



Gulf Harmony Turbine

Premium quality turbine oils for steam, water and non-geared gas turbines

Product Description

Gulf Harmony Turbine series are premium quality turbine oils specially designed to satisfy the demanding lubrication requirements of steam turbines in today's power industry. These oils are formulated with high quality severely hydroprocessed API Group I base oils and a premium ashless additive package containing field proven anti-oxidants, corrosion inhibitors and metal deactivators. These oils possess outstanding thermal and oxidation stability, excellent water separability, superior rust and corrosion inhibition, low foaming tendency, good air release properties and resistance to chemical degradation to provide excellent equipment protection, reliable operation and extended service life. While primarily designed for lubrication of steam turbines, these oils are also suitable for water turbines and non-geared gas turbines. These oils are available in ISO viscosity grades (32 until 460) and exceed the performance requirements of specifications of major turbine manufacturers. Gulf Crest 46 is approved against the Siemens TLV 9013 04 specification for non-geared turbines.

Features & Benefits

- Outstanding thermal and oxidation stability prevents sludge formation, controls deposits and minimises oil degradation leading to reliable operation
- Excellent water separation capability resists formation of emulsion and leads to easy removal of excess water from the lubrication system
- Effective rust and corrosion inhibitors provide long term protection to critical system components
- Good air release properties and foam control avoid erratic operation and pump cavitation leading to trouble free operation

Applications

- Power generation steam turbines
- Industrial steam turbines
- Water turbines and non-geared gas turbines
- Turbo compressors
- Applications requiring high quality rust and oxidation (R&O) inhibited oils

Properties mentioned above are typical only and minor variations, which do not affect the product performances, are to be expected in normal manufacturing. The above information is based on past history of the grade only and must not be construed as a guarantee of performance. Follow equipment manufacturer's recommendations for performance level and viscosity grade. The

Material Safety Data Sheet for this product is available from your nearest Gulf Distributor. Gulf Oil International

The information contained herein is believed to be correct at time of publication. No warranty expressed or implied is given concerning the accuracy of the information or the suitability of the products. Gulf Oil International reserves the right to modify and change its products and specifications without prior notice.

www.gulfoilltd.com



Specifications, Approvals & Typical Properties

ISO Viscosity grades									
Gulf Crest	32	46	68	100	150	220	320	460	
Meets the following Specifications									
ASTM D 943 Life : 4000 hours in suitable basestocks	X	X	X	X	X	X	X	X	X
British Estándar BS 489 :1999	X	X	X	X	X	X	X	X	X
German Estándar DIN 51515 Part 1 (TD)	X	X	X	X	X	X	X	X	X
U.S. Military Mil-L-17672 D; CEGB 207001;U.S. Steel 120 and125 (Bench Test);ALSTOM HTGD 90 117 U	X	X	X	X	X	X	X	X	X
General Eléctric GEK -46506B	X								
General Eléctric GEK -28143A	X	X							
General Eléctric GFK-141003H	X								
Siemens TLV 90 13-04, non-geared	X								
Has the following Approvals									
Siemens TLV 90 13-04, non-geared		X							
Typical Properties									
Test Parameters	ASTM Method	Test Values							
Viscosity @ 100 °C, cSt		5.35	6.75	8.65	11.3	14.85	18.8	24.0	30.7
Viscosity @ 40 °C, cSt	D 445	32.2	46.3	68.1	101	151.1	219	318	457
Viscosity Index	D 2270	98	98	98	98	97	96	96	97
Flash Point, °C	D 92	212	218	226	230	236	240	246	254
Pour Point, °C	D 97	-9	-9	-12	-12	-12	-9	-9	-9
Density @ 15°C, Kg/l	D 1298	0.861	0.87	0.878	0.881	0.892	0.885	0.892	0.901
Rust Test	D 665A/B	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Copper Corrosion	D 130	1a	1a	1a	1a	1a	1a	1a	1a
Acid Number, mg KOH/g	D 974	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Water separability, minutes to 3 ml emulsion @ 54 / 82 °C	D 1401	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Foam Test, foam after 10 minutes of settling for all sequences	D 892	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Turbine Oil Stability Test, hrs	D 943	10,000+	10,000+	10,000+	10,000+	10,000+	10,000+	10,000+	10,000+
RBOT, minutes	D 2272	1,000+	1,000+	1,000+	1,000+	1,000+	1,000+	1,000+	1,000+

Properties mentioned above are typical only and minor variations, which do not affect the product performances, are to be expected in normal manufacturing. The above information is based on past history of the grade only and must not be construed as a guarantee of performance. Follow equipment manufacturer's recommendations for performance level and viscosity grade. The Material Safety Data Sheet for this product is available from your nearest Gulf Distributor. Gulf Oil International

The information contained herein is believed to be correct at time of publication. No warranty expressed or implied is given concerning the accuracy of the information or the suitability of the products. Gulf Oil International reserves the right to modify and change its products and specifications without prior notice.

www.gulfoilltd.com