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-2) and MS04-MA-CL002 (R-2).
- For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

Typical Physical Characteristics

Properties			Method	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
Pour Point		°C	ASTM D97	-18
Flash Point (COC)		°C	ASTM D92	222
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	min	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		hr	ASTM D943	>8000
Oxidation Control Test - Dry TOST			MHI Method	Pass
Oxidation Control Test - RPVOT - minutes		min	ASTM D2272	>950

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

- 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.