



UNIVERSAL HDX ENGINE OIL

High Quality Heavy Duty Diesel Engine Oil

PRODUCT DESCRIPTION

QUAKER STATE® UNIVERSAL HDX ENGINE OILS are high quality fleet motor oils for use in diesel engines and 4-cycle gasoline engines. They are designed primarily for use in today's high output, high performance heavy-duty diesel engines, while still meeting the requirements of 4-cycle automotive gasoline engines. QUAKER STATE® UNIVERSAL HDX ENGINE OILS are formulated with select base stocks and advanced technology detergent, dispersant, anti-wear and anti-corrosion additives and are designed to provide excellent performance even in diesel engines equipped with Exhaust Gas Recirculation (EGR). These oils exceed the API and engine manufacturer performance requirements as given below.

QUAKER STATE® UNIVERSAL HDX ENGINE OILS provide excellent performance and protection in low temperature operation (multigrades) as well as high speed, high temperature operation.

APPLICATION

QUAKER STATE® UNIVERSAL HDX ENGINE OILS are recommended for use in heavy duty naturally aspirated and turbocharged 2-cycle and 4-cycle diesel engines (including engines equipped with Exhaust Gas Recirculation (EGR)) used in mobile and stationary service, as well as in modern 4-cycle automotive gasoline engines. They meet or exceed the requirements of the following industry, military and equipment builder specifications:

- SAE 15W-40: API CI-4 PLUS, CI-4, CH-4, CG-4, CF-4, CF/SL, Mack EO-M Plus; Caterpillar ECF-1, Cummins CES 20078, 20076, & 20077; Volvo VDS-3, Mercedes 228.3 and Allison C4
- SAE 10W-30: API CI-4, CH-4, CG-4, CF-4, CF/SL, Mack EO-M Plus; Cummins CES 20078 & 20076
- SAE 10W: API CF; Allison C4, meets Vickers 35VQ25
- SAE 30: API CF-2, CF/SJ; Allison C4
- SAE 40: API CF-2, CF/SJ

BENEFITS

- Meets Ford WSS-M2C171C
- Formulated for mixed fleet applications
- Helps minimize piston deposits
- Excellent bearing corrosion control
- Protects new EGR diesel engines designed to meet today's low emission specifications
- Excellent cold cranking capabilities
- Helps reduce engine wear to help increase engine life
- Outstanding high temperature protection

TYPICAL PHYSICAL AND CHEMICAL PROPERTIES QUAKER STATE[®] UNIVERSAL HDX ENGINE OIL

TEST	TYPICAL RESULTS				
SAE Grade	10W	30	40	10W-30	15W-40
API Gravity	29.5	29.3	28.9	30.0	29.1
Viscosity					
@ 40°C, cSt	38	97	143	78	118
@ 100°C, cSt	6.5	10.9	14.4	11.5	15.8
Viscosity Index	120	107	103	140	137
CCS Viscosity cps Max @ Temp. °C	7000 @ -25	---	---	7000 @ -25	7000 @ -20
Flash Point, °C(°F)	207(405)	224(435)	230(446)	210(410)	210(410)
Pour Point, °C(°F)	--30 (-22)	-30(-22)	-24(-11)	- 33 (-22)	- 33(-27)
TBN, D-2896	6 min	7	7	10	11
Sulfated Ash, % wt.	0.90	0.95	0.95	1.2	1.3
Low Temp. Pumping Viscosity					
@ -30°C (-22°F) cP Max	60,000			60,000	
@ -25°C (-13°F) cP Max					60,000