



## E-FORCE HD

### HEAVY DUTY DIESEL ENGINE OIL

#### PRODUCT DESCRIPTION:

E-FORCE HD is a high-performance diesel engine oil designed to support extended engine life and prolonged drain intervals, even in demanding operating conditions. Formulated with premium base oils and advanced additives, it provides excellent resistance to oxidation, soot, and wear. E-FORCE HD ensures superior piston cleanliness and minimizes sludge buildup, contributing to optimal engine performance and durability.

#### APPLICATION:

It is recommended for use in high-performance diesel applications, including modern low emission engine designs with Exhaust Gas Recirculation (EGR). These applications include on-highway engines operating in both high speed / high load and stop-and-go conditions, off-highway engines operating in severe low speed / heavy load conditions, and all diesel-powered equipment from American, European, and Japanese equipment manufacturers. The use of ultra low Sulfur fuel helps achieve considerably long drain intervals.

#### FEATURES & BENEFITS:

- Outstanding thermal and oxidation stability
- One engine oil for mixed fleet operations
- Exceptional low temperature pumpability
- Helps towards long life of critical wear surfaces
- Long drain capability

#### PERFORMANCE MEET OR EXCEEDS:

- API CI-4/SL
- ACEA E7
- ACEA A3/B4
- DTFR 15B110 / 229.1
- MAN M3275-1
- Volvo VDS-3
- Deutz DQC III-10
- JASO DH1
- MACK EO-M
- Cummins CES 20076/20077/20078
- Global DHD1
- Renault RLD2
- MTU Type 2
- Allison C4
- Caterpillar ECF 1a, ECF 2
- DDC 93K215

#### TYPICAL PROPERTIES:

PARAMETERS	ASTM	UNIT	E-FORCE HD	
			10W-40	15W-40
<b>Grade</b>			<b>10W-40</b>	<b>15W-40</b>
Kinematic Viscosity @ 104°F / 40°C	D7042	cSt	TBR	TBR
Kinematic Viscosity @ 212°F / 100°C	D7042	cSt	14.7	14.8
Viscosity Index (min)	D2270	-	145	135
Density@15°C/ 60°F	D4052	g/cm <sup>3</sup>	TBR	TBR
Flash Point (min)	D92	°C	220	220
Pour Point (max)	D97	°C	-36	-33
TBN	D2896	mg KOH/g	11	11
CCS	D5293	m.Pa.S	<7000 (-25°C)	<7000 (-20°C)

**DISCLAIMER:** The test data presented above is indicative and not a strict specification, as it may vary within acceptable production tolerances. Internal reserves the right to update or modify this test data. For the most accurate and current information, please refer to the latest version of this Technical Data Sheet (TDS).

#### HEALTH & SAFETY, ENVIRONMENT:

Continuous or repeated exposure to oil may lead to skin problems. Avoid contact with the oil. In case of contact, wash thoroughly with soap and water. Do not dispose of used oil in drains or the environment. Dispose of it at an authorized used oil collection point. For additional safety information, please refer to the MSDS available on our website at [www.internal.net](http://www.internal.net).

#### PROTECT THE ENVIRONMENT:

Take used oil to an authorized collection point. Comply with local regulation. Do not discharge into drains, soil or water.