



## **Mobil DTE 800 Series**

### **Superior Performance Turbine Oils**

#### **Product Description**

Mobil DTE™ 832 and 846 are superior performance turbine oils designed for use in steam turbines, gas turbines and combined cycle gas turbine (CCGT) applications under the most severe operating conditions. These progressive products are based on high quality hydrotreated basestocks for exceptional thermal/oxidation resistance along with specially chosen additives engineered to provide the deposit control and "keep-clean" performance required by severe duty gas turbines as well as excellent water separability needed for steam turbine operation. The formulations also include a non-zinc antiwear system to meet the load carrying requirements of geared turbines.

In addition to meeting the separate requirements of modern steam and gas turbine designs, Mobil DTE 800 Series are excellent choices for combined cycle applications that require a single oil for a gas turbine and a steam turbine run in tandem. Simultaneously meeting both deposit control and water separation requirements is the key performance highlight of this advanced lubricant technology. The excellent thermal/oxidative resistance of Mobil DTE 832 and 846 ensures that they can be operated in the most severe turbine environments.

The performance features of Mobil DTE 800 Series oils translate into excellent equipment protection, reliable operation, with reduced down-time and extended oil charge life. These products also provide the ultimate flexibility to the operator because they can be used in all turbine types: steam, gas and geared-turbines.

#### **Features and Benefits**

Mobil DTE brand mineral-based products have been the choice for turbine operators worldwide for more than one hundred years. During that period our company's scientists have maintained the strongest ties with turbine equipment builders and operators to ensure that the needs of new turbine designs are met or exceeded by our lubricants. This has required a continual upgrading of Mobil turbine oils and the application of the most appropriate modern base oil and additive technology

For modern stationary gas turbines that operate at high power outputs, exceptional protection against thermal/oxidative degradation and deposit control are key requirements. Severe operation causes thermal stressing of the lubricant that can result in filter plugging, servo valve deposits or short oil life. For modern steam turbines, a high level of oxidation resistance is required as well as good water separability in cases of steam leaks. For combined cycle operation, it is necessary for the lubricant to meet the needs of both turbine types.

DTE 800 Series oils offer the following features and potential benefits:

<b>Features</b>	<b>Advantages and Potential Benefits</b>
Meets or exceeds both gas turbine and steam turbine requirements of key builders	Avoids lube misapplication and costly change-out
	Reduces inventory costs
Excellent thermal/oxidation stability	Reduced downtime, more reliable operation
	Extended oil charge life; lower product costs
Excellent antiwear protection	Excellent protection for geared turbines (gas- and steam-), lower maintenance and replacement costs
	Extended equipment protection and reduced replacement costs
Excellent demulsibility	Efficient system operation and reduced maintenance

## **Applications**

Mobil DTE 832 and 846 are superior performance turbine oils designed for use in steam and gas turbine oil systems, direct- or gear-coupled and turbine speed control mechanisms. Specific applications include:

- Combined cycle (CCGT) electric power generation applications including those with a common circulation system for the steam turbine and gas turbine.
- Lubrication of steam turbine or gas turbine units used for electric power generation, natural gas pipeline transmission, process operations and cogeneration plants.

## Specifications and Approvals

<b>Mobil DTE 800 Series meets or exceeds the requirements of:</b>	<b>832</b>	<b>846</b>
JIS K2213 Type 2 w/Additives, 2006	X	X
DIN 51515-1: 2010-02	X	X
DIN 51515-2: 2010-02	X	X
GE GEK 28143A	X	X
Solar ES 9-224, Class II	X	X
GE GEK 32568E	X	
GE GEK 32568G	X	
GE GEK 101941A	X	
GE GEK 107395a	X	
GE GEK 46506D	X	
Siemens Industrial Turbo Machinery MAT 812101	X	
Siemens Industrial Turbo Machinery MAT 812102		X
Siemens Industrial Turbo Machinery MAT 812106	X	
Siemens Industrial Turbo Machinery MAT 812107		X
Siemens Industrial Turbo Machinery MAT 812108	X	
Siemens Industrial Turbo Machinery MAT 812109		X
Siemens Westinghouse PD-55125Z3	X	

<b>Mobil DTE 800 Series has the following builder approvals:</b>	<b>832</b>	<b>846</b>
Alstom Power HTGD 90 117	X	X
Siemens TLV 9013 04	X	X

<b>Mobil DTE 800 is recommended by ExxonMobil for use in applications requiring:</b>	<b>832</b>	<b>846</b>
GE GEK 28143B	X	X
GE GEK 32568C	X	

## Typical Properties

<b>Mobil DTE 800 Series</b>	<b>832</b>	<b>846</b>
ISO Viscosity Grade	32	46
Viscosity, ASTM D 445		
cSt @ 40° C	29.6	42.4
cSt @ 100° C	5.4	6.2
Viscosity Index, ASTM D 2270	110	106
Pour Point, °C, ASTM D 97	-30	-30
Flash Point, °C, ASTM D 92	224	244
Specific Gravity 15.6° C/15.6° C, ASTM D 4052	0.86	0.87
TOST, ASTM D 943, Hours to 2 NN	10,000+	10,000+
RBOT, ASTM D 2272, min.	1200	1100
FZG Scuffing, DIN 51354, A/8.3/90, Fail Stage	9	9
Rust Prevention, ASTM D 665:		
Distilled Water	Pass	Pass
Sea Water	Pass	Pass
Water Separability, ASTM D 1401, Min. to 0 ml emulsion @ 54° C	15	15
Copper Strip Corrosion, ASTM D 130, 3 hrs @ 100° C	1A	1A
Foam Test, ASTM D 892, Seq I, II and III Tendency/stability, ml/ml	20/0	20/0
Air Release, mins.	2	2

## Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contract office, or via the Internet. 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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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)

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