Mobil[®]

Mobil Delvac Modern™ 15W-40 Super Defense

Mobil Commercial Vehicle Lube , Morocco

Extra High Performance Diesel Engine Oil

Product Description

Mobil Delvac ModernTM 15W-40 Super Defense is an extra high performance diesel engine oil that provides excellent lubrication of today's diesel engines promoting extended engine life. This product meets or exceeds the specifications of virtually all major European and American engine manufacturers. This extra high performance has been proven in the field in a wide variety of industries, applications and mixed fleets. The advanced chemistry of this product provides outstanding performance in both modern, demanding low-emission diesel engines and older diesel engines operating on low or high sulphur fuel. Mobil Delvac Modern 15W-40 Super Defense combines a blend of synthetic technology base stocks with a progressive additive system to provide superior control of oil thickening due to soot build-up and high temperatures as well as outstanding resistance to oxidation, corrosion and high temperature deposits.

Features and Benefits

High output, low emission diesel engines significantly increase the demands on engine lubricants. Tighter engine designs reduce oil consumption, resulting in less fresh oil make-up to replenish depleted additives. Top piston fire rings are located higher on the piston bringing the oil film closer to the combustion chamber where higher temperatures increase thermal stress on the lubricant. Increased fuel injector pressure and retarded timing improve fuel burn efficiency, but also increase engine temperatures and increase soot loads. Mobil Delvac Modern 15W-40 Super Defense is formulated from synthetic technology base oils and a superior balanced additive system to provide optimum engine performance in modern diesel and gasoline engines as well as older models. The key benefits include:

Features	Advantages and Potential Benefits
High thermal and oxidation stability	Reduced sludge build-up, deposits and viscosity increase
TBN reserves	Deposit control and acid neutralisation
Stay-in-grade shear stability	Wear protection and viscosity control
Advanced detergency/dispersancy	Cleaner engines and longer component life
Improved soot handling	Improved viscosity control and used oil pumpability
Excellent low temperature properties	Start-up wear protection
Component compatibility	Longer gasket and seal life
Meets demanding specifications of key OEMs	One engine oil for mixed fleet operations

Applications

Recommended by ExxonMobil for use in:

- Naturally aspirated and turbo-charged diesel powered equipment from leading Japanese, European, and American manufacturers
- On-highway light and heavy-duty trucking
- Off-highway industries including: construction, mining, quarrying and agriculture
- Mixed fleet applications

This product has the following approvals:
Mack EO-M Plus
Mack EO-N
MB-Approval 228.3
RENAULT TRUCKS RLD-2
VOLVO VDS-3
Detroit Fluids Specification 93K215
MTU Oil Category 2
KAMAZ V-8 Euro-3, Euro-4 and Euro-5 engines
Cummins CES 20077
Cummins CES 20078

This product is recommended for use in applications requiring:
ACEA B2
ACEA E3
API CF
API CF-4
API CG-4
Cummins CES 20071
Cummins CES 20072
Mack EO-M
MAN M 3275-1
RENAULT TRUCKS RD
RENAULT TRUCKS RD-2
RENAULT TRUCKS RLD
VOLVO VDS-2

This product meets or exceeds the requirements of:

API CH-4

API CI-4

his product meets or exceeds the requirements of:
API SJ
API SL
IASO DH-1
ACEA E7
Caterpillar ECF-2
Ford WSS-M2C171-D
SUZU DEO (w/o DPD Equipped Vehicles)
Cummins CES 20076
SUZU Small Manual Transmission Oil (except MUA and MUX) and Transfer Case Oil

Properties and Specifications

Property	
Grade	SAE 15W-40
Kinematic Viscosity @ 100 C, mm2/s, ASTM D445	14.3
Density @ 15 C, kg/m3, ASTM D4052	0.87
Total Base Number, mgKOH/g, ASTM D2896	11
Viscosity Index, ASTM D2270	133
Cold-Cranking Simulator, Apparent Viscosity @ -20 C, mPa.s, ASTM D5293	5700
Ash, Sulfated, mass%, ASTM D874	1.3
Flash Point, Cleveland Open Cup, °C, ASTM D92	223
Pour Point, °C, ASTM D97	-33

Health and safety

Health and Safety recommendations for this product can be found on the Material Safety Data Sheet (MSDS) @ http://www.msds.exxonmobil.com /psims/psims.aspx

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Typical Properties are typical of those obtained with normal production tolerance and do not constitute a specification. Variations that do not affect product performance are to be expected during normal manufacture and at different blending locations. The information contained herein is subject to change without notice. All products may not be available locally. For more information, contact your local ExxonMobil contact or visit www.exxonmobil.com

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