Technical Data Sheet

Shell **Turbo** *Oil J 32*

Premium Industrial Turbine Oil

Shell Turbo Oil J has been specially formulated to satisfy the demanding requirements of the MHI (Mitsubishi Heavy Industry) non-geared steam & gas turbines.
This is based on a blend of specially chosen high quality hydrotreated base oils with selected additives to enhance their rust and oxidation properties.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Good thermal and oxidation stability**
  Resists the formation of sludge and other harmful products of oxidation, giving long oil life.
- **Excellent corrosion protection**
  High level of corrosion protection of all metal surfaces.
- **Excellent oil/water separation properties**
  Easy drainage of excess water from lubrication systems.
- **Good air release characteristics**
  Effective air release without excessive foaming.
- **Reliable performance in MHI turbines**
  Shell Turbo Oil J meets the requirements of MHI turbines and has been successfully tested in the MHI in-house dry TOST test.

Main Applications

- **Power generation MHI turbines**
  Shell Turbo Oil J may also be used for other industrial applications requiring high quality rust and oxidation (R & O) inhibited oils, which separate easily from water.

Specifications, Approvals & Recommendations

- Shell Turbo Oil J is approved by MHI against their specifications Turbine Oil Type 2 (additive) MS04-MA-CL001 (R-5) and MS04-MA-CL002 (R-5).

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

Typical Physical Characteristics

Properties			Method	Shell Turbo J 32
Viscosity	@40°C	cSt	ASTM D445	32
Viscosity	@100°C	cSt	ASTM D445	5.3
Viscosity Index			ASTM D2270	104
Colour			ASTM D1500	L 0.5
Density	@15°C	kg/m^3	ASTM D4052	858
Pour Point		°C	ASTM D97	-18
Total Acid Number		mg KOH/g	ASTM D974	0.05
Foaming Seq I		ml/ml	ASTM D892	30/Nil
Foaming Seq II		ml/ml	ASTM D892	20/Nil
Foaming Seq III		ml/ml	ASTM D892	30/Nil
Water Separability	@54°C	minutes	ASTM D1401	40-40-0(10)
Air Release, Minutes			ASTM D3427	<4
Copper Corrosion (3 hrs)	@100°C		ASTM D130	1b
Rust Control			ASTM D665B	Pass
Oxidation Control Test - TOST Life		hour	ASTM D943	>8 000
Oxidation Control Test - Dry TOST			MHI Method	Pass

Properties		Method	Shell Turbo J 32
Oxidation Control Test - RPVOT - minutes	minutes	ASTM D2272	>950
Flash Point (COC)	°C	ASTM D92	222

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**

  This product 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 new and used fluid. After skin contact, wash immediately with soap and water.

  Guidance on Health and Safety is available on the appropriate 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.