GST EP

Industrial Anti-Wear Type Steam and Gas Turbine Oil
(Replaces Regal EP)

Product Data Sheet

GST EP is an anti-wear type turbine oil formulated from premium base oils, an ashless anti-wear additive system, rust and oxidation and foam inhibitors. It is designed primarily for use in industrial gas and steam turbines including those with reduction gear sets.

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 electric motors
- Air compressors, turbo-blowers and centrifugal pumps requiring a rust and oxidation inhibited, antiwear oil
- Do not use in breathing air apparatus or medical equipment.
- Do not use in aviation-derivative gas turbines.

BENEFITS

- **Foam inhibition**
  Foam inhibition helps prevent sump overflow and erratic governor operation.

- **Protects reduction gear sets**
  Anti-wear additive system forms a protective chemical film on loaded gear tooth surfaces to assist in reducing wear and scuffing

- **Excellent service life**
  Premium base stocks and inhibitor system provide outstanding long-term oxidation stability to resist oil breakdown

- **Potential maintenance and downtime savings**
  Premium base oils and oxidation inhibitor system resist the formation of harmful deposits in high temperature bearings and other hot areas of the turbine. The rust inhibitor protects system components against corrosion. Good water separability ensures rapid settling of water accumulated from steam condensate or leakage from salt water cooling.

- **Potential inventory savings**
  Non-silicone foam inhibitor allows rapid release of entrained air while minimizing foam formation to enable reliable operation of sensitive hydraulic control devices. The multipurpose nature of the formulation allows it to be used in a wide range of industrial applications, potentially simplifying oil inventories and reducing the possibility of using the wrong lubricant.

PERFORMANCE STANDARDS

		ISO 32	ISO 46
Alstom	HTGD 90117	Approved	Approved
	NBA P50001 A	Meets	Meets
	NBA P50003 A	Meets	Meets
ASTM	D4304-Type II	Meets	Meets
British Standards Institution	BS 489	Meets	Meets
Cincinnati Machine (MAG)	P-38	Meets	-
	P-55	-	Meets
German Standard	DIN 51515 Part 1	Meets	Meets
	DIN 51515 Part 2	Meets	Meets
General Electric	GEK 27070	Meets	-
	GEK 28143B	Meets	Meets
	GEK 32568F	Meets	-
	GEK 46506D & E	Meets	-
	GEK 101941A	Meets	-
International Standards Organisation	ISO 8068 AR, B	Meets	-
	ISO 8068 TGE &TSE	Meets	Meets
Japanese Industrial Standard	JIS K2213 Type 2	Meets	Meets
MAN Turbo & Diesel	TQL T2	Meets	-
Siemens	TLV 9013 04 for turbosets with and without gearboxes	Approved	Approved
	TLV 9013 05 for turbosets with and without gearboxes	Approved	Approved
	MAT 812101	Meets	-
	MAT 812102	-	Meets
	MAT 812106	Meets	-
	MAT 812108	Meets	-
	MAT 812109	-	Meets
Solar Turbines	ES 9-224 Class II	Meets	Meets

TYPICAL CHARACTERISTICS

Product Code	3291	tba
ISO Viscosity Grade	32	46
Density at 15°C, kg/L	0.862	0.862
Air Release at 50°C, mins	2.1	2.3
Flash Point, COC, °C	222	224
FZG, Fail Load Stage	>12	>12
Oxidation Stability D943 modified, hr to Acid No. 2.0 mg KOH/g	10,000+	10,000+
Oxidation Stability D2272, mins to 25 psi pressure drop	1,700	1,400
Pour Point, °C	-30	-30
Viscosity, at 40°C, mm^2/s at 100°C, mm^2/s	32 5.4	46 6.8
Viscosity Index	102	102

PACK SIZES

205L

SERVICE CONSIDERATIONS

Premium quality turbine oils must be capable of lubricating and cooling bearings while protecting the system against rust, corrosion and harmful deposits. Since turbine equipment is normally used in key applications, the reliability of the rotating machinery and its lubricant is critical.

Periodic monitoring of the oil in service is recommended to assure satisfactory performance of the turbine. The principal reasons for monitoring are two-fold: to determine the condition of the used oil and, to disclose environmental or operational problems within the equipment. The oil should be visually inspected by the operator at frequent intervals for contaminants and/or appearance changes. Refer to ASTM D4378 for guidance on sampling and testing frequency. Samples should be taken from the discharge side of the oil pump while the system is circulating.

During service, effective purification of the lubricating oil is recommended for the removal of contaminants such as water and solids.

Care should be taken to ensure against top-up and/or contamination from other products, as this could reduce the performance characteristics of GST EP.

Not intended for use in aviation-derivative gas turbines

Must not be used in breathing air compressors

ENVIRONMENT, HEALTH AND SAFETY

Users should consult the MSDS, follow the precautions outlined and comply with all laws and regulations concerning its use and disposal. Used packaging material should not be incinerated or exposed to flame. After use, protect your environment. Do not pollute drains, soil or water with used product.

OTHER INFORMATION

For further information on Caltex products and services call the Lubelink Advisory Service on 1300 364 169 between 8.00 am and 6.00 pm (EST) Monday to Friday.

All reasonable care has been taken to ensure that the information contained in this publication is accurate at the time of printing. However, the information is liable to variation in the event of subsequent changes in the blend, formulation, method of storage, improper handling and usage etc.