

## Diesel Engine

### TECHNICAL DATA SHEET

#### Product Description

ALES HD50 is a monograde diesel engine oil formulated with high-quality base stocks and selected additives to ensure optimal performance and protection for diesel engines requiring an API CF-4/CF-2 specification. It is suitable for heavy-duty, high-performance diesel engines where monograde oils are specified. It provides excellent protection in engines against high-temperature piston deposits, wear, corrosion, and foaming under severe operating conditions.

#### Features & Benefits

- Excellent resistance to shearing at extreme operating conditions and retains its lubrication film.
- Good oxidation & thermal stability reduces sludge build up and keeps the engine cleaner.
- Outstanding wear protection to extend engine efficiency and service life.
- Reduced oil consumption at high operating engine temperatures.
- Improved resistance to deposit formation keeps engine clean to give your vehicle maximum power under extreme operating conditions.
- Optimum TBN reserves provide improved acid neutralization and corrosion protection, especially in old heavy duty diesel engines.

#### Specifications

**ALES HD50 meets or exceeds following International and Builder specifications:**

- API CF-4, CF, CF-2, CD-2, CD, SF, SG, SJ
- ACEA E2
- MTU OIL Category-1
- MAN 270/271
- MB 228.0/1
- Volvo VDS
- Caterpillar TO-2
- Deutz DQC –I-05
- Detroit Diesel 7SE-270

#### Application

ALES HD50 is suitable for use in following:

- Suitable for use in heavy duty 2-stroke & 4-stroke turbocharged and naturally aspirated diesel engines.
- It can be used in both On-highway light and heavy duty trucks & construction and mining equipment, where high or low sulfur diesel is used.
- Suitable for certain stationary equipment, such as pumps that run continuously under steady state Conditions.

#### Typical Characteristics

ALES HD50	Test Method	Units	10W	20W-20	30	40	50	60
Density @ 15 °C	ASTM D 4052	gm/cc	0.880	0.888	0.89 2	0.900	0.90 4	0.906
Viscosity @ 100 °C	ASTM D 445	cSt	5.6	8.9	11.6	15.4	20.2	24.25
Viscosity @ 40 °C	ASTM D 445	cSt	32	60	102	158	234	312
Viscosity Index	ASTM D 2270	-	114	104	100	99	99	98
Pour Point	ASTM D 97	°C	-33	-24	-18	-18	-18	-18
Flash Point (COC)	ASTM D 92	°C	214	226	230	236	242	248
Sulfated Ash	ASTM D 874	Wt%	0.85	0.85	0.85	0.85	0.85	0.85
Total Base Number	ASTM D 2896	mg KOH/g	8.0	8.0	8.0	8.0	8.0	8.0

*The above figures are typical of blends with normal production tolerance and do not constitute a specification.*

For further information, please contact: [www.alesoil.com](http://www.alesoil.com)