



STAR MAX FE 10W-30



Very high performance "Low SAPS" lubricant specially developed for the lubrication of materials used in earthmoving, minings or quarries, providing substantial economies within the fuel consumption reduction.

PERFORMANCE LEVELS

API CJ-4 / CI-4+ / CI-4 / CH-4
ACEA E9 / E7 / E5 / A3/B4
JASO DH-2



Engine application

Conforms to the OEM's specifications for depolluted engines up to EURO Stage IV, US EPA TIER 4 final or EURO 6 standards, like :

- ✓ CATERPILLAR ECF-3/ECF-2/ECF-1a
- ✓ CUMMINS CES 20081* / 78
- ✓ KOMATSU KES 07-851-2
- ✓ HITACHI DH-2
- ✓ DEUTZ DQC III-10 LA*
- ✓ MTU Category 2.1*
- ✓ VOLVO VDS-4*
- ✓ DETROIT DIESEL 93K218
- ✓ RENAULT RLD-3/RLD-2*
- ✓ MAN M 3575*
- ✓ MB Approval 228.31*

* : approved

Gearbox application

API GL-4

Conforms to the specifications :

- ✓ ZF TE ML 07D
- ✓ CATERPILLAR TO-4 (SAE10W, 30)
- ✓ KOMATSU KES 07-868-1
- ✓ ALLISON TES 439
- ✓ ALLISON C4

Hydraulic system application

ISO VG 46 (after 100 working hrs) HV

Suitable in place of following products :

- ✓ JCMA HK 46W (Extended drain)
- ✓ CATERPILLAR HYDO Advanced 10/30
- ✓ KOMATSU HO-46 (HV)
- ✓ CNH MAT 3509 - CASE MS 1230

APPLICATIONS

TOTAL STAR MAX FE 10W-30 lubricates the Diesel engines of the last generation, notably the engines compliant to the TIER 1, 2, 3 or 4final (Euro Stage I, II, III or IV) standards.

It can lubricate the small gasoline or gas engines and the piston-compressors.

TOTAL STAR MAX FE 10W-30 applies in all hydraulic systems, high or low pressure, equipped with very high performance filters

TOTAL STAR MAX FE 10W-30 lubricates the oldest or current gearboxes, manual or powershift.

TOTAL STAR MAX FE 10W-30 can be used in all seasons due to its high viscosity index:

- Very fluid at cold temperature, with easy cold starting of organs with an effective and rapid filtration, even in winter season.
- Thick at high temperature, keep an optimal lubrication and a low oil consumption due to its no-conventional base oil components.

PERFORMANCES AND CUSTOMER BENEFITS

- Allows to strongly decrease the lubricant number needed for the whole vehicle park maintenance and avoids all lubricant mistakes
- Reaches the highest quality levels required by the manufacturers for their engines (E9/CJ-4), transmissions (GL-4/TO-4) and hydraulics systems (HK/HV)
- Enable longer drain intervals up to the maximum allowed by the OEMs
- Self-adaptive, its patented formulation fits to the lubricated organ requirement
- Provides substantial economies by reducing the fuel consumption (CIFE process)
- Helps to decrease the exhaust Carbon Dioxide (CO2) production
- Its Low-SAPS chemistry is recommended for engines equipped with exhaust gas after-treatment systems, like DPF, SCR, catalysator....

PHYSICAL AND CHEMICAL CHARACTERISTICS*

| | | Method | Value |
|------------------------------|--------------------|------------|-------|
| Kinematic Viscosity at 40°C | mm ² /s | ASTM D445 | 73 |
| Kinematic Viscosity at 100°C | mm ² /s | ASTM D445 | 12.1 |
| Viscosity Index | - | ASTM D2270 | 163 |
| Pour Point | °C | ASTM D97 | -42 |
| T.B.N | mgKOH/g | ASTM D2896 | 10.5 |
| Sulphated Ash | % m/m | ASTM D874 | 1.0 |
| Zinc value | ppm | | >900 |

* The features mentioned above are average values obtained with some variability in production and do not constitute a specification.

TOTAL LUBRIFIANTS

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Update 09/2015

www.lubricants.total.com



This lubricant does not cause adverse health effects when used in the intended application.

A safety datasheet is accessible on request from your local dealer or on the website www.quickfds.com