



Shell GADINIA AL

Advanced Lubricant for medium speed trunk-piston engines running on distillate fuel

Shell GADINIA AL is a premium quality marine diesel engine oil designed for use in medium speed trunk piston engines, which operate on distillate fuels.

Shell GADINIA AL is specially designed to control oil consumption in modern engines, where liner -lacquering is a potential problem. Being multifunctional Shell GADINIA AL can also be used for other shipboard applications such as reduction gears.

Main Applications

- Highly rated medium speed diesel engines operating under high load or overload conditions
- General ship application, including gears, where specialist lubricants are not required

Benefits of using Shell GADINIA AL

Improved Reliability

- Excellent piston and crankcase cleanliness, which helps to maintain engine efficiency.
- Load carrying properties required for use in reduction gears.

Lower Maintenance Costs

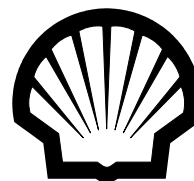
- Excellent liner lacquer control that maintains lubricating oil consumption at its normal level.
- A high level of protection against bore polishing - another cause of high oil consumption.

Re-assurance

Protection for engines where cylinder liner lacquering is likely to occur

Performance Specifications

- API CF



Approvals

- Rolls-Royce, Bergen
- Deutz AG
- MAN B&W Diesel AG
- Simplex (Compact Sterntube Seals)

Typical Physical Characteristics

Shell GADINIA AL					
SAE Viscosity Grade			30	40	
Kinematic Viscosity	40 °C	IP 71/ASTM D445	94.5	140	mm ² /s
	100 °C	IP 71/ASTM D445	11.4	14.3	mm ² /s
Density	15 °C	IP 365/ASTM D4052	0.893	0.900	kg/l
Flash Point	Closed Cup	IP 36/ASTM D92	>200	>200	°C
Pour Point		IP15/ASTM D97	-18	-18	°C
Load Carrying Capacity	FZG	IP 334	12	12	Fail Stage
Sulphated Ash		ASTM D874 / IP 163	1.65	1.65	% wt
BN		IP 276/ASTM D2896	15	15	mg KOH/g

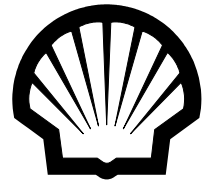
These characteristics are typical of current production. Whilst future production will conform to Shell's specification variations in these characteristics may occur.

Liner Lacquering

The medium-speed diesel engine is becoming more demanding to lubricate. Higher engine efficiencies are being achieved through engine designs, which incorporate higher cylinder - pressures, higher combustion temperatures, and the use of very high-pressure fuel injection. In some modern distillate fuelled engines, these conditions may lead to the formation of a layer of brown or black lacquer on the cylinder liner surfaces. This can fill in the honing pattern, resulting in a loss of oil control and runaway oil consumption. The condition is particularly common in severe operation (e.g. overload or high torque conditions). There is also evidence that it is more common where low sulphur (< 0.5% wt.) distillate fuels are in use.

Health & Safety

Shell GADINIA AL is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained. Avoid contact with the skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water. For further guidance on Product Health & Safety refer to the appropriate Shell Product Safety Data Sheet.



More Information

For more information about Shell Marine Fuels, Lubricants or Services, please contact any Shell Marine Products office or visit our web site <http://www.shell.com/marine>