

# **MAK MARINE**

## **Description**

These oils are formulated with superior quality base oils fortified with selected additives which provide very high TBN retention power, and assist in protecting engine parts from corrosion attributed to high sulphur levels encountered in residual fuel.

## **Application**

These are recommended for use in all types of Trunk Piston Engines in medium speed marine engines operating with residual fuels with high sulphur content. Suggested TBN values are selected based on sulphur content.

## **Benefits**

- Excellent detergent-dispersant, anti-corrosion and anti-rust properties
- High oxidation and thermal stability
- Good water tolerance and separability
- Good control on sludge, dirt & soot
- Good load carrying characteristics

## **Performance Level**

- API CF

## **Storage and Handling**

- Barrels should be kept horizontally with bung position at 3 O'clock 9 O'clock position.
- Barrels should be kept away from dusty or heated areas.
- During handling any contact with dust must be avoided.
- Indoor Storage is always preferable.

## Technical Specifications

Characteristics	ASTM	MAK MARINE		
		301	401	501
Appearance	--	Clear & Bright	Clear & Bright	Clear & Bright
Color, visual observation	--	Brown	Brown	Brown
Density at 15°C	D1298	0.8821	0.9265	0.9267
K.V at 100° C, cSt	D445	11.5	14.5	20.3
Viscosity Index	D2270	98	96	96
Pour Point, °C	D97	-12	-12	-12
Flash Point, (COC), °C	D92	244	246	248
Copper Corrosion @ 100°C for 3 hrs.	D130	1a	1a	1a
Total Base Number, mg KOH/ gm	D2896	12.5	12.5	12.5

Characteristics	ASTM	MAK MARINE		
		302	402	502
Appearance	--	Clear & Bright	Clear & Bright	Clear & Bright
Color, visual observation	--	Brown	Brown	Brown
Density at 15°C	D1298	0.8822	0.9266	0.9269
K.V at 100° C, cSt	D445	11.5	14.5	20.3
Viscosity Index	D2270	98	96	96
Pour Point, °C	D97	-12	-12	-12
Flash Point, (COC), °C	D92	244	246	248
Copper Corrosion @ 100°C for 3 hrs.	D130	1a	1a	1a
Total Base Number, mg KOH/ gm	D2896	20	20	20

Characteristics	ASTM	MAK MARINE		
		303	403	503
Appearance	--	Clear & Bright	Clear & Bright	Clear & Bright
Color, visual observation	--	Brown	Brown	Brown
Density at 15°C	D1298	0.8820	0.9268	0.9268
K.V at 100° C, cSt	D445	11.5	14.5	20.3
Viscosity Index	D2270	98	96	96
Pour Point, °C	D97	-12	-12	-12
Flash Point, (COC), °C	D92	244	246	248
Copper Corrosion @ 100°C for 3 hrs.	D130	1a	1a	1a
Total Base Number, mg KOH/ gm	D2896	30	30	30

All the mentioned values are typical which may vary from batch to batch.

## Technical Specifications

Characteristics	ASTM	MAK MARINE		
		304	404	504
Appearance	--	Clear & Bright	Clear & Bright	Clear & Bright
Color, visual observation	--	Brown	Brown	Brown
Density at 15°C	D1298	0.8820	0.9268	0.9268
K.V at 100° C, cSt	D445	11.5	14.5	20.3
Viscosity Index	D2270	98	96	96
Pour Point, °C	D97	-12	-12	-12
Flash Point, (COC), °C	D92	244	246	248
Copper Corrosion @ 100°C for 3 hrs.	D130	1a	1a	1a
Total Base Number, mg KOH/ gm	D2896	40	40	40

All the mentioned values are typical which may vary from batch to batch.

## Health & Safety

This grade is not hazardous under normal conditions of use. For further guidance Material Safety Data Sheet (MSDS) may be referred.

## Advice

For any further advice on applications or otherwise, please contact the nearest Bharat Petroleum territory office or Technical Services department at the address given below.

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