



# MAK CI4 PLUS FE 10W-30

High performance heavy duty fuel efficient diesel engine oil

MAK CI4 Plus FE 10W-30 is an advanced heavy duty diesel engine oil developed to meet the latest global specifications of low emission diesel engines. It has unique formulation that delivers longer oil life, enhanced engine protection and excellent fuel economy. Exclusive shear stable additive formulations combining with severely hydro processed Group II plus base oils delivers longer life and enhanced protection. MAK CI4 Plus FE 10W-30 is also specially designed for Fuel Economy benefits in heavy duty commercial vehicles to meet stringent requirements of latest low emission diesel engines fitted with EGR system. It exhibits better soot handling capability and outstanding control over soot induced thickening as compared to API CI-4 oils.

### Applications:

MAK CI4 Plus FE 10W-30 is recommended for use in modern high performance low emission diesel engines such as light and heavy duty trucks, buses, SUVs and passenger cars fitted with Exhaust Gas Recirculation (EGR) system. **This oil has the potential to extend drain interval to 100,000 kms in diesel engines fitted with centrifugal oil cleaner with proper maintenance practices and regular oil top-ups.** Alternatively, be guided by OEM's recommendation for oil drain period. **This engine oil has potential to provide fuel economy benefits of up to (1.5-2%) as compared to 15W-40 engine oils under specific driving conditions.** This oil has been successfully field tested in TATA, Ashok Leyland and Eicher make heavy duty vehicles.

### Performance/ Benefits:

**Fuel Economy Benefits** – lower viscometry formulation offers fuel economy benefits over conventional 15W-40 grades. Lower volatility has the potential of reduced oil consumption.

**Superior Wear Protection** – offers improved wear protection in the critical areas of engine like valve train, cylinder liner and piston rings over a wide range of operating temperatures. Improves durability and reliability of engine.

**Excellent Soot Handling Capability** – excellent control over soot induced oil thickening occurring in engines with EGR.

Ensures lower pressure drop across filters and smooth engine operation during service. Enhances oil filter life.

**Excellent Thermo-Oxidative Stability** – excellent resistance to oil breakdown and deposit formation under high temperatures and aggressive driving conditions. Controls oil thickening. Extends oil life.

**Superior Deposit Control** – Offers superior control of sludge and harmful deposit formation. Maintains optimum engine performance and enhances oil life.

**Corrosion Protection** – provides excellent control of acids formed by oxidation of oil and combustion of fuel. Selected detergent additives neutralise them help prevent corrosion.

**Shear Stable Chemistry** – ensures viscosity control at high temperatures and high shear conditions.

### Performance Level/ Specification:

Meets the performance benchmarks of

- API CI-4 PLUS

### Typical Physico-Chemical Data: MAK CI4 Plus FE 10W-30

Characteristics	Method	Value
SAE Grade	SAE J300	10W-30
Color	Visual	Brown
Appearance	Visual	Clear
Density @29.5°C, g/cc	ASTM D1298	0.868
Kinematic Viscosity @40°C, cSt	ASTM D445	75.80
Kinematic Viscosity @100°C, cSt	ASTM D445	11.35
Viscosity Index	ASTM D2270	141
Copper Corrosion, 100°C, 3 hrs.	ASTM D130	1a
Flash Point, °C	ASTM D92	234
Pour Point, °C	ASTM D97	-30
Foaming Tendency	ASTM D892	
a) Sequence I		Nil/Nil
b) Sequence II		10/Nil
c) Sequence III		Nil/Nil



**Storage & Handling:**

The product should be stored inside. Keep it properly sealed to avoid contamination. Avoid freezing and store under protected storage conditions.

**Health & Safety:**

It is unlikely to be hazardous when properly used in recommended applications. Contamination of the oil from other oils, greases, chemicals, dirty water etc. can occur during the use. It should be avoided. Regular monitoring of the in-use product is recommended.