



KAPPA PLUS

(High TBN HD Diesel Engine Oils)

KAPPA PLUS motor oils are heavy-duty diesel engine oils designed to meet the most stringent requirements of modern four-cycle, high-output diesel engines. Their high alkaline reserve (14 TBN) neutralizes acids formed by the use of high sulfur fuels, and effectively protects bearings and other engine surfaces from corrosive wear.

KAPPA PLUS motor oils exceed Caterpillar requirements for operation using fuels which sulfur content is greater than 0.05% or is unknown. Regardless of fuel sulfur content, users found that **KAPPA PLUS** motor oils have enabled longer engine life and trouble-free service.

In addition to their high TBN, **KAPPA PLUS** motor oils contain special anti-wear additives that reduce wear in areas such as valve trains, piston rings and cylinder liners. They also contain highly effective detergent/dispersant additives that control combustion chamber and ring belt deposits, especially upper piston deposits which can lead to oil consumption and wear.

KAPPA PLUS motor oils are formulated to provide maximum oxidation resistance, enabling extended oil drain intervals without the risk of sludge and varnish buildup. (See engine maintenance manual for oil drain extension guidelines.)

KAPPA PLUS motor oils are recommended for many transmissions. They have been proven to extend transmission life in Caterpillar power shift units, as compared to conventional diesel engine oils.

BENEFITS:

- 14 TBN - EFFECTIVELY REDUCES ENGINE WEAR AND CONTROLS DEPOSITS
- EXTENDS OIL DRAIN INTERVALS
- PROVIDES CLEANER ENGINES
- REDUCES OIL CONSUMPTION AND RING BREAKAGE

APPLICATIONS:

KAPPA PLUS motor oils are recommended for naturally aspirated or turbocharged diesel engines. These motor oils are also suitable for many transmissions and other applications requiring high quality engine oils.

KAPPA PLUS motor oils are recommended for engines calling for a 40-weight, high-ash engine oil of CI/SL quality oil that meets or exceed the following requirements:

- Major OEMs including Mack, Mercedes Benz, Detroit Diesel, Caterpillar, Cummins, VW, MAN and Volvo
- Allison C-4
- MIL-PRF-2104G

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TYPICAL CHARACTERISTICS

SAE Viscosity Grade	40
API Service*	CF-2 CF/SL CD, CE
Product Code	11640
API Gravity (ASTM D-1298)	28.0
Viscosity (ASTM D-445):	
cSt @ 40°C	151
cSt @ 100°C	14.8
SUS @ 100°F	795
SUS @ 210°F	79
Viscosity Index (ASTM D-2270)	97
Pour Point (ASTM D-97) °F (°C)	5 (-15)
Flash Point, COC (D-92) °F (°C)	450(232)
Color (ASTM D-1500)	6.0
Sulfated Ash (ASTM D-874)	1.5
Total Base Number (ASTM D 2896)	14

The above data is subject to usual manufacturing variation. For more information or availability, call 1-800-442-LUBE.
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