

## Aerospace standard SAE AS1701

<b>Class III:</b>	-54°C/+399°C usage: corrosion resistant steels, heat-corrosion resistant steels, Ti alloys MoS2 + organic heat cure (30 min./200°C) thermal stability: up to 399°C corrosion resistance: pass 100 hrs.
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Molykote candidate: **3400A AERO**, but not possible as it did not pass the thermal stability test

### General technical requirements:

3,1	no silver or its compounds, <b>lead</b> , halogenated solvents		
3.3.1	surface treatment of parts: see table 2		
3,4	coating thickness: 5.1/12.7 µm	Nonferrous material	ASTM D 1400
		Ferrous material	ASTM D 1186
3,5	film adhesion		
3.5.1	fluid resistance	ASTM D 3359 Method B	
	fluids:	ASTM D 2510 procedure C	
		ASTM D 1141 vol.31 (substitute ocean water) (proc. A ?)	
		MIL-A-8243 (anti-icing fluid)	
		VV-D-1078 (damping fluid, silicone based)	
		MIL-PRF-83282 (synthetic hydraulic fluid fire resistant)	
		MIL-PRF-23699 (synthetic turbine oil)	
		MIL-PRF-7808 (synthetic turbine oil)	
		MIL-DTL-5624 (aviation turbine fuel, kerosene JP4/JP5)	
		Methanol (O-M-232) + reagent water (D 1193) 44/56 p/vol (p)	
		no softening, blistering, discoloration, undercutting or loss of adhesion	
3,6	thermal stability	4 hrs. at max. temp. limit + cool to RT + film adhesion (3.5) & corr. res.	
		3 test panels - no flaking, cracking, or peeling	
3,7	vacuum stability	<b>not required</b>	
3,8	shock sensitivity to liquid oxygen	<b>not required</b>	
3,9	film appearance	visual examination with min. 10x magnification lamp (min. power)	
		before and after thermal stability test (3.6) - no cracks, scratches, etc.	
3,10	corrosion resistance	<b>not required</b>	
3,11	coefficient of friction	ASTM D 2714 LFW1 oscillating	
		static coefficient of friction: 0.03/0.13	
3,12	wear requirements	<b>not required</b>	
3.12.1.1	endurance life	ASTM D 2625	
3.12.1.2	load carrying capacity	ASTM D 2625	

### Quality assurance:

4.1.1	qualification tests:	product manufacturer is responsible for passing <b>all</b> qualification tests
4.1.2	quality conformance tests:	each lot shall pass the tests as applicable to the class:
		1) coating thickness (3.4)
		2) film adhesion (3.5) also (3.5.1) ?
		3) film appearance (3.9)

questions:

preparation of panels (pre-treatment)?

coefficient of friction 3.11 - load?

quality tests: film adhesion, only 3.5 and not 3.5.1?

ility test

	ok
	ok
	see class I
	see class I
	see class I
	see class I
	see class I
	see class I
	see class I
proc. A ?)	see class I
in	
is. (3.10)	done but fail !
	see class I
blisters	
	see class I