

## DESCRIPTION

EMIRATES 1 TP (TRUNK PISTON) MARINE ENGINE OILS are marine multi-functional crankcase lubricants for highly rated medium-speed diesel engines operating on residual fuel, specially formulated to help reduce deposits in critical areas (e.g. piston under crown) & gives long-term protection against corrosion of ferrous and non-ferrous metals.

EMIRATES 1 GEN 4 MARINE ENGINE OIL is a non-zinc and non-chlorine lubricant formulated with high-quality base stocks which provide low consumption characteristics, high-temperature oxidation resistance, and thermal stability. These base stocks are combined with specially selected stable additives resulting in an engine oil with well-balanced properties. EMIRATES 1 GEN 4 meets the requirements of an SAE 40 grade marine diesel engine oil and is suitable wherever API CF and/or CF-2 performance is specified and is rated an LMOA Generation 4 lubricant.

### **APPLICATIONS**

EMIRATES 1 TP (TRUNK PISTON) MARINE ENGINE OILS are designed for lubrication of medium-speed industrial or marine propulsion and auxiliary engines burning residual fuel oils & some medium and high-speed engines burning distillate fuel, where a high Base Number, high ash lubricant is suitable. Suitable for bearings and stern-tubes, reduction gear lubrication. Control.

EMIRATES 1 GEN 4 MARINE ENGINE OIL 4 has been specifically formulated to meet requirements of heavily loaded diesel engines manufactured by EMD and used in marine applications. It is suitable for other marine diesel engines of the highest horsepower, or higher brake mean effective pressure (BMEP) using distillate fuels with a sulfur content up to 1.5 percent. It will lubricate such engines in drilling rigs and stationary power generation service as well.

EMIRATES 1 TP (TRUNK PISTON) MARINE ENGINE OILS combine an exclusive formulation of latest additive technologies and highly refined base oils to provide a substantial safety margin to cope with the higher stress levels even with the latest and future designs of diesel engines. Particularly suitable for low or very low oil consumption engines operating with a poor quality residual

EMIRATES 1 GEN 4 MARINE ENGINE OIL 4 is produced with high-quality base stocks and selected additives. These provide the oil with excellent lubricating properties, low consumption characteristics, high-temperature oxidation resistance and thermal stability. Also suitable for other high horsepower marine diesel engines using distillate fuels with a sulphur content up to 1.5%.

# Recommendations / Specifications

EMIRATES 1 TP (TRUNK PISTON) MARINE ENGINE OILS Meets or exceeds the quality requirements of the all major medium speed engine manufacturers such as WÄRTSILÄ, MAN diesel, Caterpillar MaK, Yanmar, Daihatsu, HiMSEN & Rolls Royce.

API service: CF specification

EMIRATES 1 GEN 4 MARINE ENGINE OIL 4 Meets or exceeds the quality requirements of the engines manufactured by Alco, Detroit Diesel (API CF-2) and Fairbanks Morse.

# TYPICAL TECHNICAL PROPERTIES

EMIRATES 1	TP 30/30	TP 40/40	GEN-4
SAE Viscosity Grade	30	40	40
Density at 15°C, g/ml, ASTM D4052	0.913	0.916	0.897
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	110	135	139
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	12	14	14.1
Viscosity Index, ASTM D2270	100	100	98
Flash Point(COC), °C, ASTM D92	212	205	260
Pour Point, °C, ASTM D97	-18	-18	-6
Total Base Number, mg KOH/g, ASTM D2896	30	40	13
Sulphated Ash, wt%, ASTM D 874	3.7	4.9	1.6
Zinc, PPM, Max., ASTM D5185	-	-	10
Chlorine PPM,MAX., ASTM D5185	-	-	50
Load Carrying Capacity (FZG) Fail Load Stage, (IP 334)	11	10	-

Note: The information on this Product Data Sheet is believed to be accurate and is typical of current production. Specifications are subject to change without notice. For additional gueries, please contact Emirates 1 Technical Service Department.

Health and Safety: Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS). Safety Data Sheets available on request.  $Available\ Pack:\ 200|208|1000\ L$