



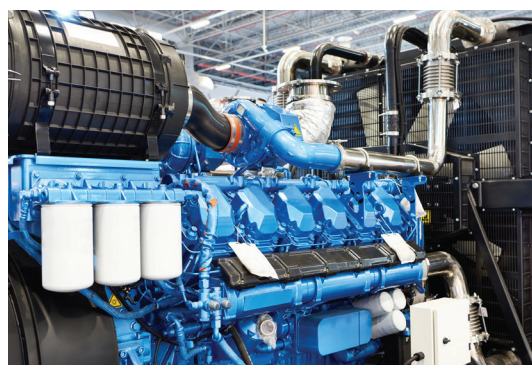
EXDURA™ HD ENGINE OIL

SYNTHETIC BLEND HEAVY-DUTY DIESEL ENGINE OIL WITH SYNERLEC®

Exdura™ HD Engine Oil is a premium synthetic blend lubricant engineered for demanding on-highway, off-highway and stationary diesel engine applications. Available in SAE 10W-30 and SAE 15W-40, Exdura HD is formulated to meet API CK-4 performance requirements, delivering dependable protection for modern heavy-duty diesel engines.

Exdura HD combines a robust low-SAPS additive system with our proprietary Synerlec® additive technology to provide wear protection, engine cleanliness and lubricant durability. Advanced detergent and dispersant chemistry controls soot, sludge and deposits, while resistance to high-temperature oxidation helps maintain viscosity and oil stability under severe operating conditions. Synerlec reinforces the lubricating film to protect heavily loaded engine components against friction and wear.

Designed for reliable performance across a wide range of temperatures and duty cycles, Exdura HD supports equipment reliability and efficient operation while helping reduce maintenance demands. Its durable formulation supports optimized oil drain intervals in accordance with OEM recommendations and used-oil analysis. It is designed for compatibility with modern emissions-control systems while providing protection for older diesel engines requiring applicable legacy performance levels.



PROPRIETARY ADDITIVE TECHNOLOGY - SYNERLEC®

Synerlec® additive technology forms a tough, slippery film that bonds ionically to metal surfaces, increasing oil film thickness beyond what viscosity alone can provide. This reinforced film greatly reduces the likelihood of breach, preventing metal-to-metal contact even under severe operating conditions where ordinary lubricants would fail. Because Synerlec allows a lubricant to carry significantly higher loads than other mineral and synthetic oils, it delivers extra protection for bearings exposed to misalignment, shaft flex, high temperatures, imbalance, or water contamination – factors that typically thin oil films. In addition, Synerlec can smooth metal surfaces already damaged by wear by gently micro-mending surface asperities.

PERFORMANCE & OTHER ADVANTAGES

DURABLE WEAR PROTECTION – Protects bearings, camshafts, valve train components, cylinder liners and other heavily loaded surfaces against friction and wear.

OXIDATION & VISCOSITY CONTROL – Resists high-temperature oxidation and viscosity increase, maintaining lubricant durability.

ENGINE CLEANLINESS – Helps control soot, sludge and piston deposits to keep critical engine components clean.

LOW-TEMPERATURE PUMPABILITY – Promotes rapid oil circulation and lubricant delivery during cold-weather starting.

EMISSIONS-SYSTEM COMPATIBILITY – Features low-SAPS CK-4 chemistry designed for engines equipped with exhaust gas recirculation (EGR), diesel particulate filters (DPFs) and selective catalytic reduction (SCR) systems.

OIL LIFE & MAINTENANCE – Supports optimized oil drain intervals in accordance with OEM recommendations and used-oil analysis, while helping reduce maintenance demands.

OPERATING EFFICIENCY – Contributes to efficient engine operation through friction control, viscosity stability and reduced deposit formation across a broad range of temperatures and duty cycles.



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TYPICAL APPLICATIONS & INDUSTRIES

- Heavy-duty on-highway diesel engines, including tractor-trailers and commercial fleets
- Off-highway diesel equipment used in construction, mining, agriculture and other severe-service operations
- Stationary diesel engines, including generators and pumps
- Diesel engines requiring API CK-4 or applicable OEM performance specifications, subject to engine-manufacturer recommendations

TECHNICAL DATA

SAE Grade	10W-30	15W-40
Color	Purple	Purple
Relative Density @ 60°F/60°F, ASTM D1298	0.868	0.874
Viscosity @ 100°C cSt, ASTM D445	12.0	15.0
Viscosity @ 40°C cSt, ASTM D445	81	111
Viscosity Index ASTM D2270	142	140
Viscosity-HTHS @ 150°C, cP, ASTM D4683	3.5	4.0
Viscosity-CCS @ -25°C, cP, ASTM D5293	6,200	-
Viscosity-CCS @ -20°C, cP, ASTM D5293	-	4,600
Viscosity-MRV TP-1 @ -30°C, cP, ASTM D4684	22,000	-
Viscosity-MRV TP-1 @ -25°C, cP, ASTM D4684	-	18,000
Flash Point °C (°F), (COC), ASTM D92	224 (435)	230 (446)
Pour Point °C (°F), ASTM D97	-36 (-33)	-30 (-22)
Ash—Sulfated %, ASTM D874	1.0	1.0
Base Number ASTM D2896	10.0	10.0

PERFORMANCE REQUIREMENTS MET OR EXCEEDED

- API Service CK-4, CJ-4, CI-4, CI-4 Plus, CH-4
- ACEA E7, E9-2012
- Caterpillar ECF-2, ECF-3
- Cummins CES 20081, CES 20086
- Daimler MB 228.31
- Detroit Diesel DFS 93K218, DFS 93K222
- Ford WSS-M2C171-F1
- Mack EO-N, EO-O Premium Plus, EOS-4.5
- MAN M 3575
- MTU Category 2.1
- Renault RLD-3, RLD-4.5
- Volvo VDS-3, VDS-4, VDS-4.5

PRODUCT USE NOTE

Select the viscosity grade and oil drain interval recommended by the engine manufacturer, accounting for operating conditions and an appropriate used-oil analysis program.