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15. Supplementary Notes (Funding programs, titles of related publications, etc.)

Several research reports for testing of de/anti–icing technologies were produced on behalf of Transport Canada for previous winters. These are available from the Transportation Development Centre. Thirteen reports (including this one) were produced as part of this winter's research program. Their subject matter is outlined in the preface. This project was co-sponsored by the Federal Aviation Administration and the manufacturers that provided fluid.

16. Abstract

The primary objective of the 2002-03 holdover time test program was to evaluate the performance of new deicing and anti-icing fluids over the entire range of conditions encompassed by the holdover time guidelines. These tests involved using fluid samples selected by the various manufacturers according to the sample selection procedures specified in the proposed Aerospace Standard 5485.

The endurance time test procedure consisted of pouring fluids onto clean aluminum test surfaces inclined at 10º. The onset of failure was recorded as a function of time in natural snow and artificial conditions including simulated freezing fog, freezing drizzle, light freezing rain, and rain on a cold-soaked wing. Type II and Type IV fluids were supplied by Clariant, and were tested in neat and diluted forms. New Type I fluids were supplied by Clariant, HOC Industries and Metss. A total of 473 endurance time tests were performed by APS in natural and simulated conditions. Anti-icing fluid holdover times were determined using a multi-variable regression analysis.

A new Type IV fluid (Clariant Safewing MP IV 2030 ECO) was tested and will be introduced for the 2003-04 winter season. The introduction of this new fluid did not have an impact on the generic Type IV holdover guideline values from last year. One Type IV fluid, which was tested for holdover times in 1997-98 (SPCA AD-404) but never produced commercially, was removed from the Type IV analysis. Its removal resulted in two increases to the generic Type IV values.

A new Type II fluid (Clariant Safewing MP II 2025 ECO) was tested and will be introduced for the 2003-04 winter season. The introduction of this new fluid did not have an impact on the generic Type II holdover guideline values from last year.

The Transport Canada Type I fluid HOT table has been changed this year. A new temperature breakdown was introduced by splitting the -3 to -10°C interval into (*below -3 to -6°C*) and (*below -6 to -10°C*) temperature ranges. Apart from the existing light snow and moderate snow columns, a new column for very light snow was introduced. The visibility table, which provides information on the variability of snowfall intensities, was updated following analysis of new data.

17. Key Words	18. Distribution Statement
Anti-icing, deicing, deicing fluid, holdover times, precipitation, endurance times, Type I, Type II, Type IV, aircraft, ground, test, winter	Limited number of copies available from the Transportation Development Centre

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