover (MAN) and head cover (MB OM 646 LA) remain clean with Shell Rimula R6 LM.

New head cover OM 646 LA



Head cover with Shell Rimula R6 LM



MAN Meistersinger rocker covers – new



MAN Meistersinger rocker covers – with Shell Rimula R6 LM



SHELL RIMULA R6 LM – APPLICATION GUIDE



Shell Rimula R6 LM engine oils are suitable for use in many on-highway heavy-duty applications. Meeting the requirements of many US, European and Japanese engine makers, they are particularly suited for a wide range of trucking and public transportation applications in modern low-emission vehicles, in particular fleets with mixed brands of engines and ages of vehicles.



Shell Rimula R6 LM is also approved for use in heavy-duty CNG-fuelled engines from Mercedes-Benz, MAN and Volvo making it particularly suitable for use in public transportation fleets with mixed diesel and gas powered vehicles.

Shell Rimula R6 LM exceeds the performance requirements of industry specifications such as ACEA E6 and E7, and is particularly recommended for vehicles fitted with DPFs.



SPECIFICATIONS AND APPROVALS

ACEA: E7, E6, E4-99; API: CI-4, CH-4, CG-4, CF-4;
Caterpillar: ECF-1-A; Cummins: CES 20077;
DAF: Meets ACEA E6 & E4-99; Mack: EO-M+;
MAN: 3477, 3271-1; MB Approval: 228.51, 226.9;
MTU: Category 3.1; Renault Trucks: RD-2; Volvo: CNG, VDS-2.

OUR COMPLEMENTARY RANGE

In addition to the full range of Shell Rimula heavy-duty engine oils, Shell Lubricants also offers a complete portfolio of lubricants for every part of your equipment, including Shell Spirax gear, axle and transmission fluids, and Shell Gadus greases.



HEALTH, SAFETY AND ENVIRONMENT

Health and safety

Shell Rimula R6 LM oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and if good standards of industrial and personal hygiene are maintained.

Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

For further guidance on product health and safety, refer to the appropriate Shell product safety data sheet.

Protect the environment

Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

Advice

Advice on applications not covered in this leaflet may be obtained from your Shell representative.

For more information, please contact

The term "Shell Lubricants" collectively refers to Shell Group companies engaged in the lubricants business. They manufacture and blend products for use in a range of applications, from consumer motoring to mining and power generation to commercial transport. Shell's portfolio of lubricant brands includes Pennzoil®, Quaker State®, Shell Rotella®, Shell Helix®, Shell Advance®, Shell Rimula®, Shell Tellus®, Monarch®, and Jiffy Lube®. Shell has leading lubricants research centres in Germany, Japan (joint venture with Showa Shell), UK, and the USA.

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