



MAGNUM



Innovative technologies
for your engine

Rosneft Magnum

A new engine oil product line

Rosneft is a leading producer of oil and oil products in Russia, a manufacturer of high-quality petrochemicals, and a pioneer of innovative technologies. Rosneft's presence is continuously expanding in the international market. It is now world's largest publicly traded petroleum company which exports to more than 100 countries. The strong foundation of the company lies in both scientific and material resources – more than 10 R&D institutions as well as own production of base oils for lubricants.

Today Rosneft's lubricant business is implementing a large-scale strategy to promote technological breakthroughs and enhance overall quality of production. In response to constantly changing consumer demands, the company has proposed a new product concept in the engine oil market.

In 2017 Rosneft launched a brand-new engine oil product line called Rosneft Magnum, which is produced using own high-quality synthetic base oils. The up-to-date technology and top-tier additives have been used in developing these new products. They have a significantly higher performance level compared to the existing mass-market products.

The new product portfolio was developed based on comprehensive market research, which focused not

only on analyzing the car fleet but also on identifying the clients' needs. Through the launch of Rosneft Magnum, Rosneft has aimed to become more responsive to the unique needs of the customers. Furthermore, the new line has widened the customer range by offering more diversified products. Consumers, from the owners of the newest cars to those of the high-mileage cars, can enjoy the benefits of Rosneft's client-oriented approach.

Rosneft Magnum strength lies in the customization. Each product was created in order to maximize the performance of a particular application. For different demands, optimal outcome was reached through large-scale laboratory and bench tests. Consumers can make the best choice from Rosneft Magnum, depending on their desired performance features.

Rosneft Magnum includes five types of engine oils:

- **Rosneft Magnum ULTRATEC**
for brand-new cars with top-tier performance level
- **Rosneft Magnum MAXTEC**
for maximal protection of the engine with high mileage
- **Rosneft Magnum COLDTEC**
for operation at low temperatures
- **Rosneft Magnum RUNTEC**
for operation with increased oil drain interval
- **Rosneft Magnum CLEANTEC**
for maintaining cleanliness of the engine with a service life of more than 10 years



These innovative products were launched in a canister of new design, representing the company's core values: reliability, efficiency and excellence.



ULTRATEC

Maximum protection
for your engine

Synthetic engine oil

Viscosity grades:

SAE 5W-30, 5W-40, 10W-40

Approvals and specifications:

SAE 5W-40: API SN/CF, ACEA A3/B4, A3/B3, MB 229.3, 229.1, 226.5, VW 502.00/505.00, Renault RN 0700/0710, GM LL-A/B-025, Fiat 9.55535-H2/M2/N2, PSA B71 2294, AvtoVAZ

SAE 10W-40: API SN/CF, ACEA A3/B4, A3/B3, MB 229.3, 229.1, 226.5, VW 502.00/505.00, Renault RN 0700/0710, GM LL-A/B-025, Fiat 9.55535-G2, PSA B71 2230, AvtoVAZ

SAE 5W-30: API SL/CF, ACEA A5/B5, Ford M2C-913C, Renault RN 0700

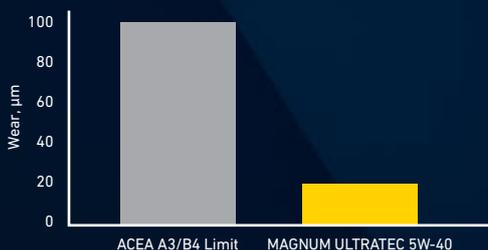
Rosneft Magnum ULTRATEC is fully synthetic engine oil specially developed for the cars of the leading global car manufacturers including Mercedes-Benz, Volkswagen, Renault, Ford, GM, Fiat, Peugeot-Citroen and others. The use of salicylate additive package provides superior engine protection against high and low temperature deposits.

Tests

- Mercedes Benz OM646LA test measures oil's efficiency to control and prevent engine wear;
- Volkswagen TDI test measures oil's efficiency to prevent deposit formation in the piston rings area.

Engine wear

Mercedes Benz OM646LA Engine



Compliance tests for the requirements of the leading car manufacturers and international standards were conducted in the certified testing centers in Europe and USA by using the engines of such manufacturers as Mercedes-Benz, Volkswagen, Renault and Ford.

Advantages

- Complies with the requirements of the leading global car manufacturers
- Ensures reliable protection of the engine against wear
- Contains up to date salicylate additive package



COLDTEC

Guaranteed cold start

Synthetic engine oil

Viscosity grades: SAE 5W-30, 5W-40

Approvals and specifications: API SN/CF, AvtoVAZ

One of the most common requirements for engine oil in countries with severely cold winters is reliable cold start.

What is actually happening

Oil tends to have higher viscosity at low temperatures. Thus, it takes additional time to pump oil through the main oilways. At this stage, engine goes into oil starvation period and the battery experiences an increased load.

Oil requirements

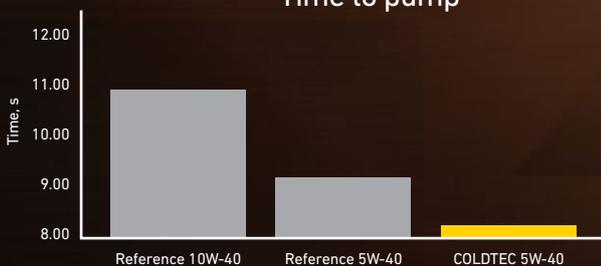
Important conditions for a reliable cold start are preservation of required viscosity at low temperatures and creation of stable oil film, which protects the engine during low temperature cranking.

Tests

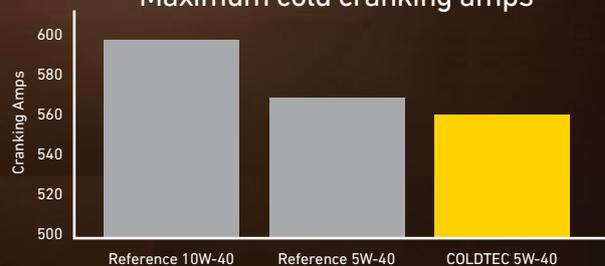
- **Cold Cranking Simulator (CCS)** measures oil's viscosity at low temperatures and high shear, conditions similar to engine start-up;
- **Cold Crank Test (Cold box)** measures oil pressure and pumping time after car is soaked in Cold Box at -25 °C for 24 hours;
- **Mini-Rotary Viscometer (MRV)** measures oil pumpability by simulating oil pumping at low temperatures.

Rosneft Magnum COLDTEC was created based on thorough understanding of the cold cranking process and the certified tests. It gives a stable protection for engine parts at low temperatures, has a lower pour point and lower viscosity during an engine start, and creates required pressure in the oil system more quickly than most of other products in the market.

Time to pump



Maximum cold cranking amps



Advantages

- Facilitates the engine start at low temperatures
- Protects the engine during cold start
- Reduces battery load and extends its service life



RUNTEC

Extended oil drain intervals

Synthetic engine oil

Viscosity grades: SAE 10W-40, 20W-50

Approvals and specifications: API SN/CF, AvtoVAZ

Under the standard operation conditions car manufacturers have created unified specifications on the oil drain intervals. However, the actual operation conditions can significantly differ. As a consequence, this discrepancy could cause reduction in the oil drain intervals. For this reason, a lot of the car owners

are looking for engine oil which can not only keep its performance within the specified intervals but also increase these intervals without affecting the engine.

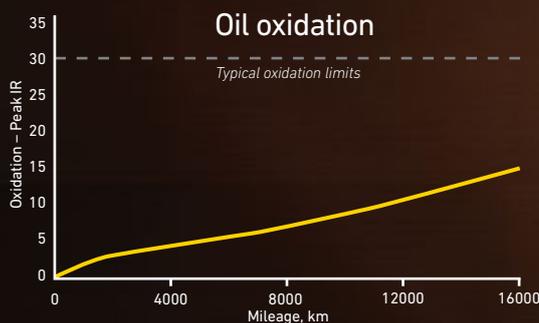
What is actually happening

When engine oil is consumed, oxidation process inevitably creates certain amount of deposits on engine parts, such as cylinder-piston group, crankcase, cylinder head, etc. As a result, this leads to sludge, deposit and lacquer formation and crankshaft bearings wear. Furthermore, compression loss could eventually cause engine failure.

Oil requirements

There are several components essential for extending engine's service intervals. First, engine oil should possess superior anti-oxidant properties which can maintain throughout additional operation period. It should also contain more detergent and dispersing additives which will prevent accumulation of harmful deposits.

Tests



- **Mileage Accumulation Dynamometer Test (MAD)** is a bench test on Toyota Corolla with 16 000 km oil drain interval. Oil samples were taken every 2 000 km to measure wear traces and anti-oxidation properties;
- **Pressure Differentiation Scanning Calorimetry (PDSC)** measures oil resistance against thin-film oxidation. This test is conducted in a setting similar to combustion chamber where oil film is exposed to high temperature in the presence of oxygen;
- **Thermo-Oxidation Engine Oil Simulation Test (TEOST 33C)** simulates the tendency of engine oil to oxidize and form deposits, especially in high temperature areas, such as engine turbocharger;
- **TEOST MHT-4** is a modified 33C test which measures engine oil behavior in the piston-cylinder area.

Ronseft Magnum RUNTEC consists of the latest generation additives and fully synthetic base oils. Runtec enables your engine not only to operate through the entire period set by the car manufacturer but also to retain a significant reserve by the end of the oil drain intervals. These features make you confident that your engine is well-protected even after 16 000 km.

Advantages

- Provides extended oil drain intervals
- Reduces maintenance costs
- Continues to protect the engine after 16 000 km



MAXTEC

Extended service life of your engine

Semi-synthetic engine oil

Viscosity grades: SAE 5W-30, 5W-40, 10W-40

Approvals and specifications: API SL/CF, AvtoVAZ

Average length of car ownership has been steadily increasing worldwide. In other words, more car owners are keen to choosing the engine oil which can extend their engine's lifespan. In this way, it is important to consider how much protection each engine oil can offer.

What is actually happening

After several years of operation, engine performance starts to gradually deteriorate. It is mainly because of engine wear, which increases gaps in friction pairs, and deposit formation, which eventually leads to clogging of oilways, ring sticking and compression loss. Consequently, excessive amount of fuel and lubricants could be consumed by the engine. Moreover, these problems could cause engine failure.

Oil requirements

For high-mileage cars, it is necessary to use robust engine oils particularly developed for the advanced protection. These oils effectively protect the engines by preventing further engine wear and minimizing deposit formation.

Tests

- **Daimler Oxidation Test** measures oil resistance against bulk oxidation in the crankcase. This test demonstrates the quality of base oils, which predominantly determine oil resistance;
- **Pressure Differentiation Scanning Calorimetry (PDSC)** measures oil resistance against thin-film oxidation. This test is conducted in a setting similar to combustion chamber where oil film is exposed to high temperature in the presence of oxygen;
- **Thermo-Oxidation Engine Oil Simulation Test (TEOST 33C)** simulates the tendency of engine oil to oxidize and form deposits, especially in high temperature areas, such as engine turbocharger.

After conducting a comprehensive study of the processes which occur during an extended car operation, Rosneft succeeded in applying innovative technologies to **Rosneft Magnum MAXTEC**. By giving efficient protection to your high-mileage engines, this oil will facilitate a smoother operation.

Daimler Oxidation Test



Reference



MAXTEC 10W-40

Advantages

- Extends engine's service life in post-warranty period
- Reduces deposit formation in the cylinder-piston group area
- Ensures smooth engine operation



CLEANTEC

Efficient cleanliness of your engine

Synthetic engine oil

Viscosity grades: SAE 10W-40

Approvals and specifications: API SJ/CF, AvtoVAZ

In most emerging countries, average age of passenger vehicles exceeds 10 years. Compared to modern gasoline engines, naturally aspirated engines operate at lower loads. In addition, those old engines had different lubricant requirements when they were produced. Running an old engine with outdated lubricants could substantially shorten engine's lifespan. Thus, it is important for the car owners to choose the engine oil that can help maintaining a clean engine.

What is actually happening

Mineral oils meeting obsolete API specifications (SG or lower) have moderate anti-oxidation and detergent properties. However, if additives fail to adequately prevent oxidation of mineral base oils, deposits will accumulate on the engine parts. As a result, engine will not function properly.

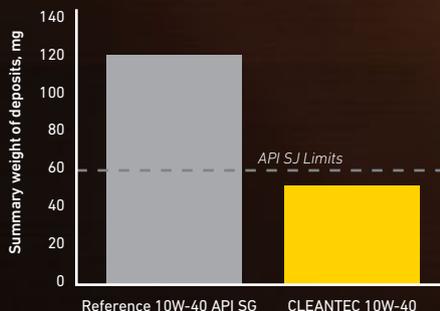
Oil requirements

When car owners want to keep a clean engine with minimal deposits, key components of engine oil are important. These components include high-quality additives and synthetic base oils with superior anti-oxidation properties.

Tests

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TEOST 33C



Rosneft produces synthetic base components with its own sophisticated technologies. In addition, the company has many years of experience cooperating with domestic automakers. All these advantages have contributed to developing **Rosneft Magnum CLEANTEC**, which will keep your engine parts clean at an affordable cost.

Advantages

- Reduces deposit and sludge formation
- Ensures trouble-free operation of high-mileage engines
- Suitable for vehicles older than 10 years



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