

FBK TURBINE

Premium Turbine Oil with Additives

FBK Turbine is the first turbine oil with additives to be produced in Japan. It possesses the outstanding quality and performance required for the lubrication of advanced thermal turbines that operate with high-temperature, high-pressure steam. FBK Turbine not only is ideal for all types of nuclear power, steam, gas, and hydropower turbines; this premium quality oil can also be used as a lubricant and hydraulic fluid in a wide range of industrial machinery.

● Special Features

1. Excellent Oxidation Stability

When a lubricating oil is used continuously for long periods of time, it can gradually degrade, resulting in sludge formation and machine operation problems. With advanced thermal power steam turbines operating at high temperatures and pressures, turbine oil problems must be prevented by choosing an oil that has excellent oxidation stability so that it can be used for many years without being replaced. FBK Turbine possesses excellent oxidation stability, so it can be used for long periods of time even under severe conditions. Its thermal stability is also very good. Thanks to these superb features, FBK Turbine has been adopted by electric power companies for many thermal and hydro power plants, and it has shown top-level performance in every application.

2. Outstanding Rust Prevention

If water enters a lubrication system, it not only can interfere directly with machine operation; it may also cause rust to form inside the system, thus keeping the machinery from operating smoothly. Therefore it is essential that all water be removed from the oil.

The powerful rust preventive agents contained in FBK Turbine provide outstanding rust prevention performance. As a result, it keeps rust from forming inside the lubricating system even during long periods of continuous use.

3. Superb Antifoaming Properties

Foaming may occur in lubricating oil or hydraulic fluid for several reasons. Oil and air may be mixed together violently; air may be drawn into the system through poor seals in the pipes; or air and other gases dissolved in the oil may suddenly separate, forming bubbles. Of course, the best solution to foaming problems is to iden-

tify the cause and fix it, but it is also desirable that the oil be able to eliminate any foam that does appear.

Special antifoaming agents are added to FBK Turbine, thus ensuring excellent defoaming performance during actual use.

4. Very Good Emulsion Resistance and Water Separation Properties

If water is present in a lubricating oil or hydraulic fluid, it can emulsify with the oil and cause unstable operation. Oils should be resistant to emulsification and have good water separation properties.

Thanks to the excellent water separation properties of FBK Turbine, this oil prevents emulsification problems if water becomes mixed with the oil.

5. Good Viscosity/Temperature Properties and Low-Temperature Characteristics

FBK Turbine undergoes little change in viscosity due to variations in temperature and it has a low pour point, so it performs excellently as a hydraulic fluid.

● Grades

FBK Turbine is available in grades 32, 46, 68, and 100 according to the viscosity, so the optimal grade can be chosen for any application.

FBK Turbine 32

FBK Turbine 46

FBK Turbine 68

FBK Turbine 100

● Applications

Thanks to the outstanding characteristics of FBK Turbine, this oil can be used for the lubrication of a wide range of industrial machinery, including the following;

- (1) Nuclear power, steam, gas, and hydro turbines.
- (2) All types of electric generators and motors.
- (3) Medium and small-sized compressors, blowers, and pumps.
- (4) All types of low-load gear transmissions, machine tools, and other industrial machinery.
- (5) All types of hydraulic devices.

● **Packaging**

200-liter drums and 20-liter cans.

Typical Properties of FBK Turbine

Grades of FBK Turbine	32	46	68	100
Viscosity (40°C) mm ² /s	31.9	45.3	67.2	99.2
(100°C) mm ² /s	5.9	7.3	9.1	11.5
Viscosity index	131	124	111	104
Flash point(COC)°C	230	248	258	260
Pour point, °C	-17.5	-15.0	-12.5	-10.0
Copper strip corrosion (100°C,3h)	1	1	1	1
Rust prevention (artificial seawater, 24h)	Passed	Passed	Passed	Passed

Note: The typical properties may be changed without notice. (November 2003)

When using FBK Turbine, be sure to read and follow the accompanying handling precautions.



Handling Precautions

▼ **Follow the following precautions when handling this product.**

- Read this product's Material Safety Data Sheet before using the product.
- Obey all applicable laws and regulations concerning the handling and disposal of this product, particularly laws and regulations related to fire safety, the treatment and disposal of waste and sewage, the prevention of water and ocean pollution, and workplace safety and hygiene.

Please request the Material Safety Date Sheet where you purchased this product.

IND-3502-0311E