



AeroShell Fluid 602

Synthetic hydrocarbon coolant fluid for aircraft electronics

AeroShell Fluid 602 synthetic base fluid is composed of highly branched, compact and very stable molecules known as polyalphaolefins (PAO), blended with additives to provide long term storage stability.

AeroShell Fluid 602 offers exceptional performance over a wide temperature range between -54°C to 200°C and does not react with water, resulting in clean systems and long fluid and component life.

DESIGNED TO MEET CHALLENGES

Main Applications

AeroShell Fluid 602 is most widely used as a cooling fluid for aircraft avionic systems, whose benefits include lower initial cost, longer fluid life, lower weight and lower toxicity when compared with other types of avionic system coolants. Since AeroShell Fluid 602 does not react with water, no reclamation equipment is required, adding further to the cost advantage.

Specifications, Approvals & Recommendations

- MIL-PRF-87252E
- NATO S-1748

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

Typical Physical Characteristics

Properties		Method	MIL-PRF-87252E	Typical
Relative Density	@15.6/15.6°C		-	0.799
Kinematic Viscosity	@100°C mm ² /s	ASTM D445	1.65 min	1.71
Kinematic Viscosity	@40°C mm ² /s	ASTM D445	5.0 min	5.17
Kinematic Viscosity	@-40°C mm ² /s	ASTM D445	300 max	272
Kinematic Viscosity	@-54°C mm ² /s	ASTM D2532	1 300 max	1 140
Flash point	°C	ASTM D92	150 min	158
Fire Point	°C	ASTM D92	160 min	174
Total Acid Number	mg KOH/g	ASTM D664	0.2 max	0.02
Water content, Karl Fischer	ppm	ASTM D6304	50 max	35
Dielectric breakdown Voltage	kV	ASTM D877	35 min	53
Volume Resistivity	@25°C ohm-cm	ASTM D1169	1.0 x 10 ¹⁰ min	2.9 x 10 ¹⁵
Particle Count, Automatic	5 to 15 µm	FED-STD-791-3012	8 000 max	740
Particle Count, Automatic	16 to 25 µm	FED-STD-791-3012	1 425 max	89
Particle Count, Automatic	26 to 50 µm	FED-STD-791-3012	253 max	31
Particle Count, Automatic	51 to 100 µm	FED-STD-791-3012	45 max	4
Particle Count, Automatic	< 100 µm	FED-STD-791-3012	8 max	0
High Temperature stability	@200°C	MIL-PRF-87252	Must pass	Passes
Corrosiveness and Oxidation stability		ASTM D 4636	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 602 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.

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

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

- **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.