



GST[®] EP

High performance anti-wear turbine fluid

Product description

GST EP is a high performance anti-wear turbine fluid designed for use primarily in industrial gas and steam turbines, including those with reduction gear systems.

GST EP is formulated with premium base oils and an ashless anti-wear additive system, in combination with robust rust, oxidation and foam inhibitors.

Customer benefits

- Ashless anti-wear additives promote reliable protection against wear and scuffing in loaded reduction gearbox component surfaces
- Premium base oils and inhibitor systems offer long-term oxidation stability and resistance to oil breakdown, increasing system uptime
- Premium base oils and oxidation inhibitors help resist harmful deposit formation in high temperature bearings and other hot areas
- Rust inhibitor helps protect system components against corrosion. Good water separability offers rapid settling of water accumulated from steam condensate, or leakage from salt water cooling
- Non-Silicone foam inhibitors aid rapid release of entrained air, offering reliable operation of sensitive hydraulic control devices

Product highlights

- **Designed for reliable wear protection**
- **Offers long-term oxidation stability**
- **Helps resist harmful deposit formation**
- **Promotes corrosion protection**
- **Aids operation of sensitive hydraulic control devices**

Selected specification standards include:

Alstom	ASTM
British Standard	Cincinnati Machine
DIN	GB
GEC Alstom	General Electric
ISO	JIS
MAN	Siemens
Solar	Solar Turbines

Applications

- Stationary industrial gas and steam turbines
- Stationary industrial gas turbines with reduction gear sets
- Industrial gas turbines in severe service
- Hydraulic turbines
- Rotating machinery in gas and steam combined-cycle cogeneration units
- Bath and circulating systems supplying moderately loaded gear sets, low pressure hydraulic systems, vacuum pumps, rolling element bearings, machine tools, conveyors and electrical motors
- Air compressors, turbo-blowers and centrifugal pumps requiring a rust and oxidation inhibited anti-wear oil

Not intended for use in aviation-derivative gas turbines. Must not be used in breathing air compressors.

Approvals, performance and recommendations

Approvals

- Siemens TLV 9013 04 for turbo-sets with and without gearboxes (ISO 32,46)
- Siemens TLV 9013 05 for turbo-sets with and without gearboxes (ISO 32,46)
- Alstom HTGD 90117 (ISO 32,46)
- MAN TQL T2 (ISO 46) ^[1]

^[1] Restrictions are applicable: The product is only released for use if FZG requirements of FZG >10 exist on the part of the gearbox manufacturer or MDT system engineering.

Performance

- British Standard BS 489
- ASTM D4304 Type II
- DIN 51 515 part 1 and part 2
- ISO 8068 ISO L-TSA & ISO L-TGA (ISO 32, 46, 68)
- ISO 8068 ISO L-TGE & ISO L-TSE (ISO 32, 46, 68)
- ISO 8068 ISO L-TGB & ISO L-TGSB (ISO 32, 46, 68)
- ISO 8068 AR,B (ISO 32)
- GB 1120-2011 L-TSA (Type A & B) (ISO 32, 46, 68)
- GB 1120-2011 L-TSE (Type A & B) (ISO 32, 46, 68)
- GB 1120-2011 L-TGA & L-TGE & L-TGSB (ISO 32, 46 and 68)
- JIS K2213 Type 2 (ISO 32,46,68)
- General Electric GEK 28143B (ISO 32, 46, 68)
- General Electric GEK 101941A, 27070, 32568J, 46506D&E (ISO 32)
- MAN Turbo & Diesel TQL T2 (ISO 32)
- Siemens MAT 812101, 812109 (ISO 46)
- Siemens MAT 812101, 812106, 812108 (ISO 32)
- Solar Turbines ES 9-224 Class II (ISO 32, 46, 68)
- Alstom HTGD 90117 (ISO 68)
- GEC Alstom NBA P50001 A & P50003 A (ISO 32, 46)
- Cincinnati Machine (MAG) P-38 (ISO 32); P-55 (ISO 46); P54 (ISO 68)
- Solar Specification N°. ES 9-224 – Class II (ISO 32 and 46)

Typical test data				
Test	Test Methods	Results		
Viscosity Grade		32	46	68
Shelf Life: 60 months from date of filling indicated on the product label				
Density at 15°C, kg/l	ASTM D1298	0.8618	0.8618	0.8618
Kinematic viscosity at 40°C, mm ² /s	ASTM D445	32	46	68
Kinematic viscosity at 100°C, mm ² /s	ASTM D445	5.4	6.8	8.8
VI	ASTM D2270	102	102	102
Pour Point, °C	ASTM D97	-30	-30	-30
Flash Point, °C	ASTM D92	222	224	245
Air release at 50°C, mins	ASTM D3427	2.1	2.3	3.6
FZG fail Load Stage	ASTM D5182	>12	>12	>12
Oxidation Stability				
Tost, hrs to 2.0 Acid N°	ASTM D 943	10.000+	10.000+	10.000+
RPVOT	ASTM D2272	1700	1400	1400

The information given in the typical data does not constitute a specification but is an indication based on current production and can be affected by allowable production tolerances. The right to make modifications is reserved. This supersedes all previous editions and information contained in them.

Disclaimer Chevron accepts no liability for any loss or damage suffered as a result of using this product for any application other than applications specifically stated in any Product Data Sheet's.

Health, safety, storage and environmental Based on current available information, this product is not expected to produce adverse effects on health when used for the intended application and in accordance with the recommendations provided in the Material Safety Data Sheet (MSDS). MSDS's are available upon request through your local sales office, or via the Internet. This product should not be used for purposes other than its intended use. When disposing of used product, take care to protect the environment and follow local legislation.

A Chevron company product