

# AGIP CLADIUM S



AGIP CLADIUM S is a series of marine engine oils of the latest generation intended for use in those modern four-stroke diesel engines operating with high-sulphur fuels which require lubricants of higher performances, namely with "anti black sludge" properties.

This lubricant provides also better deposit control in the hottest parts of the engine, namely in the piston cooling gallery.

These properties are mandatory also because the modern engines show low oil consumption figures. This decreases the renewal of the oil charge by top-ups, and leads to higher stress applied to the oil.

The line comprises four products: CLADIUM 300 S CLADIUM 400 S (offered in two viscosity grades), CLADIUM 500 S, with different TBN values.

AGIP CLADIUM 500 S is recommended in case of use of fuel with particularly high sulphur and/ or of engines showing extremely low oil consumption.

## CHARACTERISTICS (TYPICAL FIGURES)

AGIP CLADIUM S		300 S	400 S	400 S	500 S
SAE Grade		40	30	40	40
Viscosity at 100 °C	mm <sup>2</sup> /s	15,0	11,0	15,0	15,0
Viscosity at 40 °C	mm <sup>2</sup> /s	135	87	135	135
Viscosity Index	-	112	112	112	112
BN	mgKOH/g	30	40	40	50
Flash Point COC	°C	250	250	250	250
Pour Point	°C	-12	-12	-12	-12
Mass Density at 15 °C	kg/l	0,912	0,908	0,915	0,920

## PROPERTIES AND PERFORMANCE

- AGIP CLADIUM S have detergent-dispersant properties which effectively prevent the formation of lacquers, sludge and deposits, thus keeping rings free and pistons clean.
- They have enough alkalinity reserve to efficiently combat the formation of acid mists resulting from the use of very-high sulphur fuel oils. This reserve is also particularly useful in engines exhibiting especially low oil consumption or operating at such low liner temperatures as to favour sulphuric acid condensation.
- Their antiwear properties make this product also suitable to lubricate main engine reduction gear units.
- Their antifoam properties prevent the formation and entrainment of air bubbles.
- Their balanced dispersancy ensures a perfectly clean engine without hindering purification by centrifuging.
- Their high polarity provides superior protection of engine parts from attack by moisture and salinity.

## SPECIFICATIONS

AGIP CLADIUM S meet the requirements of API CD service specification and have been approved by the following manufacturers:

- CATERPILLAR-MAK
- WÄRTSILÄ