

**SAE G-12 ADF Subcommittee Meeting
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AS5901 Standard Potential Changes for Revision 'C'

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Anti-icing Materials
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AS5901 Standard

Water Spray and High Humidity Endurance Test Methods

for

**SAE AMS 1424 & SAE AMS 1428
Aircraft De-icing/Anti-icing Fluids**

Current Standard - AS5901B

AS5901B

Published December 2010

Available on SAE Website

**Work on the Next Revision
AS5901C
is in Progress**

2013



**Still in Process
to Collect Suggestions
for Changes**

AS5901 - Next revision C

Some Minor Editorial Changes

3.2 Water Spray Endurance Test

This test involves pouring the unchilled fluid onto a **10°** inclined test plate at $-5.0\text{ °C} \pm 0.5\text{ °C}$ ($23\text{ °F} \pm 1\text{ °F}$) and ...

4.2.1 Water Spray Endurance Test (WSET) Chamber

d. The water spray shall impinge on the surface of the test plate in the form of water droplets, which freeze on impact when both air and test plate temperatures are at $-5.0\text{ °C} \pm 0.5\text{ °C}$ ($23\text{ °F} \pm 1\text{ °F}$).

6.6 Report

g. Printout showing the temperature of the test chamber, and test plate; and for the high humidity test a printout showing the relative humidity (**%RH**) for the duration of the tests.

AS5901 - Next revision C

Other Potential Change

✓ **To Review the Indirect Method
for Icing Intensity Measurement**

5.4.2.2 Indirect Method



Mark the 10 cm x 30 cm test panels with lines at the 10 and 20 cm points. On completion of the test, scrape ice from each third in turn and weigh it.

Question :

Is this method reliable ?

➤ AMIL did a comparative test vs Direct Method

Comparison of Ice Catch Methods

		Icing Intensity (g/dm².h) After 30 minutes of Water Spray	
		Direct Method	Indirect Method
Calibration Test #	Pre-weighed panels are weighed on completion of the test <u>Weight difference</u>	Scrape the ice from the ice catch panels and weigh it <u>Weight of ice collected</u>	
Requirement	5.0 ± 0.2 (g/dm².h)		
1	4.93	4.79	
2	5.12	4.54	
3	4.68	4.31	
Average	4.91 ± 0.13	4.55 ± 0.24	

Indirect Method - New Proposed Wording

Based on the comparison test results

5.4.2.2 Indirect Method

..... The disadvantage with this method is the possibility of damaging the polished surface of the test panel. In addition, validation tests demonstrated that the indirect method is less reliable than the direct method. Therefore, the indirect method results shall be used as an estimation of the icing intensity only.

AS5901C - Ballot

**Ballot of Revision C
planned for
Beginning of 2014**

AS5901 Next revision C

Suggestions for the next revision ?

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