



AeroShell Fluid 12

Synthetic lubricating oil for general purpose aircraft use

AeroShell Fluid 12 is a low volatility synthetic ester oil used in aircraft instruments and also for the general lubrication of aircraft. It is oxidation and corrosion inhibited, and possesses good high and low temperature characteristics.

DESIGNED TO MEET CHALLENGES

Main Applications

- AeroShell Fluid 12 is used for general aircraft lubrication as well as for aircraft gyro instrument gimbal bearings, separately lubricated high speed turbines and compressors, aircraft air cycle equipment and electronic equipment. AeroShell Fluid 12 is particularly suitable for use when an oil with a low evaporation rate is required at high and low temperatures.
- AeroShell Fluid 12 is a synthetic oil and it should not be used in contact with incompatible seal materials such as neoprene or natural rubber. Suitable seal materials include Fluorocarbon (Viton). AeroShell Fluid 12 may also affect certain paints and plastics. It is recommended that components are evaluated for compatibility if there is any question.

Specifications, Approvals & Recommendations

- MIL-PRF-6085E
- DEF STAN 91-49 (British) equivalent
- COMAC QPL-CMS-OL-204
- AIR 3511/A (French)
- NATO Code O-147
- Joint Service Designation OX-14

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

Typical Physical Characteristics

Properties	Method	MIL-PRF-6085E	Typical
Oil type			Synthetic ester
Colour (ASTM)	ASTM D1500	5.0 max	<1.5
Density @15°C kg/m ³	ASTM D4052		925
Kinematic Viscosity @54.4°C mm ² /s	ASTM D445	8 min	9
Kinematic Viscosity @-54°C mm ² /s	ASTM D445	12 000 max	11 000
Pour Point °C	ASTM D97	-57 max	<-60
Flash Point (Cleveland Open Cup) °C	ASTM D92	185 min	>220
Total Acid Number mg KOH/g	ASTM D974	Report	0.20
Evaporation Loss 22h @ 120°C %m	ASTM D972	1.80 max	0.6
Corrosion and oxidation stability 168 hrs - acid number change @121°C mgKOH/g	ASTM D4636	0.5 max	0.2
Corrosion and oxidation stability 168 hrs - viscosity change @121°C %	ASTM D4636	± 5	1
Corrosion and oxidation stability 168 hrs - metal weight change @121°C mg/cm ²	ASTM D4636	Must pass	Passes

Properties		Method	MIL-PRF-6085E	Typical
Oxidation and corrosion stability 168 hrs - insolubles	@121°C mg/100 l	ASTM D4636	Must pass	Passes
Low temperature stability 72 hrs	@-54°C	MIL-PRF-6085	Must pass	Passes
Precipitation number	ml	ASTM D91	0 max	0
Corrosivity		MIL-PRF-6085	Must pass	Passes

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

Health, Safety & Environment

- **Health and Safety**

AeroShell Fluid 12 is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

Guidance on Health and Safety is available on the appropriate Safety Data Sheet, which can be obtained from <https://www.epc.shell.com>

- **Protect the Environment**

Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

Additional Information

- **Advice**

Advice on applications not covered here may be obtained from your Shell representative.