# Cat® DEO-ULS™

## Designed to offer optimal protection and performance in heavy duty engines

Cat® DEO-ULS™ is uniquely formulated and optimized to provide the highest level of protection and performance in a wide variety of engine applications, including those requiring aftertreatment systems.

**Cat-DEO-ULS:**
- Exceeds the performance requirements or API CK-4
- Is backwards compatible with prior API oil categories
- Provides optimal performance, durability and engine life
- Can be used in all engines requiring API CK-4 or prior API category of diesel engine oil (consult your OMM)

| Benefits | |
|---|---|
| Minimized Engine Deposits | Improved oxidation and thermal stability minimizes engine deposits and provides consistent protection throughout the oil drain interval. |
| Reduced Aeration | Reduced aeration results in improved protection against oil breakdown, cavitation and corrosion. |
| Improved Shear Properties | Improved shear properties allow the oil to maintain a consistent viscosity under high loads, providing better lubrication and protection for moving components. |
| Longer Protection | Specially designed additives and superior base stock deliver optimal engine protection and durability while supporting consistent emissions performance. |

**CAT®**

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## Cat DEO-ULS Outperforms API CK-4 Requirements



Lower wear and fewer carbon deposits lead to longer component life.



Maintaining consistent viscosity over time results in better lubrication and protection for moving components.
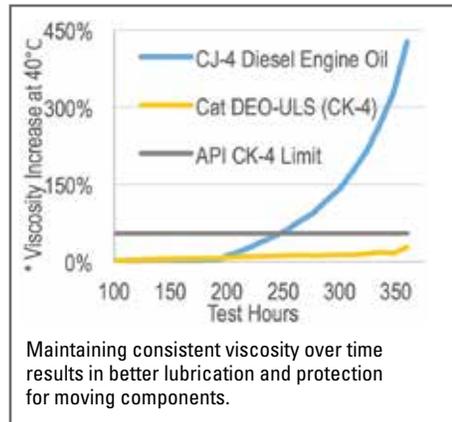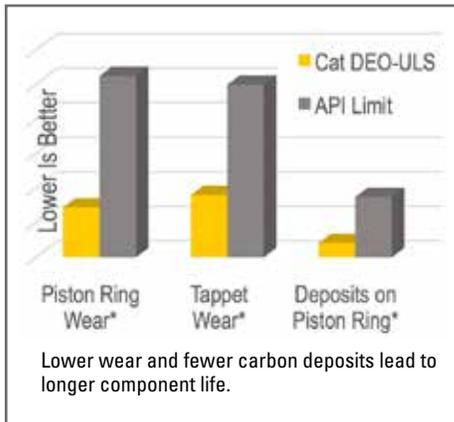
\* Industry Standard Testing: Piston Ring Wear-Mack T12 Test, Tappet Wear-Cummins ISB Test, Deposits on Piston Ring-Caterpillar C13 Test, Viscosity Increase-Volvo T13 Test

**Applications**

- Cat oils are formulated to provide optimal performance and engine protection for all Caterpillar engines and up to 3500\* engine models operating under all conditions and severity and in all applications
- Ideal for mixed fleets and for on-highway heavy duty trucks
- Meets requirements for engines with aftertreatment devices requiring API CK-4 or CJ-4 diesel engine oil
  - o Tier 4 (US)
  - o Stage IIIB/IV (EU)
  - o 2007/2010 on-highway exhaust emissions standards (US)
  - o Japan 2014
- Backwards compatible with prior API categories: API CJ-4, CI-4, CI-4 PLUS, and CH-4

\* Oil recommendations for 3116 and 3126 MUI Marine and MaK™ diesel engines can be found in the Operation and Maintenance Manual (OMM).

### API Diesel Engines Categories
API CK-4, CJ-4, CI-4, CI-4 PLUS, and CH-4.

### Exceeds OEM Performance levels of:
Cat ECF-3, ECF-2 and ECF-1A

May be used for:
ACEA E9
Detroit Diesel DFS 93K222
Cummins CES 20086
Volvo Mack VDS STD 417-003

| Typical Characteristics* | | |
|---|---|---|
| SAE Viscosity Grade | **15W-40** | **10W-30** |
| Flash Point, ˚C (ASTM D92) | 225 | 218 |
| Pour Point, ˚C (ASTM D97) | -33 | -36 |
| Viscosity | | |
|    cSt @40˚ C (ASTM D445) | 109 | 82 |
|    cSt @100˚ C (ASTM D445) | 14.1 | 12.0 |
| HTHS @ 150˚ C, cP (ASTM 4683) | 4.1 | 3.6 |
| Viscosity Index | 130 | 142 |
| Phosphorous, % wt. (ASTM D4951) | 0.10 | 0.10 |
| Sulfur, % wt. (ASTM D2622) | 0.24 | 0.24 |
| Zinc, % wt. (ASTM D4951) | 0.12 | 0.12 |
| Sulfated Ash, % wt. (ASTM D874) | 0.90 | 0.90 |
| Volatility (ASTM D5800) | 9.5 | 11.30 |
| TBN (ASTM D4793) | 8.6 | 8.7 |
| Density @ 15.6 ˚C (ASTM D4052) | 0.875 | 0.868 |

**\***The values shown are typical values and should not be used as quality control parameters to either accept or reject product. Specifications are subject to change without notice.

### Health and Safety

For information on proper use for health, safety, and environment, please refer to the Material Safety Data Sheet (MSDS). Read and understand the MSDS before using this product. Always observe good hygiene measures. For a copy of the MSDS, contact us or visit the web at **www.catmsds.com**.

## CAT DEALERS DEFINE WORLD-CLASS PRODUCT SUPPORT.

We offer you the right parts and service solutions, when and where you need them.

The Cat Dealer network of highly trained experts can help you maximize your equipment investment.

## BUILT FOR IT.™

**CAT®**