



MARINER MARINE 3

Description

Marino 3 oils comprise a range of marine lubricants specially formulated for the lubrication of high and medium speed 4-stroke diesel engines.

These oils are especially suitable for modern high-medium speed engines running on distillate or semi-distillate fuel oils with a sulphur content of up to 1% or Marine Diesel Oil (MDO).

Properties

- High detergent capacity that keeps the engine clean.
- Adequate alkaline reserve (TBN) that confers great capacity to neutralise the acids formed during combustion.
- Excellent thermal stability.
- Good filterability.

Quality levels, approvals and recommendations

- REINTJES: BV1597/2, BV2060/2* (30)
- ACEA: E2 (30, 40)
- MAN: 270 (30, 40)
- MTU: Type 1 (30, 40)
- REINTJES: BV1597/4, BV2060/4 * (40)
- API: CF/SF (30, 40)
- MB: 228.0 (30, 40)
- *Formal approval

Technical specifications

	UNIT	METHOD	VALUE	
SAE Grade			30	40
Colour	-	ASTM D1500	4.5	4.5
Density at 15 °C	g/cm3	ASTM D4052	0.896	0.900
Viscosity at 100 °C	cSt	ASTM D445	11.9	14.9
Viscosity at 40 °C	cSt	ASTM D445	105	148
Viscosity index	-	ASTM D2270	>98	>98
Flash point, open cup	°C	ASTM D92	>215	>225
Pour point	°C	ASTM D97	-24	-21
TBN	mg KOH/g	ASTM D2896	9.5	9.5
Sulphated ashes	% in weight	ASTM D874	1.1	1.1

The above mentioned characteristics are typical values and should not be considered product specifications.