# Mobil DTE™ 700 Series

Mobil Industrial , France

Premium Turbine Oils

## Product Description

Mobil DTE™ 700 Series lubricants are the latest addition to the Mobil DTE turbine lubricant family of products, long recognized for their high quality and reliability. Mobil DTE 700 Series are Zinc-Free turbine lubricants specifically designed for use in gas and steam turbine applications. Mobil DTE 700 Series lubricants are formulated with carefully selected basestocks and additives, including antioxidants, rust and corrosion inhibitors and anti-foam agents. These components provide outstanding resistance to oxidation and chemical degradation over time. Mobil DTE 700 lubricants exhibit excellent water separability, resistance to emulsion formation and anti-foaming characteristics which provide reliable operation. Their enhanced air release properties are critical for turbine hydraulic control mechanisms.

The performance features of Mobil DTE 700 Series oils translate into excellent equipment protection helping increase turbine operation reliability, enabling reduced downtime and extended oil charge life. Mobil DTE 700 Series performance is evidenced by its ability to meet or exceed a wide range of industry standards and equipment builder specifications for steam and gas turbines used around the world.

## Features and Benefits

Mobil DTE 700 Series offers the following features and potential benefits:

| Features | Advantages and Potential Benefits |
|---|---|
| Meets or exceeds most major turbine equipment builder specifications and industry specifications (ISO VG 32) | Simplifies lubricant selection and application / Assures compliance with equipment builder's warranty / Minimizes lubricant inventory |
| Superior oxidation, chemical and color stability | Designed to provide extended oil charge life and help reduce oil purchases and disposal costs<br>Helps control deposit formation to help reduce filter plugging and equipment fouling for reducing downtime and maintenance costs<br>High level of turbine system reliability and reduced unscheduled downtime |
| Excellent water separability | Helps to insure good lubrication film to protect turbine bearings / Maximizes water removal system efficiency and minimizes oil replacement costs |
| Enhanced rust and corrosion protection | Prevents corrosion of critical oil system components for reducing maintenance and prolonging component life |
| Rapid air release and resistance to foaming | Prevents erratic operation and pump cavitation, reducing pump replacement and increasing pump efficiency |
| Zinc Free | Reduces environmental impact |

## Applications

Mobil DTE 700 Series are designed to meet or exceed the requirements of circulation systems of steam and gas turbines. Specific applications include

- Electric power generation for high output base load utilities
- Gas Turbine Combined Cycle Power Plants operating in base load or peak generation modes
- Gas turbines in Captive Power plants
- Gas or steam turbine prime movers

- Hydroelectric turbine applications

## Specifications and Approvals

| This product has the following approvals: | 732 | 746 | 768 |
|---|---|---|---|
| GE Power (former Alstom Power) HTGD 90117 | X | X | |
| LMZ steam turbines | X | X | |
| Siemens TLV 9013 04 | X | X | |
| Siemens TLV 9013 05 | X | X | |

| This product is recommended for use in applications requiring: | 732 | 746 | 768 |
|---|---|---|---|
| GE Power GEK 28143A | X | X | |

| This product meets or exceeds the requirements of: | 732 | 746 | 768 |
|---|---|---|---|
| ASTM D4304, Type I (2017) | X | X | X |
| ASTM D4304, Type III (2017) | X | X | |
| China GB 11120-2011, L-TGA | X | X | X |
| China GB 11120-2011, L-TSA(Class A) | X | X | |
| China GB 11120-2011, L-TSA(Class B) | X | X | |
| DIN 51515-1:2010-02 | X | X | X |
| DIN 51515-2:2010-02 | X | X | |
| GE Power GEK 120498 | X | | |
| GE Power GEK 121608 | X | | |
| GE Power GEK 27070 | X | | |
| GE Power GEK 32568Q | X | | |
| GE Power GEK 46506D | X | | |
| ISO L-TGA (ISO 8068:2019) | X | X | X |
| ISO L-TSA (ISO 8068:2019) | X | X | X |
| JIS K-2213 Type 2 | X | X | X |
| Siemens Industrial Turbo Machinery MAT 812101 | X | | |
| Siemens Industrial Turbo Machinery MAT 812102 | | X | |
| Siemens Westinghouse PD-55125Z3 | X | | |

## Properties and Specifications

| Property | 732 | 746 | 768 |
|---|---|---|---|
| Grade | ISO 32 | ISO 46 | ISO 68 |
| Air Release, 50 C, min, ASTM D3427 | 2 | 3 | 4 |
| Copper Strip Corrosion, 3 h, 100 C, Rating, ASTM D130 | 1B | 1B | 1B |
| Density @ 15 C, g/cm3, ASTM D1298 | 0.85 | 0.86 | |
| Emulsion, Time to 3 mL Emulsion, 54 C, min, ASTM D1401 | 10 | 10 | 10 |
| Flash Point, Cleveland Open Cup, °C, ASTM D92 | 228 | 230 | 242 |
| Foam, Sequence I, Tendency/Stability, ml, ASTM D892 | 0/0 | 0/0 | 0/0 |
| Foam, Sequence II, Tendency/Stability, ml, ASTM D892 | 0/0 | 0/0 | 0/0 |
| Foam, Sequence III, Tendency/Stability, ml, ASTM D892 | 0/0 | 0/0 | 0/0 |
| Kinematic Viscosity @ 100 C, mm2/s, ASTM D445 | 5.5 | 6.8 | 8.6 |
| Kinematic Viscosity @ 40 C, mm2/s, ASTM D445 | 30 | 44 | 64 |
| Neutralization Number, mgKOH/g, ASTM D974 | 0.1 | 0.1 | 0.1 |
| Pour Point, °C, ASTM D97 | -30 | -30 | -30 |
| Rotating Pressure Vessel Oxidation Test, min, ASTM D2272 | 1000 | 1000 | 1000 |
| Rust Characteristics, Procedure B, ASTM D665 | PASS | PASS | PASS |
| Specific Gravity, 15.6 C/15.6 C, ASTM D1298 | | | 0.87 |
| Turbine Oil Stability Test, Life to 2.0 mg KOH/g, h, ASTM D943 | 10000 | 10000 | 8000 |
| Viscosity Index, ASTM D2270 | 117 | 113 | 110 |

## Health and Safety

Health and Safety recommendations for this product can be found on the Material Safety Data Sheet (MSDS) @ http://www.msds.exxonmobil.com/psims/psims.aspx

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Typical Properties are typical of those obtained with normal production tolerance and do not constitute a specification. Variations that do not affect product performance are to be expected during normal manufacture and at different blending locations. The information contained herein is subject to change without notice. All products may not be available locally. For more information, contact your local ExxonMobil contact or visit www.exxonmobil.com

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