



## Mobil DTE™ 700 Series

### 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 Helps control deposit formation to help reduce filter plugging and equipment fouling for reducing downtime and maintenance costs 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

<b>Mobil DTE 700 Series meets or exceeds the requirements of</b>	<b>Mobil DTE 732</b>	<b>Mobil DTE 746</b>	<b>Mobil DTE 768</b>
ASTM 4304 Rev A Type I	X	X	X
ASTM 4304 Rev A Type III	X	X	
China National Std GB 11120-89 L-TSA	X	X	X
DIN 51515-1: 2010-2	X	X	X
DIN 51515-2: 2010-2	X	X	
GE GEK-27070	X		
GE GEK-28143A	X	X	
GE GEK 32568 G	X		
GE GEK-46506D	X		
JIS K-2213 type 2 w/add.	X	X	X
Siemens Industrial Turbomachinery MAT 81 21 01	X		
Siemens Industrial Turbomachinery MAT 81 21 02		X	
Siemens Westinghouse PD-55125Z3	X		

<b>Mobil DTE 700 Series has the following builder approvals:</b>	<b>Mobil DTE 732</b>	<b>Mobil DTE 746</b>	<b>Mobil DTE 768</b>
Alstom Power - HTGD 90117	X	X	
Siemens Power Generation TLV 9013 04	X	X	
Siemens Power Generation TLV 9013 05	X	X	

<b>According to ExxonMobil, the DTE 700 Series is of the following quality level:</b>	<b>Mobil DTE 732</b>	<b>Mobil DTE 746</b>	<b>Mobil DTE 768</b>
ISO 8068 L-TGB	X	X	X
ISO 8068 L-TGSB	X	X	X

## Typical Properties

<b>Mobil DTE 700 Series</b>	<b>732</b>	<b>746</b>	<b>768</b>
ISO VG	32	46	68
Viscosity, ASTM D 445			
cSt @ 40 °C	30	44	64
cSt @ 100 °C	5.5	6.8	8.6
Viscosity Index, ASTM D 2270	117	113	110
RPVOT, ASTM D2272, minutes	1000	1000	1000
TOST, time to 2.0 NN hours, ASTM D943, hours	10,000	10,000	8,000
Neutralization Number,mg/KOH g ASTM D974	0.10	0.10	0.10

Pour Point, °C, ASTM D 97

30

30

30

Property	700	700	700
Flash Point, °C, ASTM D 92	228	230	242
Density @ 15 °C, kg/l, ASTM D 1298	0.85	0.86	0.87
Foam Sequence I, mL ASTM D892	0/0	0/0	0/0
Foam Sequence II, mL ASTM D892	0/0	10/0	0/0
Foam Sequence III, mL ASTM D892	0/0	0/0	0/0
Air Release, 50 C, mins,ASTM D3427	2	3	4
Demulsibility, @ 54 °C, time to 3ml emulsion, ASTM D1401, minutes	10	10	10
Rust Protection, ASTM 665B	pass	pass	pass
Copper Corrosion, ASTM D130	1B	1B	1B
FZG Scuffing, ISO 14635-1, A/8.3/90, Fail Stage	6	6	

## Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application, following the recommendations provided in the Material Safety Data Sheet (MSDS). MSDSs are available upon request through your sales contract office, or via the Internet on <http://www.exxonmobil.com>. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment.

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Exxon Mobil Corporation  
22777 Springwoods Village Parkway  
Spring TX 77389

1-800-ASK MOBIL (275-6624)

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](http://www.exxonmobil.com). ExxonMobil is comprised of numerous affiliates and subsidiaries, many with names that include Esso, Mobil, or ExxonMobil. Nothing in this document is intended to override or supersede the corporate separateness of local entities. Responsibility for local action and accountability remains with the local ExxonMobil-affiliate entities.

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