Technical Data Sheet

Shell Melina *40*

Multi-purpose marine diesel engine oil

Shell Melina Oils are premium quality marine multi-purpose system oils designed, primarily, for low-speed, crosshead, marine diesel engines operating on residual fuels. They are alkaline oils giving the highest levels of protection in a wide variety of engine and shipboard applications

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Oxidation stability**
  High resistance to oil thickening with negligible deposits in piston cooling spaces.
- **Excellent dispersancy**
  Keeps sump tanks free from sludge and allows contaminants to be removed by filtration or by centrifugal separation.
- **Good alkalinity**
  Neutralises the strong, highly corrosive acids contained in the products of combustion which might contaminate the system as a result of cylinder oil draining leaking past piston rod glands, piston rings in trunk piston engines, through cracked pistons, rotary valve seals, etc.
- **Good water shedding properties**
  Particularly suitable for crosshead engines which use water cooling systems to control piston crown temperatures.
- **Excellent resistance to corrosion**
  Resistant to corrosion by salt water rusting in machinery lubricated by Shell Melina Oils has been unknown, throughout its extensive service experience.

Main Applications

- Crankcase systems of low-speed, crosshead, marine diesel engines operating on residual fuels
- Main and auxiliary trunk piston diesel engines burning distillate fuels
- Turbochargers
- Geared transmissions
- Oil-lubricated stern-tubes
- Variable pitch propellers
- Deck machinery
- Other ancillary equipment requiring an SAE 40 oil

Specifications, Approvals & Recommendations

- Sulzer - Fully approved for crosshead marine diesel engines
- MAN B & W - Fully approved for crosshead marine diesel engines
- API - CD
- US Military - MIL-L-2104C (obs.)

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

Typical Physical Characteristics

Properties			Method	Shell Melina 40
SAE Viscosity Grade				40
Kinematic Viscosity	@40°C	cSt	ASTM D445	139.0
Kinematic Viscosity	@100°C	cSt	ASTM D445	14.4
Viscosity Index			ASTM D2270	102
Density	@15°C	kg/l	ASTM D4052	0.900
Flash Point (PMCC)		°C	ASTM D93	229
Pour Point		°C	ASTM D97	-9
Load Carrying Capacity FZG Gear Machine A/8.3/90 Pass stage			IP 334 A/8.3/90	12
TBN-E		mgKOH/g	ASTM D2896	8.0
Sulphated Ash		% wt	ASTM D874	1.0

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

Health, Safety & Environment

- **Health and Safety**

  Shell Melina 40 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 skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

  Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from http://www.epc.shell.com/

- **Protect the Environment**

  Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

Additional Information

- **Advice**

  Advice on applications not covered here may be obtained from your Shell representative.

- **Purification**

  Normal purification equipment and practices are recommended for the removal of contaminants. Equipment should be operated in accordance with Manufacturers' instructions.

  For satisfactory centrifugal separation, it is particularly important to:-

- Select the gravity disc size most appropriate to the oil density
- Contain the oil throughput to no more than that recommended for additive type lubricants by the machine manufacturer.
- Maintain an adequate oil separation temperature: the optimum should, wherever possible, be above 80°C, but should not exceed 90°C
- Operate the machine on a regular schedule, preferably daily. Continuous separation is often advisable, depending on the oil condition and size of centrifuge.