



## Hydroclear Diamond Class™ Turbine Oil

Conoco Hydroclear Diamond Class™ Turbine Oil is a premium-quality rust- and oxidation-inhibited (R&O) turbine oil developed to meet the demands of severe-service gas and steam turbines. It is available in three viscosity grades: ISO 32, 46 and 68.

Hydroclear Diamond Class™ Turbine Oil is formulated with premium-quality, hydrocracked paraffinic base oils and fortified with additives that provide superior oxidation resistance. It is inhibited to minimize the formation of harmful sludge and varnish deposits due to oxidation at high temperatures, resulting in long service life.

Hydroclear Diamond Class™ Turbine Oil protects critical system components against rust and corrosion. It has excellent water-separating characteristics to minimize the formation of emulsions and bacteria buildup. A foam inhibitor prevents excessive foaming that can interfere with proper lubrication.

### **Applications**

- Direct-drive, combined-cycle gas turbines\*
- Direct-drive gas and steam turbines\*

Hydroclear Diamond Class™ Turbine Oil meets the performance requirements for:

- ABB G12106
- ALSTOM HTGD 90117 for non-geared turbines
- ASTM D4304 Type I Turbine Oil
- British Standard 489
- Cincinnati Machine Specifications P-38 (ISO 32), P-55 (ISO 46) and P-54 (ISO 68)
- DIN 51517 Part 1, Lubricating Oil, Type CL
- DIN 51524 Part 1, R&O Hydraulic Oil, Type HL
- General Electric GEK-107395a, GEK-32568f, GEK-46506d and obsolete GEK-27070, GEK-28143a
- Ingersoll-Rand Centak centrifugal compressors

**Premium Extended Service Life  
Rust And Oxidation-Inhibited Turbine Oil;  
Meets ISO 18/16/13 Cleanliness Code**

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- Siemens Westinghouse TLV 9013 04 and obsolete 21T0591 and 55125Z3
- Solar ES9-224 Class II Turbine Oil
- Toshiba
- U.S. Steel 126, R&O Inhibited Hydraulic Oil

\* **Note:** For geared turbines, Hydroclear Diamond Class™ AW Turbine Oil is recommended.

### **Outstanding Features**

- Superior oxidative and thermal stability
- Controls sludge and varnish formation
- Excellent rust and corrosion protection
- Excellent water-separating characteristics
- Resists formation of emulsions and bacteria buildup
- Good foam resistance
- Extended service life
- Meets ISO 18/16/13 Cleanliness Code by ISO 4406: 1999

**Note:** Hydroclear Diamond Class™ Turbine Oil should not be filtered below 5 microns absolute. Electrostatic and clay-type filters with Beta Ratio of 200 or higher should be avoided, as potential for removal of the defoamant is possible with these type of filters.

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**Hydroclear Diamond Class™ Turbine Oil**  
**Typical Properties**

<b>ISO Grade</b>	<b>32</b>	<b>46</b>	<b>68</b>
Specific Gravity @ 15.6°C (60°F)	0.858	0.869	0.871
Density, lb/gal	7.14	7.23	7.25
Color, ASTM D1500	0.5	0.5	0.5
Flash Point (COC), °C (°F)	227 (440)	229 (444)	246 (475)
Pour Point, °C (°F)	-40 (-40)	-40 (-40)	-30 (-22)
Viscosity,			
cSt @ 40°C	32.0	46.4	67.2
cSt @ 100°C	5.5	7.0	8.6
SUS @ 100°F	162	236	348
SUS @ 210°F	44	49	55
Viscosity Index	101	99	99
Acid Number, ASTM D974	0.08	0.08	0.08
Copper Corrosion, ASTM D130	1A	1A	1A
Rust Test, ASTM D665 A&B	Pass	Pass	Pass
Demulsibility, ASTM D1401, minutes to pass	10	10	10
Foam Test, ASTM D892	0-0	0-0	0-0
Oxidation Stability, TOST, ASTM D943, hours	22,500	22,500	22,500
Oxidation Stability, RPVOT, ASTM D2272, minutes	2000	2000	1900

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