

Greases

AEROSHELL® Greases

All AEROSHELL Greases, with the exception of AEROSHELL Grease 14 and AEROSHELL Grease 33, are formulated with MICROGEL® thickener, a high temperature, non-melting inorganic thickener.

Applications of AEROSHELL Greases

AEROSHELL Grease 5: For wheel bearings and engine accessories that operate at high speeds and relatively high temperatures.

AEROSHELL Grease 6: General purpose airframe grease for use in plain and antifriction bearings and gearboxes. Provides good water resistance and has low noise capabilities.

AEROSHELL Grease 7: Wide temperature range, synthetic, multipurpose grease for highly loaded gears and actuator screw mechanisms. Also recommended for instruments and general airframe lubrication of turbine powered aircraft.

AEROSHELL Grease 14: Leading helicopter multipurpose grease. Thickened with calcium soap. Protects against fretting and provides ample water resistance. approved by the USDA for use in meat and poultry processing plants where there is no possible contact between lubricant and edible product.

AEROSHELL Grease 16: Wide temperature range grease recommended for antifriction bearings that operate under heavy load at high speeds and extreme temperatures.

AEROSHELL Grease 17: Extreme pressure version of AEROSHELL Grease 7. Contains 5 percent molybdenum disulfide for use in highly loaded conditions.

AEROSHELL Grease 22: Versatile synthetic hydrocarbon multipurpose grease. Excellent load carrying capacity. Useful temperature range of -85°F to 400°F.

AEROSHELL Grease 33: Developed to meet the stringent requirements of the BMS 3-33 specification for use on Boeing airframe components. It is formulated with a lithium complex thickener system in a synthetic base oil blend.

In aircraft applications, the type certificate and/or lubricants recommendation charts of each aircraft will usually specify the military specification for the grease to be used for the various lubrication points on that aircraft.

Physical Properties of AEROSHELL® Greases

	AEROSHELL Greases		ASTM Method
	5 MICROGEL®	6 MICROGEL	
Grease Type	Mineral	Mineral	
Product Code	70025	70026	
Viscosity at 210°F, cSt	31.8	5.5	D445
Operational Temp. Range, °F	-10 to +350	-40 to +250	—
°C	-23 to +177	-40 to +121	
Dropping Point, °F	500+	500+	D2265
Penetration Unworked at 77°F	281	287	D217
Worked at 77°F	284	300	
Evaporation, 22 hrs., Test Temp. °F(°C)	300(149)	250(121)	D974
Loss, % wt.	1.0	1.3	
Corrosion Cu Strip, 24 hrs. 212°F	Pass	Pass	D4048
Bearing Protection, 2 days at 125°F	Pass	Pass	D1743
Bomb Oxidation, Pressure Drop 100 hours/210°F, psi	6	9	D942
300 hours/210°F, psi	15	15	
Water Resistance Test, % wt. loss	0.5	2.0	D1264
Antifriction Bearing Performance Temperature, °F(°C)	300(149)	250(121)	D3336
Time, hours	600+	2000+	
Load Wear Index, kg	37	35	D2596
Oil Separation, 30 hours at 212°F, % wt		0.7	F321 ¹
Color	Amber	Brown	Visual
Qualified under Specification(s)	Former MIL-G-3545C	MIL-G-24139A	

¹Federal Test Method

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Typical Properties of AEROSHELL® Greases

Thickener	AEROSHELL Greases		
	7 MICROGEL®	14 Calcium Soap	16 Microgel
Product Code	70149	70014	70016
Oil Type	Diester Synthetic	Mineral	Polyol Ester/ Mineral
Oil Viscosity at 99°C, cSt	3.1	3.1	6.0
Useful Temp. Range, °F °C	-100 to +300 -73 to +149	-65 to +200 -54 to 93	-65 to +400 -54 to +204
Dropping Point, °C °F	260+ 500+	148 298	260+ 500+
Penetration at 77°F Unworked Worked	283 296	269 273	290 308
Evaporation in 22 hrs. Test Temp. °C Loss, % wt.	99 0.5	99 5.6	350 3.8
Corrosion: Cu Strip, 24 hrs. 100°C Bearing Protection, 2 days at 52°C	Pass Pass	Pass Pass	Pass Pass
Bomb Oxidation, Pressure Drop at 99°C, psi: 100 hours 500 hours	9 14	3 6.5	4 10
Water Resistance Test, %wt. loss	0.8	7.2	1.8
Antifriction Bearing Performance Temperature, °F(°C) Time, hours	250(121) 2460	200(93) 1700+	350(177) 400+
Load Wear Index, kg	60	--	--
Oil Separation, 30 hrs. at 100°C, % wt	3.0	1.5	3.5 (4.3 @ 350°F)
Color	Buff	Tan	Light Brown
Qualified under Specification(s)	MIL-G 23827B	MIL-G 25537C	Former MIL-G- 25760A BMS 3-24

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Typical Properties of AEROSHELL® Greases

AEROSHELL Greases			ASTM Test Method
17 MICROGEL	22 MICROGEL	33 Lithium Complex	
70017	70022	70024	
Diester Synthetic	Synthetic Hydrocarbon	Synthetic Blend	
3.1	5.8	3.4	D445
-100 to +300 -73 to +149	-85 to +400 -65 to +204	-100 to +250 -73 to +121	
260+ 500+	260+ 500+	216+ 420+	D2265
287 295	271 275	290 297	D217
210 0.6	350 4.3	250 <10 (500 hrs.)	D972
Pass	Pass	Pass	D4048
Pass	Pass	Pass	D1743
8 15	4 10	0.5 5	D942
1.0	0.5	<6 (79°C)	D1264
250(121) 2850	350(177) 400+	250(121) 1200+	D3336
60	45	60	D2596
2.5	4.7 at 350°F	2.0 @ 212°F	F 321 ¹
Dark Gray	Amber	Kelly Green	Visual
MIL-G-21164D	MIL-G-81322E Grade A DOD-G-24508A	BMS 3-33	

¹Federal Test Method