



Heavy Duty Diesel Engine Oil

PRODUCT DESCRIPTION

Bel-Ray® Heavy Duty Diesel Engine Oil is a high-performance SAE 15W-40 API CI-4 licensed motor oil for heavy-duty diesel and gasoline engines. Heavy Duty Diesel Engine Oil SAE 15W-40 is formulated to meet or exceed the performance requirements of many of today's off-highway engines. The anti-wear capabilities reduce wear, extending the life of rings, liners and main bearings. This formulation also provides superior soot handling and acid neutralization capabilities.

PRODUCT FEATURES and BENEFITS

- High TBN allows long oil life and will extend drain intervals, even with higher sulfur diesel fuels
- Advanced detergent and dispersant technology reduces deposit formation
- Improved soot control, even with EGR (Exhaust Gas Recirculation) equipped engines
- Exceptional shear stability, maintaining viscosity over extended use

APPLICATIONS

Bel-Ray Heavy Duty Diesel Engine Oil SAE 15W-40 is recommended for off-highway heavy-duty diesel engines that are specifying the use of an API CI-4 motor oil. This includes modern diesel engines fitted with EGR systems, and in areas of the world where fuel sulfur levels vary significantly. Heavy Duty Diesel Engine Oil SAE 15W-40 is suitable for use in equipment specifying engine oils meeting the following specifications:

| | 15W-40 |
|-------------------------------------|--------|
| API CI-4 | X |
| ACEA A3/B3-04 | ● |
| CAT ECF-2, ECF-1a | ● |
| Cummins 20078 | ● |
| Detroit Diesel DDC 93K215 | ● |
| Mack EO-M Plus, EO-N | ● |
| Mercedes Benz MB228.1, 228.3, 229.1 | ● |
| Volvo VDS-2, VDS-3 | ● |

X - Formally licensed / registered

- - Recommended for use / meets requirements

PRODUCT DATA

| Typical Properties | | |
|-----------------------------------|-------------|-----------|
| Property | Test Method | 15W-40 |
| Density @ 15°C (g/mL) | ASTM D4052 | 0.8793 |
| Viscosity @ 40°C (cSt) | ASTM D445 | 106.10 |
| Viscosity @ 100°C (cSt) | ASTM D445 | 14.16 |
| Viscosity Index | ASTM D2270 | 135 |
| Flash Point, °C (°F) | ASTM D92 | 236 (456) |
| Pour Point, °C (°F) | ASTM D97 | -51 (-60) |
| Cold Crank Simulator @ -20°C (cP) | ASTM D5293 | 5945 |
| Base Number, (mg KOH/g) | ASTM D2896 | 12.90 |
| Sulfated Ash (Wt %) | ASTM D874 | 1.56 |

HEALTH and SAFETY

Health and safety recommendations for products can be found on the Safety Data Sheet (SDS) at www.belray.com