



Makina Grease & Lubricants Manufacturing L.L.C.

Superior HD

Description

Makinalube Superior HD is a High-Performance oil for a variety of diesel and gasoline engines. Especially for highly loaded commercial vehicle diesel engines. Lower oil consumption. Makinalube Superior HD is a super-long-term all-season engine oil of the SHPD category for diesel and gasoline engines with and without turbo-charging in passenger cars, trucks, buses and industrial equipment that have high requirements with respect to engine cleanliness and maintenance intervals. Makinalube Superior HD complies with and/or fulfills and exceeds the requirements of American and European engine manufacturers thanks to its special design, especially engines with fill specifications CUMMINS CES 20071/-2/-6/-7/-8 and VOLVO VDS-3. Because of its advanced design, Makinalube Superior HD ensures operation without problems under all climatic conditions

Advantages

Additional quality features are:

- Excellent wear protection even under high continuous stress
- Protection from corrosion even when used with diesel fuels with high sulfur content
- Sludge and adhesions are securely prevented by Makinalube Superior HD both with extraordinarily high thermal loads as well as in stop and- go driving.

Application

Makinalube Superior HD is a high quality performing multi-grade especially heavy duty diesel engine oil, meets the latest following requirements:

- API CI-4/SL
- ACEA E5-02
- ACEA B4-02, B3-98 issue 2
- ACEA A3-02, A2-96 issue 3
- CUMMINS CES 20071/-2/-6/-7/-8
- VOLVO VDS-3

Typical Characteristics

PROPERTIES	UNITS	TEST METHOD	VALUE				
			15W-40	15W-50	20W-40	20W-50	20W-60
SAE Grade		DIN 51 511	15W-40	15W-50	20W-40	20W-50	20W-60
Density @ 15 °C	kg/m ³	ASTM D-4052	888	879	888	891	893
Viscosity @ - 15 °C	mPa.s	ASTM D-5293	-----	-----	8000	8500	7000
Viscosity @ - 20 °C	mPa.s	ASTM D-5293	6500	6000	----	-----	-----
Viscosity @ 100 °C	mm ² /s	ASTM D-445	15.4	18.8	15.4	18.1	23.5
Viscosity Index		ASTM D-2270	133	147	110	135	139
Flash Point, COC	°C	ASTM D-92	230	238	230	240	230
Pour Point	°C	ASTM D-97	- 27	-27	-21	-21	-21
Sulphated Ash	% wt.	ASTM D-874	1.55	1.55	1.55	1.55	1.55
Base Number	mg KOH/g	ASTM D-2896	14	14	14	14	14