Technical Data Sheet

Shell Argina *T 40 (2005)*

Medium-speed trunk-piston diesel engine oil

Shell Argina T is a multifunctional crankcase lubricant for highly rated medium-speed diesel engines operating on residual fuel. Argina T is designed for conditions of moderate oil stress.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Engine cleanliness**
  Has built a reputation over many years for very good engine cleanliness.
- **Rapid neutralisation of acidic combustion products**
  Gives long-term protection against corrosion of ferrous and non-ferrous metals.
- **Thermal stability and resistance to oxidation**
  Provides excellent high temperature deposit control and contributes to long oil life.
- **Suitability for centrifugal separators**
  High detergency/low dispersancy formulation releases contaminants and water readily in centrifugal separators.

Main Applications

- Medium-speed industrial or marine propulsion and auxiliary engines, burning residual fuel oils, which create conditions of moderate oil stress. These conditions usually occur:
  - in engine designs more than 5 years old, or
  - where oil consumption is 1g/kWh or more, or
  - in newer designs where load factors are predominantly 85% or less, or
  - where fuels with sulphur <3% are in use.
- Marine engine reduction gears and certain other ship-board applications, where specialist lubricants are not required.

Medium-speed engines burning residual fuel need very specialised lubricants. Heavy fuels contaminate the oil with asphaltenes, requiring special types of detergency to avoid sludges. The combustion of high sulphur fuels produces sulphur acids, which cause high wear rates of piston rings and cylinder liners unless neutralised by a high basicity reserve in the oil. The oil is in service for very long periods, so centrifugal separators are used to remove water and combustion contaminants from the oil. Medium-speed engine oils must be specially designed to release these contaminants in the separator.

Specifications, Approvals & Recommendations

Shell Argina T enjoys a comprehensive range of Original Equipment Manufacturers' approvals through field experience over many years.

Meets the engine test criteria for API CF

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

Typical Physical Characteristics

Properties			Method	Shell Argina T 40
Kinematic Viscosity	@40°C	cSt	ASTM D445	135
Kinematic Viscosity	@100°C	cSt	ASTM D445	14
Viscosity Index			ASTM D2270	100
Density	@15°C	kg/l	ASTM D4052	0.921
Flash Point (PMCC)		°C	ASTM D93	225
Pour Point		°C	ASTM D97	-18
Base Number		mg KOH/g	ASTM D2896	30
Sulphated Ash		% wt	ASTM D874	3.7
Load Carrying Capacity (FZG Gear Machine) Failure load Stage			IP 334 A/8.3/90	11

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 Argina T 40 (2005) is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and 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.