



## Turbo Oil 2197

Aero derived gas turbine lubricant

### Description

Turbo Oil 2197 is a synthetic ester based 5 cSt High Thermal Stability (HTS) lubricant intended for the lubrication of aero derived gas turbines packaged as the prime mover to drive generators, gas compressors and pumps on offshore & onshore production /processing facilities.

It is a latest generation synthetic lubricant that is formulated to provide exceptional high temperature cleanliness in vapour mist and liquid film areas as well as having outstanding oxidative, thermal and hydrolytic stability.

### Application

Aero-derivative gas turbines.

### Advantages

Turbo Oil 2197 is available globally and combines excellent stability, very low coking tendency and proven performance to provide the following key benefits:

- Excellent thermal and oxidative stability giving longer life due to outstanding resistance to changes in viscosity and acidity.
- Superior hydrolytic stability, which leads to a greater resistance to acid formation due to hydrolysis.
- Best in class high temperature cleanliness resulting in minimum formation of varnish and sludge deposits in high temperature applications, even over long periods of use.
- Outstanding engine cleanliness: reduced or no carbon deposits in oil supply and scavenge tubes and bearing compartments. Potential for reduced oil filter replacement.

### Performance Levels & OEM Approvals

- Approved against US Military MIL-PRF23699F-HTS
- R-R Allison 501K Series

Approved by the following engines manufacturers:

- Rolls-Royce Ltd - RB 211-22 & -24  
- Trent
- General Electric Co LM 1600 / 2500 / 5000 / 6000

## Typical Characteristics

Name	Method	Units	Turbo Oil 2197
Density @ 15°C	ASTM D1298	Kg/l	0.9968
Kinematic Viscosity @ 100°C	ASTM D445	mm²/s	5.28
Kinematic Viscosity @ 40°C	ASTM D445	mm²/s	26.98
Kinematic Viscosity @ -40°C after 35 minutes	ASTM D2532	mm²/s	12,539
Pour Point	ASTM D97	°C	-57
Flash Point	ASTM D92	°C	262
Total acid Number	SAE ARP5088	mg/KOH/g	0.36
Evaporation Loss (6.5 hrs @ 204°C)	ASTM D972	%	2.30
<u>Foaming Volume @ 1 min setting</u>			
Sequence 1 @ 24°C	ASTM D892	ml/vol	10/0
Sequence 2 @ 93°C			10/0
Sequence 3 @ 24°C			10/0
<u>Thermal Stability &amp; Corrosivity @ 274°C</u>			
Viscosity	FED-STD-791, 3411	mgKOH/g mg/cm²	0.37
Total Acid Number			1.08
metal Weight			-0.154
<u>Corrosion &amp; Oxidative Stability (72 hrs @ 204°C)</u>			
Viscosity, 40°C	FED-STD-791, 5308	%	14.75
Total Acid Number		mgKOH/g	0.96
Steel Weight Change		mg/cm²	0.011
Silver Weight Change		mg/cm²	-0.017
Aluminium Weight Change		mg/cm²	0.009
Magnesium Weight Change		mg/cm²	-0.012
Copper Weight Change		mg/cm²	-0.076
Sludge		mg/100ml	0.37
<u>Sediment</u>			
Visual Undissolved Water	FED-STD-791, 3010	-	None
Sediment, 1.2 µm filter		mg/l	0.85
Metal Weight		mg/cm²	0.12

The above figures are typical of those obtained with normal production tolerance and do not constitute a specification.

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