Laboratoire international des matériaux antigivre
LIMA AMIL
Anti-icing Materials International Laboratory

SAE G-12 RDF Subcommittee Meeting
Montréal, November 2016
Runway Deicer Performance Working Group (RDP WG)

Update of 2016 Ballots AIR Performance Test Methods

Marc Mario Tremblay, AMIL
Document Sponsor AIR6170, AIR6172 and AIR6211

Caroline Laforte, AMIL
Martin Westermaier, MW Aviation Consulting
Kelvin Williamson, LNT Solutions

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SYSTÈME CERTIFIÉ BNQ ISO 9001:2008 CERTIFIED SYSTEM

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Overview of AIR Performance Test Methods

There are currently three AIR Test Methods for Runway Deicer Included in AMS1431 and AMS1435

- **AIR6170 - Ice Melting Test Method**
  - ***Originally published in January 2012***
- **AIR6172 - Ice Undercutting Test Method**
  - ***Originally published in February 2012***
- **AIR6211 - Ice Penetration Test Method**
  - ***Originally published in April 2012***
- **AIR Test Methods**
  - ***are due for an update (end of 2016)***

Background - RDPWG Activities Over the Last Four Years for New Revision of AIR Test Methods

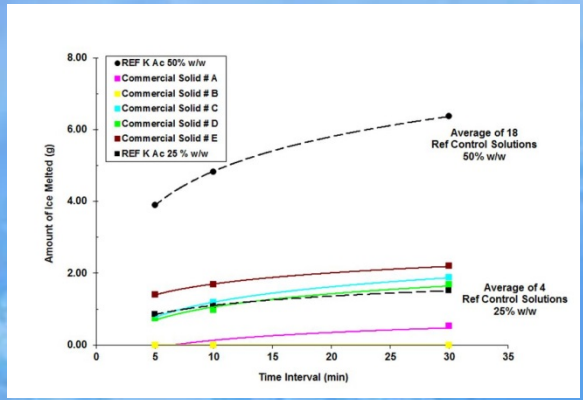
- **Performed many comparative tests**
  - **To add KAC 25 %w/w as a reference control solution for solids**

❑ ***Many data presented and discussed***

❑ ***Results consistent and reproducible***

❑ ***Conclusion :***

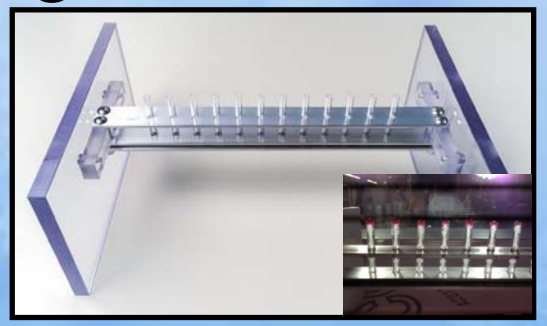
KAC 25 %w/w is clearly more representative for solids



Background - RDPWG Activities Over the Last Four Years for New Revision of AIR Test Methods (Cont.)

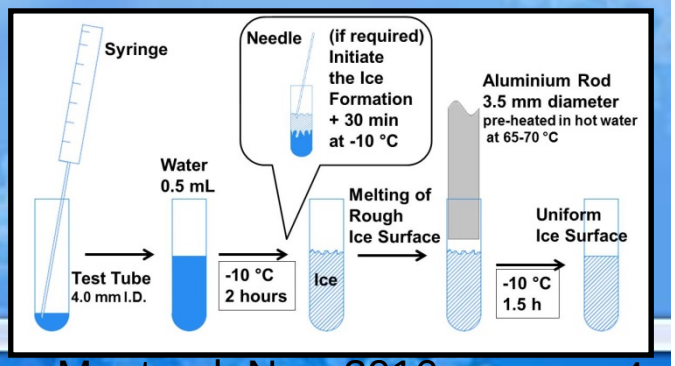
- **Carried out four round robin tests**
  - **Development of a new Ice Penetration test method which allows running tests at -2 °C**

❑ ***New test support device***



❑ ***New ice preparation procedure***

❑ ***New ice penetration test protocol***



Recommendations of RDPWG for the Next Revision of AIR test Methods

Based on works done over last four years

1. **AIR6170A, AIR6172A & AIR6211A:**

   To add KAC 25 $\%^{w}/_{w}$ as a reference control solution for solids

   Vancouver, May 2015

2. **AIR6211A:**

   To approve a new ice penetration test method **Savannah, May 2016**

RDP Working Group Actions Summer 2016

WG recommendations icluded in draft documents, Revisions A

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AEROSPACE INFORMATION REPORT

AIR6170™	REV. A
Issued 2012-01 Revised Proposed Draft 2016-08-25 Superseding AIR6170	

Section 3.5
new referen
changes.

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AEROSPACE INFORMATION REPORT

AIR6172™	REV. A
Issued 2012-02 Revised Proposed Draft 2016-08-25 Superseding AIR6172	

Section 3.4.3 c
new reference
changes.

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AEROSPACE INFORMATION REPORT

AIR6211™	REV. A
Issued 2012-04 Revised Proposed Draft 2016-08-25 Superseding AIR6211	

Ice Penetration Test Method for Runways and Taxiways Deicing/Anti-icing Chemicals

RATIONALE

Section 3.4.3 of this SAE Aerospace Information Report has been modified by the addition of KAC 25%w/w solution as a new reference control solution for solid runway deicing/anti-icing chemical. The document also brings some editorial changes. The ice penetration test method has been modified in order to add a second test temperature : -2 °C. The test method involves the use of a new test support (3.3.2) and new ice preparation procedure (3.3.4). The new ice penetration test method is described in 3.4.5.

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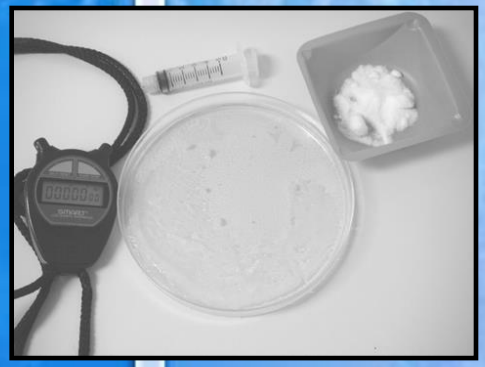
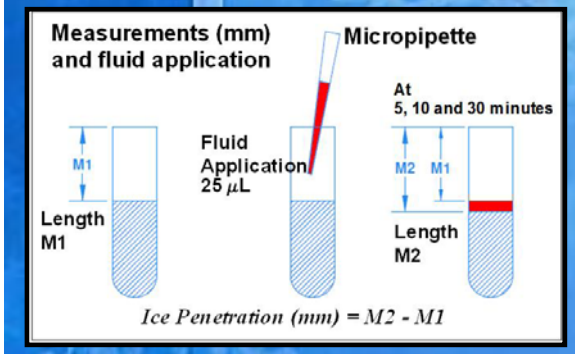
October 2016



AIR6170A
Ice Melting

AIR6172A
Ice Undercutting



AIR6211A
Ice Penetration

Summited for 28-day ballot to G-12 Committee

Overview of Ballot Results

Update : 2016 November 1st

Ballot Results - AIR6170A Ice Melting

Start Date	⟶	*2016 October 3rd*
Was Due	⟶	*2016 October 30th*

Approval	Disapproval	Waive	Participation
21	*0*	*0*	*21/39*
53.8%	*0%*	*0%*	*53.8%*

Received some minor informational and technical comments

AIR6170A has been approved ✔

Ballot Results - AIR6172A Ice Undercutting

Start Date	⟶	***2016 October 3rd***
Was Due	⟶	***2016 October 30th***

Approval	Disapproval	Waive	Participation
21	***0***	***0***	***21/39***
53.8%	***0%***	***0%***	***53.8%***
Received some minor informational and technical comments			

AIR6172A has been approved ✔

Ballot Results (so far) - AIR6211A Ice Penetration

Start Date ⟶ 2016 October 10th

Is Due ⟶ 2016 November 6th

Approval	Disapproval	Waive	Participation
14	***0***	***0***	***14/39***
35.9%	***0%***	***0%***	***35.9%***
Received some minor informational and technical comments			

AIR6211A status : to be determined

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Ballot Results - AIR6211A Ice Penetration

Start Date	⟶	*2016 October 10th*
Is Due	⟶	*2016 November 6th*

Approval	Disapproval	W	articipation
14			*14/39*
35.9%		*0%*	*35.9%*
Received minor informational and technical comments			

Ballot is Still Open
Please Vote !!!

AIR6211A status : to be determined

Summary of 28-day ballots to G-12 Committee AIR Test Methods

Test Method	Ballot Closed	Approved	Next Steps		
AIR6170A Ice Melting	✔	✔	*To adress Informational / Technical Comments*	*14-day Ballot to Committee*	*28-day Ballot to Aerospace Council*
AIR6172A Ice Undercutting		✔			
AIR6211A Ice Penetration	*In progress*	*TBD*	*Ballot will be closed on November 6th*		

Special Thanks to !!

- AMIL Team : Caroline Laforte

<u>Manufacturers / Organisms</u>

- ADDCON EUROPE GmbH
- ACE/ENV Aviation Civile France
- ABAX Industries
- CAAC China
- Clariant Produkte GmbH
- Newave Aerochemical
- Nachurs Alpine Solutions

<u>RDP WG Co-Chairs</u>

- Martin Westermaier, MW Aviation Consulting
- Kelvin Williamson, LNT Solutions

AIR6170A / AIR6172A / AIR6211A Methods

Questions / Suggestions

Marc Mario Tremblay AMIL

Document Sponsor

of

AIR6170, AIR6172 & AIR6211

1-418-545-5011 (2155)

Mobile : 1-418-817-5502

mmtrembl@uqac.ca

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