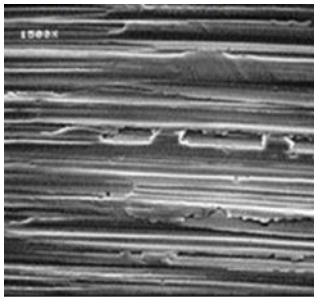


Duralec Ultra

PERFORMANCE UPGRADE HD DIESEL MOTOR OIL

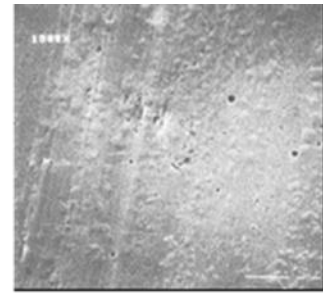
Royal Purple[®] Duralec Ultra are high performance, heavy-duty diesel engine oils that are an outstanding performance upgrade for any diesel engine. Because these engine oils are formulated for maximum performance and protection, rather than to meet the requirements of an API engine oil license, a greatly enhanced lubricant is the result. Duralec Ultra diesel engine oils do not conform to the low-ash chemistry restrictions imposed by API licenses, allowing these formulations to contain a higher level of anti-wear additive than typically found in API licensed HD diesel engine oils. Duralec Ultra engine oils also contain a healthy dose of Royal Purple's proprietary Synerlec[®] additive technology, providing an even higher level of wear protection, efficiency, and resistance to thermal breakdown than is available in API licensed HD diesel engine oils.



New Bearing*



After Leading Synthetic*



After Royal Purple
w/ Synerlec*

Synerlec[®] is Royal Purple's proprietary additive chemistry that greatly increases the protective film strength of the oil, reducing metal to metal contact, friction and wear. Synerlec[®] also increases the oil's resistance to thermal degradation, reducing deposit formation and lengthening the oil's useful life. Duralec Ultra reduces parasitic loss compared to other HD diesel engine oils, saving fuel, and its synthetic solvency keeps internal engine parts cleaner than detergents alone. Superior oxidation resistance also minimizes oil degradation and greatly extends engine oil drain intervals, reducing maintenance costs.

PERFORMANCE ADVANTAGES

- UNSURPASSED WEAR PROTECTION – Elevated anti-wear additive and Synerlec[®] additive technology prevents wear of piston rings, valve train, and other components beyond licensed HD diesel engine oils
- OUTSTANDING OXIDATION RESISTANCE – Less thermal breakdown allows longer oil drain intervals
- INCREASED EFFICIENCY – Synthetic base oils and Synerlec[®] additive technology reduce parasitic loss, increasing fuel economy
- OUTSTANDING DEPOSIT CONTROL – Keeps engines cleaner, ensuring maximum performance
- SUPERIOR CORROSION PROTECTION - No rust observed in standard industry testing



TECHNICAL DATA SHEET

OEM SPECIFICATIONS

Duralec Ultra engine oils meet/exceed performance requirements of API Service CK-4, CJ-4, CI-4+ for HD diesel engine oils.

Recommended for:

- ACEA E7-16 & E9-16
- CAT ECF-1, ECF-2 & ECF-3
- Cummins CES 20076, 20077, 20078, 20081 & 20086
- Daimler MB 228.3 & 228.31
- Detroit Diesel DFS 93K214 & 93K222
- Ford WSS-M2C171-F1
- Mack EO-N Premium Plus & EO-S 4.5
- MTU 2 & 2.1
- Renault RLD, RLD-2 & RLD-4
- Volvo VDS-3 & VDS 4.5

Typical Physical Properties			
Property	Test Method	10W-30	15W-40
API Service		CK-4*	CK-4*
Viscosity @ 40°C, cSt	ASTM D445	71.63	101.13
Viscosity @ 100°C, cSt	ASTM D445	11.21	14.7
Viscosity Index	ASTM D2270	149	151
Flash Point, °C (°F)	ASTM D92	216 (420)	232 (450)
Pour Point, °C (°F)	ASTM D97	-48 (-54)	-45 (-49)
Cold Crank Simulator, cP	ASTM D5293	4,726 @-25°C	3,672 @-20°C
TBN, mg KOH	ASTM D2896	9.45	9.6
Sulfated Ash, wt%	ASTM D874	1.04	1.04
HTHS, @150°C, cP	ASTM D5481	3.3	4.1

* Claimed performance; Duralec Ultra is not API CK-4 licensed

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