

Mobil SHC 824

Synthetic Gas Turbine Lubricant

Product Description

Mobil SHC 824 is a supreme performance, synthetic turbine oil designed specifically to meet the needs of the most severe marine and industrial gas turbine applications. It has a nominal 10,000 hour TOST life and is recommended for the lubrication of marine and land-based gas turbines, particularly units under 3,000 hp used as standby power units. This innovative product is formulated from wax-free synthesized hydrocarbons and a unique additive system. This formula provides outstanding low temperature fluidity and exceptional resistance to degradation at high temperatures well beyond the capabilities of premium quality mineral oils. Mobil SHC 824 lubricant also provides excellent antiwear properties as well as protection against rust and corrosion. It has good air release performance and resistance to foaming.

Mobil SHC 824 provides superior resistance to thermal/oxidative degradation during the heat soaking period after shutdown and permits rapid oil circulation at low temperatures during start-up. Degradation resistance is a key attribute in avoiding harmful deposits that can interfere with lubrication supply to the bearings or foul critical servo-valves. This is a particular issue when gas turbines are running in cycling mode and experience multiple thermal stress cycles. Since low temperature fluidity and high viscosity index are inherent characteristics of this fluid, it does not change in service as a result of mechanical shearing or repeated cycling from low to high temperatures. Mobil SHC 824 is fully compatible with mineral oils, but admixture will detract

from its superior performance properties.

This advanced product, which has been proven in very severe gas turbine service over many years, is preferred by users because of its outstanding stability and equipment protection under the most severe, high temperature conditions and because of its easy start-up at low ambient temperature. This performance results in excellent equipment reliability and minimised downtime.

Features & Benefits

The Mobil SHC brand of lubricants is recognised and appreciated around the world for its innovation and outstanding performance. These molecular design synthetic products, pioneered by ExxonMobil research scientists, symbolise the continuing commitment to using advanced technology to provide outstanding products. Mobil brand products have also been the choice for turbine operators worldwide since they were first commercialized more than one hundred years ago. During that period ExxonMobil technical experts have worked with OEMs to ensure that Mobil product offerings would provide exceptional performance in the continually evolving turbine equipment designs. Familiarity with evolving designs and operational conditions is a key input to the application of the best lubricant technology in the development of products that will provide the performance demanded by users.

Key features and potential benefits of Mobil SHC 824 include:

Features

Outstanding high thermal/oxidative stability and deposit control

Excellent low temperature fluidity

Naturally high Viscosity Index

Very good resistance to foaming and good air release

Excellent antiwear performance

Advantages and Potential Benefits

High level of resistance to heat soak-back after turbine shutdown
Less deposit build-up and improved reliability and lower maintenance costs
Long oil change life and lower product costs

Reliable flow and lubrication during cold starts, even at very low temperatures

Improved equipment protection at high temperatures

Efficient system operation and less unplanned stoppages

Excellent equipment protection and reduced equipment replacement costs

Features & Benefits *(continued)*

One general trend over the years has been to higher power output designs, which can lead to greater thermal stress on the lubricant. This thermal exposure is exacerbated by cycling operation which is employed by gas turbine operators to manage the supply/demand balance of electrical power generation, which results in heat soak-back at each shut-down sequence. Resisting thermal degradation is thus a key property required of a modern gas turbine oil lubricant.

To combat high thermal exposure of the oil, ExxonMobil product formulation scientists chose proprietary synthetic base oils for Mobil SHC 800 Series oils because of their exceptional thermal/oxidative resistance capabilities. Formulators chose specific additives that would maximise the benefits of the synthetic base oils to provide exceptional oil life, deposit control and resistance to thermal & chemical degradation, as well as the balance of the performance features. The wax-free nature of the synthetic base oil also provides low-temperature fluidity characteristics unmatched by mineral products and is a key benefit for remote, low ambient applications.

Applications

Mobil SHC 824 is designed specifically to meet the needs of the most severe gas turbine applications. It is fully compatible with mineral oils, but admixture will detract from its superior performance properties.

Specifications & Approvals

- Siemens TLV 9013 04 (approved)
- Meets Solar ES9-224 Class 1
- Alstom HTGD 90117 (approved)

Health & 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.

| Typical Properties | Mobil SHC 824 |
|--|---------------|
| ISO Viscosity Grade | 32 |
| Viscosity, ASTM D 445 | |
| cSt @ 40°C | 31.5 |
| cSt @ 100°C | 5.9 |
| Viscosity Index, ASTM D 2270 | 135 |
| Pour Point, °C, ASTM D 97 | <-54 |
| Flash Point, °C, ASTM D 92 | 248 |
| Specific Gravity @15°C kg/l, ASTM D 4052 | 0.83 |
| TOST life, ASTM D 943, hrs to 2NN | 9500 |
| Foam Test, ASTM D 892, Seq I, Tendency/Stability, ml/ml | 10/0 |
| Air Release | 1 |

Due to continual product research and development, the information contained herein is subject to change without notification. Typical properties may vary slightly.