



BIOMAX™ STERN TUBE EAL

SYNTHETIC ENVIRONMENTALLY ACCEPTABLE STERN TUBE OIL
WITH SYNERLEC®

The BioMax™ EAL product line consists of environmentally friendly, synthetic, high-performance lubricants designed for use in environmentally sensitive areas. While many environmentally acceptable lubricants sacrifice performance or durability to meet regulatory requirements, BioMax EALs deliver uncompromised protection for all lubricated components.

BioMax Stern Tube EAL is specifically formulated for stern tube lubrication in marine environments. It carries the EU Ecolabel certification, globally recognized as a mark of environmentally acceptable lubricants that meet stringent environmental and technical standards.

BioMax Stern Tube EAL is biodegradable, non-bioaccumulative, and minimally toxic, yet provides outstanding lubrication and wear protection for bearings and other stern tube components. Its excellent seal compatibility prevents chemical degradation, reducing the risk of leaks into or out of the stern tube and ensuring lubricant integrity and long-term system protection. The formulation is non-emulsifying, non-corrosive, and delivers exceptional thermal and oxidative stability, even under high-temperature and highly corrosive conditions.



Unlike conventional mineral or synthetic oils, BioMax Stern Tube EAL combines premium synthetic base oils with proprietary Synerlec® additive technology to deliver superior performance. Proven in demanding marine applications, this advanced formulation helps equipment run smoother, cooler, quieter, and more efficiently, resulting in extended service life, enhanced reliability, and reduced maintenance requirements.

BE/027/007



PROPRIETARY ADDITIVE TECHNOLOGY - SYNERLEC®

Synerlec® additive technology forms a tough, slippery film that bonds ionically to metal surfaces, increasing oil film thickness beyond what viscosity alone can provide. This reinforced film greatly reduces the likelihood of breach, preventing metal-to-metal contact even under severe operating conditions where ordinary lubricants would fail. Because Synerlec allows a lubricant to carry significantly

higher loads than other mineral and synthetic oils, it delivers extra protection for bearings exposed to misalignment, shaft flex, high temperatures, imbalance, or water contamination – factors that typically thin oil films. In addition, Synerlec can smooth metal surfaces already damaged by wear by gently micro-mending surface asperities.

PERFORMANCE ADVANTAGES

HIGH FILM STRENGTH & UNMATCHED WEAR PROTECTION – Provides exceptional protection against friction and wear.

LONGER OIL LIFE – Delivers outstanding oxidation, thermal and hydrolytic stability, combined with effective keep-clean deposit control agents.

EXCELLENT CORROSION PROTECTION – Protects bearings, stern tube systems and surfaces exposed to seawater.

ELASTOMER COMPATIBILITY – Provides superior seal protection and helps elastomers retain their mechanical and physical properties.

NON-EMULSIFYING – Rapidly separates from water, which can easily be drained from the bottom of oil reservoir to keep the oil dry.

IMPROVED SYSTEM PERFORMANCE – Lowers operating temperatures and improves efficiency.



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TYPICAL APPLICATIONS & INDUSTRIES

- Stern Tubes
- Marine

PERFORMANCE REQUIREMENTS MET OR EXCEEDED

- AEGIR Marine
- KEMEL Eagle
- Lagersmit
- RM Propulsion
- SKF (ISO VG 100)
- Wärtsilä (ISO VG 100)
- Wärtsilä-Cedervall (ISO VG 100)

CERTIFICATIONS

- EU Ecolabel License No. BE/027/007
- US EPA VGP 2013 and VIDA

TECHNICAL DATA

ISO Grade	100	150
Color	Amber	Amber
Relative Density @ 60°F/60°F, ASTM D1298	0.876	0.890
Viscosity @ 100°C, cSt, ASTM D445	15.2	20.6
Viscosity @ 40°C, cSt, ASTM D445	100	150
Viscosity Index ASTM D2270	160	160
Flash Point °C (°F), (COC), ASTM D92	263 (506)	267 (512)
Pour Point °C/°F, ASTM D97	-39 (-38)	-39 (-38)
Rust Test 4 hrs @ 60°C, Sea H₂O, ASTM D665B	PASS	PASS
Copper Corrosion 3 hrs @ 100°C, ASTM D130	1A	1A
Elastomer Compatibility ISO 6072	PASS	PASS
Four-Ball EP Weld Point kgf, ASTM D2783	200	200
Four-Ball EP Load Wear Index kgf, ASTM D2783	56.5	56.8
Four-Ball Wear @ 75°C, 1,200 rpm, 40 kgf, 60 minutes, mm wear, ASTM D4172	0.30	0.31
Emulsion Characteristics @ 82°C, oil/water/emulsion-minutes, ASTM D1401	42/38/0-20	40/37/3-15
Foaming Characteristics 3 sequences @ 24°C, 93.5°C, 24°C: tendency/stability (ml)-time to break (sec), ASTM D892	0/0-0, 0/0-0, 0/0-0	0/0-0, 0/0-0, 0/0-0
Biodegradability % (28 days), ASTM D7373	>60	>60
Toxicity (Algae) mg/L, OECD 201	>1000	>1000
Toxicity (Daphnia) mg/L, OECD 202	>1000	>1000
Toxicity (Fish) mg/L, OECD 203	>1000	>1000
Toxicity (Bacteria) mg/L, OECD 209	>1000	>1000
Bioaccumulation log POW, OECD 107	<3	<3

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