Technical Data Sheet

Formerly Known As: **AeroShell Grease 33MS**

AeroShell **Grease *64***

Synthetic Grease for Aircraft, Containing Molybdenum Disulphide

AeroShell Grease 64 comprises AeroShell Grease 33 fortified with 5% molybdenum disulphide. It possesses the enhanced anti-wear and anti-corrosion properties of AeroShell Grease 33 with the added EP (Extreme Pressure) properties provided by the addition of a solid lubricant.
The useful operating temperature range is –73°C to +121°C.

DESIGNED TO MEET CHALLENGES

Main Applications

AeroShell Grease 33 has established itself as the answer to most of the airframe's General Purpose, airframe greasing requirements, being approved for use in Boeing, Airbus and many other aircraft types. It sets the standard with exceptional anti-corrosion and anti-wear performance while allowing aircraft operators to shrink their grease inventory and reduce the risk of misapplication. However, there remains a small number of highly loaded, sliding applications on the airframe where the additional boost of molybdenum disulphide will always be required. To address this need, Shell Aviation has developed AeroShell Grease 64. Sharing the same advanced grease technology as its parent, AeroShell Grease 64 also possesses the extreme pressure (EP) characteristics provided by molybdenum disulphide.

Specifications, Approvals & Recommendations

- MIL-G-21164D
- COMAC QPL-CMS-OL-311
- DEF STAN 91-57 (equivalent)
- DCSEA 353/A (equivalent)
- NATO Code G-353
- Joint Service Designation XG-276

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

Compatibility & Miscibility

AeroShell Grease 64 contains a synthetic oil and must not be used with incompatible seal materials.

Typical Physical Characteristics

Properties			Method	MIL-G-21164D	Typical
Oil type				-	Synthetic Hydrocarbon / Ester
Thickener type				-	Lithium Complex
Colour				-	Dark grey
Base Oil viscosity	@40°C	mm^2/s	ASTM D445	-	14.2
Useful operating temperature range		°C		-	-73 to +121
Drop point		°C	ASTM D2265	165 min	Min 220
Worked penetration	@25°C		ASTM D217	260 to 310	289
Penetration unworked	@25°C		ASTM D217	200 min	281
Worked Stability	100,000 strokes	0.1mm	FED-STD-791-313	260 - 375	310
Oxidation Stability	100h @ 99°C	kPa	ASTM D942	68.9 max	19
Oil separation 30 hrs	@100°C	%m	ASTM D6184	5 max	1.5

Properties			Method	MIL-G-21164D	Typical
Water Washout	1h @ 38°C	%m	ASTM D1264	20 max	3.4
Evaporation Loss	22h @ 100°C	%m	ASTM D2595	2.0 max	0.77
Low Temperature Torque - Start	@-73°C	Nm	ASTM D1478	0.98 max	0.5
Low Temperature Torque - Run	@-73°C	Nm	ASTM D1478	0.098 max	0.029
Four Ball EP Load Wear Index		kgf	ASTM D2596	50 min	68
Copper Corrosion	24h @ 100°C		ASTM D4048	1b max	Passes
Rust Test	52°C, 48h		ASTM D1743	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**

  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.