Product Data

Castrol® 98

Synthetic Gas Turbine Lubricant

Description

Castrol ® 98 is a clear, amber colored Type I oil with a viscosity of 7.5 cSt at 100ºC. Castrol ® 98 is based on a high quality diester base stock, polyglycol thickener and optimized additive system, which provide the product with outstanding resistance to oxidation and corrosion. The load carrying properties of Castrol ® 98 make it eminently suitable for use in such applications as heavily-loaded epicyclic reduction gears of turboprop engines.

Benefits

Castrol ® 98 was developed to meet the demands of aircraft gas turbine engines. The oil is designed to impart the following properties:

- Excellent wide temperature stability
- Good compatibility with elastomers
- High load carrying capacity
- Good compatibility with metals
- Good low temperature fluidity
- Compatibility and miscibility with all other 7.5 cSt ester oils
- Good corrosion protection

Limitations

Lubricants: Castrol ® 98 is compatible and miscible with all other 7.5 cSt gas turbine fluids. For this reason, changeover to Castrol ® 98 can be achieved by topping off. However, by virtue of differences in seal swell characteristics between oils, the engine/accessory manufacturers' approval should be obtained for any proposed oil change. Mixing of different viscosity grades is not recommended. Castrol ® 98 is not compatible with mineral oils and should not be mixed with phosphate ester hydraulic fluids since such mixtures can adversely affect seal compatibility and coking propensity. *Metals:* Castrol ® 98 is compatible with all metals normally used in gas turbine engine and aircraft accessory equipment. *Seals*: The following materials are compatible with Castrol ® 98: fluorocarbon, nitrile and silicone rubbers, PTFE and nylon. *Paints:* The following paint finishes have been found to be suitable: Up to 220ºC (428ºF): polyurethane and phenolic resin; Above 220ºC (428ºF): Silicon/epoxy/aluminum, Sermetal W, Rolls Royce PL 219.

Approvals

Civil: Castrol ® 98 is approved by Rolls Royce under Laboratory Approval Letter (LAL) No. 4. The oil is also approved for engines and accessory equipment manufactured by: Rolls Royce, Turbomeca, Pratt and Whitney, Canada, Garrett and Kawasaki. *Military:* Castrol ® 98 is qualified against UK specification DEFSTAN 91-98/2.

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CASTROL® 98
TYPICAL PROPERTIES

TEST METHOD	DESCRIPTION	RESULT
ASTM D 1298	Density @ 15ºC, g/ml	0.942
ASTM D 445	Kinematic Viscosity, cSt	
	@ 205ºC	2.09
	@ 100ºC	7.5
	@ 40ºC	32.4
	@ -40ºC	10,500
ASTM D 97	Pour Point, ºC	<-60
ASTM D 92	Flash Point, ºC	240
ASTM D 2155	Autoignition Temp, ºC	380
	Coefficient of cubical expansion/ºC	7.3×10^{-4}
ASTM D 972	Evaporation Loss, %	
	6½ hrs, 204ºC, 760 mm Hg	5.3
IP 139	Total Acid No., mg KOH/gm	0.1
ASTM D 892	Foaming Characteristics	
	Sequence 1 @ 24ºC	5/5
	Sequence 2 @ 93ºC	20/10
	Sequence 3 @ 24ºC	5/5
IP 166	Load carrying ability,	
	IAE gear machine	
	Mean failure load, lb	
	2000 rpm	83
	6000 rpm	50
	Rubber Swell, %	
RR Method 1025	Nitrile Rubber	
	192 hrs @ 130ºC	14/13
RR Method 1020	Fluorocarbon Rubber	
	192 hrs @ 200ºC	15/15
RR Method 1009	Silicone Rubber	
	192 hrs @ 175ºC	17/7

Health, safety and environmental information are provided for this product in the Materials Safety Data Sheet. This gives details of potential hazards, precautions and First Aid measures, together with environmental effects and disposal of used products. Castrol will not accept liability if the product is used other than in the manner or with the precautions or for the purpose(s) specified. Before using the product other than directed, please contact Castrol for consultation.

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