



# RUBIA OPTIMA 1100 FE 10W-30



**Semi-synthetic low-SAPS** lubricant for **diesel engines**, suitable for **on-road heavy-duty applications**, with **FUEL ECONOMY** technology based on the latest CK-4 specification.

## SPECIFICATIONS AND APPROVALS

### International specifications

Meets the requirements of **API CK-4/CJ-4/CI-4 plus/CI-4/CH-4** **ACEA E9/E7**

### Manufacturers' approvals

- ✓ Mack EO-S 4.5
- ✓ Volvo VDS-4.5
- ✓ Renault Trucks RLD-4
- ✓ Cummins CES 20086
- ✓ \*Detroit Diesel DFS 93K222
- ✓ \*Ford WSS-M2C171-F1

## APPLICATIONS

TOTAL RUBIA OPTIMA 1100 FE 10W-30 is developed for the **newest North American on-road diesel engines** and suitable for existing diesel engines due to its **backwards compatibility down to CJ-4**.

With its "**low-SAPS**" (low sulphated ash, phosphorus and sulphur) technology, TOTAL RUBIA OPTIMA 1100 FE 10W-30 protects engines equipped with any kind of **post-treatment systems**, such as diesel particulate filters (DPFs).

TOTAL RUBIA OPTIMA 1100 FE 10W-30 enables **coverage of a fleet of mixed brands**, with a minimal number of products.

## PERFORMANCES AND CUSTOMER BENEFITS

TOTAL RUBIA OPTIMA 1100 FE 10W-30 is formulated with **excellent shear stability**, thus maintaining its viscosity in highly loaded contacts and strong engine protection under severe conditions.

TOTAL RUBIA OPTIMA 1100 FE 10W-30 has **improved oxidation stability** that disrupts oxidation reactions, prevents formation of harmful sludge and protects hotter engines.

TOTAL RUBIA OPTIMA 1100 FE 10W-30 is designed to **control aeration exceptionally**, which is important in cooling and protecting engines at higher temperatures and pressures.

High quality base stocks combined with high-performance additives make TOTAL RUBIA OPTIMA 1100 FE 10W-30 an **exceptional technical performances lubricant**.

Advanced additives keep the **engine's most sensitive parts clean** thanks to **detergent, dispersant and anti-wear properties**, added to effective control of soot, sludge and deposits

The advanced "**low-SAPS**" formulation of TOTAL RUBIA OPTIMA 1100 FE 10W-30 improves the post-treatment system durability, preventing the clogging of the diesel particulate filter (DPF).

\* Official manufacturer's approvals pending.

## PHYSICAL AND CHEMICAL CHARACTERISTICS\*

TOTAL RUBIA OPTIMA 1100 FE 10W-30		Method	Value
Density at 15°C	kg/m <sup>3</sup>	ASTM D1298	869.9
Kinematic Viscosity at 40°C	mm <sup>2</sup> /s	ASTM D445	82.61
Kinematic Viscosity at 100°C	mm <sup>2</sup> /s	ASTM D445	12.19
Viscosity Index	-	ASTM D2270	143
Flash point	°C	ASTM D92	221
Pour point	°C	ASTM D97	-36
T.B.N	mgKOH/g	ASTM D2896	10
Sulphated Ash	% m/m	ASTM D874	0.99

\* The features mentioned above are average values obtained with some variability in production and do not constitute a specification.

## RECOMMENDATIONS

Before using the product, it is important to check the service manual of the vehicle: the drain is carried out according to the manufacturer's requirements.

The product should not be stored at a temperature above 60 °C. Exposure to strong sunlight, extreme cold or high temperature variations must be avoided.

All packages should be protected from bad weather conditions. The drums should be stored horizontally to avoid a possible contamination by water and the damage of the product label.

## HEALTH, SAFETY AND ENVIRONMENT

Based on available information, this product does not cause adverse health effects when used in the intended application and the recommendations provided in the Safety Data Sheet (MSDS) are followed. It is accessible on request from your local dealer or on the website [www.quickfds.com](http://www.quickfds.com)

This product should not be used for applications other than those for which it is intended.

If disposing of used product, take care to protect the environment and comply with local regulations.