

# AEROSHELL TURBINE OIL 531

AeroShell Turbine Oil 531 is a 5 mm<sup>2</sup>/s synthetic ester oil incorporating additives to improve thermal and oxidation stability. A corrosion inhibitor has also been added.

## APPLICATIONS

AeroShell Turbine Oil 531 was developed specifically for use in those applications for which a corrosion inhibited MIL-PRF-23699 (previously MIL-L-23699) oil is required but where engine/equipment manufacturers brand name approval is not required. Typical use would be in military operated aircraft and in engines in storage.

Where MIL-PRF-23699 oil with engine/equipment manufacturers brand name approvals is required then AeroShell Turbine Oil 500 and 560 are recommended.

AeroShell Turbine Oil 531 contains a synthetic ester oil and should not be used in contact with incompatible seal materials, it also affects some paints and plastics. Refer to the General Notes at the front of this section for further information.

## SPECIFICATIONS

<b>U.S.</b>	Approved MIL-PRF-23699F Grade C/I
<b>British</b>	–
<b>French</b>	–
<b>Russian</b>	–
<b>NATO Code</b>	O-152
<b>Joint Service Designation</b>	–

## EQUIPMENT MANUFACTURER'S APPROVALS

AeroShell Turbine Oil 531 is not approved by brand name by engine/equipment manufacturers.

PROPERTIES	MIL-PRF-23699F Grade C/I	TYPICAL
Oil Type	Synthetic ester	Synthetic ester
Kinematic Viscosity @ 100°C @ 40°C @ -40°C	mm <sup>2</sup> /s 4.90 to 5.40 23.0 min 13000 max	5.0 24.3 11000
Flashpoint, Cleveland Open Cup	°C 246 min	252
Pourpoint	°C -54 max	-57
Total Acidity	mgKOH/g 1 max	0.48
Evaporation Loss 6.5 hrs @ 204°C	% m 10.0 max	4.7
Foaming	Must pass	Passes
Swelling of Standard Synthetic Rubber SAE-AMS 3217/1, 72 hrs @ 70°C SAE-AMS 3217/4, 72 hrs @ 204°C standard silicone rubber 96 hrs @ 121°C	swell % swell % 5 to 25 5 to 25	18.7 16.8 Within Limits
Thermal Stability/Corrosivity 96 hrs @ 274°C – metal weight change – viscosity change – Total Acid Number Change	mg/cm <sup>2</sup> % mgKOH/g 4 max 5 max 6 max	-0.8 -1.4 3.75

Table continued

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PROPERTIES	MIL-PRF-23699F Grade C/I	TYPICAL
Corrosion & Oxidation Stability 72 hrs @ 175°C 72 hrs @ 204°C 72 hrs @ 218°C	Must pass Must pass Must pass	Passes Passes Passes
Ryder Gear Test, Relative Rating Hercolube A %	102 min	113
Bearing corrosion	Must pass	Passes
Bearing Test Rig Type 1½ conditions – Overall deposit demerit rating – viscosity change @ 40°C % – Total Acid Number change mgKOH/g – filter deposits g	80.0 max –5 to +30 2 max 3 max	35 +17.3 0.57 0.3
Sonic shear stability – viscosity change @ 40°C %	4 max	0.1
Trace metal content	Must pass	Passes
Sediment mg/l	10 max	0
Ash mg/l	1 max	0