



PRODUCT & TECHNICAL DATA

PRO TPO SAE 30 & 40 TBN 12 (TPO 3012 & 4012)

MARINE TRUNK PISTON OILS FOR MEDIUM-HIGH SPEED DIESEL ENGINES OPERATING ON DISTILLATE FUELS

DESCRIPTION

Pro TPO 3012 & 4012 are advanced marine engine oils, blended with Group 2, hydrotreated base oils. It is developed for medium-high speed, trunk piston engine (TPE) running on distillate fuels.

These oils are formulated with state-of-the-art Carboxylate technology and high purity hydro-processed base oils, that have superior thermal and oxidative properties compared to conventional solvent refined oils used by most blenders. Group 2 base oils are also better at soot dispersancy that improves the oil life in service.

APPLICATIONS

PRO TPO 3012 & 4012 are used to lubricate medium-high speed 4-stroke trunk piston engines.

These trunk piston engines include:

- Main Propulsion Engines
- Auxiliary Engines
- Power Generation

PERFORMANCE LEVELS

OEM Status

Technology extensively tested by the leading manufacturers of medium-high speed, 4-stroke marine engines:

- Wartsila
- MAN
- MaK
- Yanmar
- Daihatsu
- HiMSEN

Additive system approvals include: Wartsila, MAN & MaK

FEATURES AND ADVANTAGES

- Blended with advanced additive system and hydrotreated base oils providing excellent reliability and extended drain.
- Advanced additive system, combined with hydrotreated base stocks, deliver several advantages:
 1. Thermally stable base oils capable of withstanding higher temperatures for long periods.
 2. Removes sulphur thereby reducing the formation of harmful acids during combustion.
 3. Improves oxidation stability of the base oils, increasing drain interval.
- Advanced Carboxylate technology delivers exceptional engine cleanliness and base number (TBN) retention.
- Additive technology tested in High Performance Marine Engine Laboratory (Rotterdam) in Gr I and Gr II base oils, followed by extensive field testing in collaboration with major OEM's.
- Additive technology is approved by all major OEM's.

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PHYSICAL CHARACTERISTICS

Appearance	Bright, Clear	Bright, Clear
SAE GRADE	30	40
TBN, mg KOH/g, ASTM D2896	12.2	12.2
Viscosity @ 40 ° cSt, ASTM D445	102	140
Viscosity @ 100 ° cSt, ASTM D445	11.6	14.5
Viscosity Index, ASTM D445	101	102
Pour Point, °C, ASTM D97	-24	-21
Flash Point, °C, ASTM D92 (Open Cup)	230	240
Density @ 20°C, kg/l	0.891	0.893

GENERAL ADVICE

Further information on all Pro Oil SA lubricants is available from any Pro Oil SA office or from:
www.prooil.co.za

These characteristics are typical of current production.
Whilst future production will conform to Pro Oil SA's specification, variations in these characteristics may occur.

Health and Safety

Guidance on Health and Safety are available on the appropriate Material Safety Data Sheet, which can be obtained from your Pro Oil SA representative.

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