



AEROSPACE RECOMMENDED PRACTICE

ARP6207™

REV. A

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Superseding ARP6207

Qualifications Required for SAE Type I Aircraft Deicing/Anti-Icing Fluids

RATIONALE

This document has been updated to reflect the most current practices for obtaining holdover times for SAE Type I fluids.

Additional revisions have been made to meet the document harmonization and quality criteria issued by the SAE G-12 Steering Committee in October 2023.

FOREWORD

Meeting all of the technical requirements of AMS1424 is not sufficient for a Type I deicing/anti-icing fluid to be used on an aircraft. For such a fluid to be used commercially, it must further demonstrate that (1) its performance is such that it can be used with the Type I generic holdover time guidelines published by the regulators and (2) its name appears on a list of fluids published by regulators.¹ Before commercialization, it is further recommended that a field spray trial be conducted with the fluid to demonstrate acceptable operational performance.

The intent of this ARP is to help fluid manufacturers and users understand the overall process that a Type I fluid must go through to be used with the Type I holdover time guidelines and be included on the Federal Aviation Administration (FAA) and Transport Canada (TC) lists of fluids.

¹ The aircraft manufacturers typically identify the types of fluids which can be applied to their aircraft type. This information is usually located in the maintenance manual winter operations section or in the Aircraft Operating Manual (AOM).

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Documents

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1. SCOPE

This document describes:

- a. The preparatory steps to test experimental Type I fluids according to AMS1424;
- b. The recommendations for the preparation of samples for endurance time testing according to ARP5945;
- c. A short description of the recommended field spray test;
- d. The protocol to demonstrate that Type I fluid can be used with the Type I holdover time guidelines published by the FAA and Transport Canada, including endurance time data obtained from ARP5945;
- e. The protocol for inclusion of Type I fluids on the FAA and Transport Canada lists of fluids;
- f. The protocol for updating the FAA and Transport Canada lists of fluids;
- g. The role of the SAE G-12 Aircraft Deicing Fluids Committee;
- h. The role of the SAE G-12 Holdover Time Committee; and
- i. The process for the publication of Type I holdover time guidelines.

This document does not describe laboratory-testing procedures.

This document does not include the qualification requirements for AMS1428 Type II, III, and IV fluids (these are provided in ARP5718).

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS1424 ²	Fluid, Aircraft Deicing/Anti-Icing, SAE Type I
AMS1424/1	Deicing/Anti-Icing Fluid, Aircraft SAE Type I Glycol (Conventional and Nonconventional) Based
AMS1424/2	Deicing/Anti-Icing Fluid, Aircraft SAE Type I Non-Glycol Based
AMS1428	Fluid, Aircraft Deicing/Anti-Icing, Non-Newtonian (Pseudoplastic), SAE Types II, III, and IV
ARP5485	Endurance Time Test Procedures for SAE Type II/III/IV Aircraft Deicing/Anti-Icing Fluids
ARP5718	Qualifications Required for SAE Type II/III/IV Aircraft Deicing/Anti-Icing Fluid

² AMS1424 section numbers throughout this ARP are from AMS1424S.

- ARP5945 Endurance Time Test Procedures for SAE Type I Aircraft Deicing/Anti-Icing Fluids
- AS5900 Standard Test Method for Aerodynamic Acceptance of AMS1424 and AMS1428 Aircraft Deicing/Anti-Icing Fluids
- AS5901 Water Spray and High Humidity Endurance Test Methods for AMS1424 and AMS1428 Aircraft Deicing/Anti-Icing Fluids

2.1.2 FAA Publications

Available from Federal Aviation Administration, 800 Independence Avenue, SW, Washington, DC 20591, Tel: 866-835-5322, www.faa.gov.

FAA Holdover Time Guidelines. (These are published every winter. Always use the latest issue; search for "FAA Holdover Time" at www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/deicing/.)

FAA Ground Deicing Program General Information. (This document is published every winter. Always use the latest issue. Available at https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/deicing/.)

2.1.3 Transport Canada Publications

Available from Transport Canada, Tower C, Place de Ville, 330 Sparks Street Ottawa, Ontario K1A 0N5, Tel: 1-800-305-2059, www.tc.canada.ca.

Transport Canada Holdover Time Guidelines. (These are published every winter. Always use the latest issue. Available at <https://tc.canada.ca/en/aviation/general-operating-flight-rules/holdover-time-hot-guidelines-icing-anti-icing-aircraft>.)

Guidelines for Aircraft Ground Icing Operations, TP 14052E. (This document is updated periodically. Always use the latest issue. Available at <https://tc.canada.ca/en/aviation/publications/guidelines-aircraft-ground-icing-operations-tp-14052>.)

2.1.4 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM D1177 Standard Test Method for Freezing Point of Aqueous Engine Coolants

ASTM D1193 Standard Specification for Reagent Water

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

2.2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS1428/1 Fluid, Aircraft Deicing/Anti-Icing, Non-Newtonian (Pseudoplastic), SAE Types II, III, and IV Glycol (Conventional and Nonconventional) Based

AMS1428/2 Fluid, Aircraft Deicing/Anti-Icing, Non-Newtonian (Pseudoplastic), SAE Types II, III, and IV Non-Glycol Based