



Turbine Oil

Turbine Oil is a high-quality, rust and oxidation (R&O)-inhibited circulating oil developed for use in industrial steam turbines, rotary air compressors and many other industrial applications.

Turbine Oil is formulated to provide excellent protection against rust, corrosion and deposit formation. It has excellent oxidation resistance and thermal stability at high temperatures to minimize sludge and varnish formation, and provide long service life. It protects system components against rust and corrosion. It has excellent water-separating properties to minimize the formation of emulsions, and is resistant to excessive foam buildup that can interfere with proper lubrication.

Applications

- Air tools and other pneumatic equipment lubricated through air line lubricators
- Centrifugal and rotary air compressors
- Closed heat transfer systems
- Direct-drive steam turbines and hydroelectric turbines
- Lightly loaded enclosed industrial gearboxes that do not require a compounded or extreme-pressure (EP) gear oil (ISO VG 68, 100)
- Lightly loaded plain and rolling-element bearings, such as those in electric motors and blowers
- Vacuum pumps, deep-well water pumps and machine tools
- General-purpose machinery and shop lubrication

Turbine Oil meets the requirements of the following industry and OEM specifications:

- ABB G12106
- AGMA Grades 0 through 3 (non-EP)
- Alstom Power HTGD 90 117 for non-geared turbines
- ASTM D4304 Type I Turbine Oil
- British Standard 489
- Cincinnati Machine P-38 (ISO VG 32) (approved)
- Denison Hydraulics HF-1
- DIN 51517 Part 1, Lubricating Oils, Type CL
- DIN 51524 Part 1, Hydraulic Oils, Type HL
- General Electric GEK 46506D, GEK 27070 (obsolete), GEK 28143A (obsolete)
- Siemens Power Generation TLV 9013 04
- U.S. Military MIL-L-17672D
- U.S. Steel 126

**Rust & Oxidation-
Inhibited
Circulating Oil**

Contact Information

**U.S. Customer
Service:
1-800-822-6457**

**Technical Hot Line:
1-800-766-0050**

**International
Customer Service:
+1-832-486-3363
+1-832-486-3870**

**E-mail address:
*lubricants@
conocophillips.com***

<http://lubricants.conocophillips.com>

600 N. Dairy Ashford • 2W9000 • Houston, TX 77079



conoco



Features/Benefits

- Excellent oxidation resistance and thermal stability
- Protects against sludge and varnish formation
- Protects against rust and corrosion
- Excellent water-separating properties
- Low carbon-forming tendency for use in air compressors
- Good foam resistance
- Compatible with electrostatic oil cleaners⁽¹⁾

⁽¹⁾ **Caution:** When used in turbines equipped with electrostatic oil cleaners, please consult with the respective manufacturers for proper filter selection.

Typical properties are average values only and do not constitute a specification. Minor variations that do not affect product performance are to be expected during normal manufacture, and at different blending locations. Product formulations are subject to change without notification.

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Turbine Oil

Typical Properties

| ISO Grade | 32 | 46 | 68 | 100 |
|--|-----------|-----------|-----------|-----------|
| AGMA Grade | 0 | 1 | 2 | 3 |
| Specific Gravity @ 60°F | 0.859 | 0.864 | 0.868 | 0.869 |
| Density, lbs/gal @ 60°F | 7.16 | 7.20 | 7.24 | 7.25 |
| Color, ASTM D1500 | 0.5 | 0.5 | 0.5 | 0.5 |
| Flash Point (COC), °C (°F) | 210 (410) | 232 (450) | 243 (469) | 277 (531) |
| Pour Point, °C (°F) | -40 (-40) | -40 (-40) | -34 (-29) | -29 (-20) |
| Viscosity, | | | | |
| cSt @ 40°C | 31.8 | 44.8 | 68.0 | 100 |
| cSt @ 100°C | 5.4 | 6.7 | 8.8 | 11.3 |
| SUS @ 100°F | 164 | 231 | 352 | 522 |
| SUS @ 210°F | 44.4 | 48.7 | 55.9 | 65.0 |
| Viscosity Index | 102 | 102 | 100 | 100 |
| Acid Number, ASTM D974, mg KOH/g | 0.08 | 0.08 | 0.08 | 0.08 |
| Copper Corrosion, ASTM D130 | 1a | 1a | 1a | 1a |
| Demulsibility, ASTM D1401, minutes to pass | 20 | 20 | 20 | 25 |
| Foam Test, ASTM D892 | Pass | Pass | Pass | Pass |
| Oxidation Stability, | | | | |
| TOST, ASTM D943-04a, hours | 7,500 | 7,500 | 7,500 | 7,500 |
| RPVOT, ASTM D2272, minutes | 850 | 850 | 850 | 850 |
| Rust Test, ASTM D665 A&B | Pass | Pass | Pass | Pass |

Health and Safety Information

For recommendations on safe handling and use of this product, please refer to the Material Safety Data Sheet via <http://w3.conocophillips.com/NetMSDS>.

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