



# 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.