# AGIP DIESEL SIGMA PLUS



AGIP DIESEL SIGMA PLUS is high performance lubricants for high output naturally aspirated and super-charged Diesel engines operating under very severe duty or which are subject to deposit formation or excessive wear due to design characteristics or to the fuel employed.

It is formulated using large percentage of additives to impart superior detergency together with high dispersant, antioxidant, anticorrosion, and anti wear properties.

The SAE grade 10W is also suitable to be employed in hydraulic circuits of various equipments (earthmovers, loaders, etc) where an engine oil of such a viscosity grade is prescribed.

# CHARACTERISTICS (TYPICAL FIGURES) AGIP DIESEL SIGMA PLUS

Characteristics	ASTM	Unit	SAE GRADE			
			10W	30	40	50
Density at 15°C	D 4052	kg/l	0.876	0.887	0.892	0.898
Viscosity at 100°C	D 445	mm²/s	6.3	11.4	15.6	19.7
Viscosity at 40°C	D 445	mm²/s	38.9	95.5	153.7	218.5
Viscosity Index	D 2270		111	107	104	103
Flash Point, COC	D 92	°C	218	242	254	268
Pour Point	D 97	°C	-27	-18	-15	-9
Base Number	D 2896	mgKOH/g	6	11	11	11

#### PROPERTIES AND PERFORMANCES

- AGIP DIESEL SIGMA PLUS has superior detergency and dispersant properties that is particularly suitable for supercharged diesel engines. The lubricant thus minimizes the formation of lacquer and varnish, as well as sludge and other engine deposits, helps prevent ring sticking, and keep pistons clean while maintaining potential deposits in suspension.
- Its anticorrosion properties effectively protect the engine from corrosion by combustion moisture and acids.
- Its good antioxidant can avoid oxidation reaction to get long life of oil in service.
- Its anti-wear properties ensure long life of moving parts and greatly reduce the need for engine servicing and overhauls.
- It has marked resistance to deterioration, especially that caused by oxidation due to prolonged high-temperature operation in the presence of air and other agents.
- Its antifoam properties prevent the formation of air bubbles that could adversely affect lubricant film continuity.

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### **SPECIFICATIONS**

AGIP DIESEL SIGMA PLUS is officially approved or meets the requirements of the following service and specifications:

- API SERVICE CF/SF
- MIL L 2104 E level
- MB 227.0 Quality
- CATERPILLAR TO-2
- ALLISON C-4

## **APPLICATION**

AGIP DIESEL SIGMA is specifically designed and formulated for :

- 4 stroke diesel engines, includes supercharged, turbocharged and heavy equipment engines such as bulldozer, wheel loader, motor grader, tractors etc.
- Static and marine diesel engines.
- Hydraulic system for heavy equipment, dump truck, forklift etc. (Sigma 10W Plus)
- Transmission and Gear to fulfill Allison C4, Caterpillar TO-2 and OEM requirement.
- 4 stroke gasoline engine requiring API SF performance level.

30 [ITF 001.02.08] 40 [ITF 932.02.08] 50 [ITF 933.02.08]

10W [ITF 930.02.08]