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REGRESSION COEFFICIENTS AND EQUATIONS USED TO DEVELOP THE WINTER 2025-26 AIRCRAFT GROUND DEICING HOLDOVER TIME TABLES



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PREFACE

Under contract to the Transport Canada Programs Group Innovation Centre, APS Aviation Inc. has undertaken a research program to advance aircraft ground de/anti-icing technology. The primary objectives of the research program are the following:

- To develop holdover time data for all new de/anti-icing fluids;
- To conduct testing to determine holdover times for Type II, III, and IV fluids in snow at temperatures below -14°C ;
- To evaluate and develop the use of artificial snow machines for holdover time development;
- To conduct wind tunnel testing with a thin high performance wing model to support the development of guidance material for operating in ice pellet conditions;
- To conduct comparative endurance time testing and evaluate endurance times in several mixed conditions;
- To conduct general and exploratory de/anti-icing research;
- To conduct analysis to support harmonization of the Transport Canada and the Federal Aviation Administration visibility table guidance;
- To finalize the publication and delivery of current and historical reports;
- To update the regression information report to reflect changes made to the holdover time guidelines; and
- To update the holdover time guidance materials for annual publication by Transport Canada and the Federal Aviation Administration.

The research activities of the program conducted on behalf of Transport Canada during the winter of 2024-25 are documented in five reports. The titles of the reports are as follows:

- TP 15692E Aircraft Ground De/Anti-Icing Fluid Holdover Time Development Program for the 2024-25 Winter;
- TP 15693E Regression Coefficients and Equations Used to Develop the Winter 2025-26 Aircraft Ground Deicing Holdover Time Tables;
- TP 15684E Aircraft Ground Icing General Research Activities During the 2024-25 Winter;
- TP 15685E Wind Tunnel Trials to Support Further Development of Ice Pellet Allowance Times: Winter 2024-25; and
- TP 15686E Testing and Evaluation of Mixed Phase Icing Conditions: Winter 2024-25.

In addition, the following interim report is being prepared:

- *Artificial Snow Research Activities for the 2024-25 Winter.*

This report, TP 15693E, has the following objective:

- To document the regression information required for the Winter 2025-26 aircraft ground deicing holdover time tables and to document how and from where the information was obtained.

This objective was met by analysing data from holdover time testing conducted over the winters of 1996-97 through 2024-25.

PROGRAM ACKNOWLEDGEMENTS

This multi-year research program has been funded by the Transport Canada Programs Group Innovation Centre, with support from the Federal Aviation Administration William J. Hughes Technical Center for Advanced Aerospace, Transport Canada Civil Aviation, and Federal Aviation Administration Flight Standards – Air Carrier Operations. This program could not have been accomplished without the participation of many organizations. APS Aviation Inc. would therefore like to thank Transport Canada, the Federal Aviation Administration, National Research Council Canada, and supporting members of the SAE International G-12 Aircraft Ground Deicing Committees.

APS Aviation Inc. would also like to acknowledge the dedication of the research team, whose performance was crucial to the acquisition of hard data, completion of data analysis, and preparation of reports. This includes the following people: Brandon Auclair, Steven D. Baker, David Beals, Benjamin Bernier, Chloë Bernier, Megane Brien, Sarah Chadzak, Kasandra Cook, Devin Costain, John D’Avirro, Peter Dawson, Sean Devine, Akvile Gigaite, Tyler Groleau, Cassidy Kinderman-McCormick, Kyra Kinderman-McCormick, Peter Kitchener, Francine De Ladurantaye, Shamim Nakhaei, Dany Posteraro, Marc Quesnel, Salvatore Rosato, Marco Ruggi, Javad Safari, James Smyth, Yi Tian, Jeffrey Wajsberg, and Ian Wittmeyer.

Special thanks are extended to Antoine Lacroix, Yvan Chabot, Carlos Carreiro, Warren Underwood, Timothy McClain, Timothy G. Smith, Stephanie Divito, and Thomas Natoli who on behalf of Transport Canada and the Federal Aviation Administration, have participated, contributed, and provided guidance in the preparation of these documents.



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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 for previous winters on behalf of Transport Canada (TC). These are available from the TC Programs Group Innovation Centre. Several reports 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.					
16. Abstract <p>Since the winter of 2009-10, Transport Canada (TC) has published the regression information underlying the data in the Holdover Time (HOT) Guidelines. Starting in the winter of 2013-14, the Federal Aviation Administration (FAA) also began publishing regression information. The information is published in several documents:</p> <ul style="list-style-type: none"> • TC and the FAA both publish online documents, which provide users with the regression information for the current winter's HOT Guidelines in a timely manner and in a user-friendly format; and • TC publishes this TP report, which documents the source of the regression information and how it was obtained. <p>For the 2025-26 HOT Guidelines, regression data were generated for the two generic Type I holdover time tables, 11 Type II fluid-specific tables, three Type III fluid-specific tables, and 30 Type IV fluid-specific tables. The data were predominantly obtained from holdover time testing conducted over the winters of 1996-97 to 2024-25. The regression data had been documented in a previous TC report and were extracted from that report.</p> <p>It is recommended that both regression information publications be updated in one year to reflect any changes made to the HOT Guidelines for the winter of 2026-27.</p>					
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15. Remarques additionnelles (programmes de financement, titres de publications connexes, etc.) Plusieurs rapports de recherche sur des essais de technologies de dégivrage et d'antigivrage ont été produits au cours des hivers précédents pour le compte de Transports Canada (TC). Ils sont disponibles auprès du Centre d'innovation du groupe de programmes de TC. De nombreux rapports ont été rédigés dans le cadre du programme de recherche de cet hiver. Leur objet apparaît à l'avant-propos. Ce projet était coparrainé par la Federal Aviation Administration.						
16. Résumé Depuis l'hiver 2009-2010, Transports Canada (TC) a publié l'information de régression sous-jacente aux données des lignes directrices sur les durées d'efficacité (HOT). À compter de l'hiver 2013-2014, la Federal Aviation Administration (FAA) a également entrepris de publier l'information de régression. Cette information est publiée dans plusieurs documents : <ul style="list-style-type: none">• TC et la FAA publient des documents en ligne qui fournissent aux utilisateurs l'information de régression applicable aux lignes directrices de l'hiver en cours sur les durées d'efficacité, en temps opportun et dans un format convivial; et• TC publie le présent rapport TP, qui documente la source de l'information de régression et la façon dont elle a été obtenue. Pour les lignes directrices sur les durées d'efficacité de 2025-2026, des données de régression ont été produites pour les deux tableaux de durées d'efficacité des liquides génériques de type I, les onze tableaux spécifiques à des liquides de type II, les trois tableaux spécifiques à des liquides de type III et les trente tableaux spécifiques à des liquides de type IV. Les données ont été principalement obtenues à partir d'essais sur les durées d'efficacité tenus au cours des hivers 1996-1997 à 2024-2025. Les données de régression avaient été documentées dans un rapport précédent de TC, d'où elles ont été puisées. Il est recommandé que les deux publications sur la régression soient actualisées dans un an pour refléter tout changement apporté aux lignes directrices sur les durées d'efficacité pour l'hiver 2026-2027.						
17. Mots clés Antigivrage, dégivrage, liquide de dégivrage, durées d'efficacité, précipitation, type I, type II, type III, type IV, aéronef, sol, essai, hiver, régression, système de détermination de durées d'efficacité, équivalence en eau liquide				18. Diffusion Disponible auprès du Centre d'innovation du groupe de programmes de Transports Canada		
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EXECUTIVE SUMMARY

Systems that measure temperature, precipitation type, and precipitation rate in real time, and use that data to provide holdover time (HOT) guidance information, are a relatively new development in the aircraft ground de/anti-icing industry. These systems, referred to as liquid water equivalent systems (LWES), and in specific forms as holdover time determination systems (HOTDS) or check time determination systems (CTDS), use the weather data they measure and holdover time regression information provided to them to calculate holdover times that are more specific than the ranges currently provided in the HOT Guidelines.

In order for these systems to be used by operators, regulators must make the regression information underlying the HOT Guidelines available to users. The information is published in several documents:

- Transport Canada (TC) and the Federal Aviation Administration (FAA) publish online documents, which provide users with the regression information for the current winter's HOT Guidelines in a timely manner and in a user-friendly format; and
- TC publishes this TP report, which documents the source of the regression information and how it was obtained.

For the 2025-26 HOT Guidelines, regression data were required for the two generic Type I holdover time tables, 11 Type II fluid-specific tables, three Type III fluid-specific tables, and 30 Type IV fluid-specific tables.

The data were obtained predominantly from holdover time testing conducted over the winters of 1996-97 to 2024-25. Much of the data were already documented in a previous TC report and were therefore extracted from that report.

The 2025-26 regression information documents were published by TC and the FAA on August 12, 2025. The information can be used by LWES, HOTDS, and CTDS to calculate holdover times during the winter of 2025-26.

It is recommended that all regression publications – the online documents and this report – be updated in one year to reflect any changes made to the HOT Guidelines for the winter of 2026-27.

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SOMMAIRE

Les systèmes qui mesurent la température, ainsi que le type et le taux de précipitation en temps réel, et qui utilisent ces données pour produire de l'information pour les lignes directrices sur les durées d'efficacité représentent un progrès relativement récent dans le domaine du dégivrage et de l'antigivrage d'aéronefs au sol. Ces systèmes, connus sous le vocable de systèmes d'équivalence en eau liquide (LWES) et, dans certaines formes particulières, sous les termes de systèmes de détermination de durées d'efficacité (HOTDS) ou de systèmes de détermination de temps de vérification (CTDS), utilisent les données météorologiques qu'ils mesurent, ainsi que l'information de régression des durées d'efficacité qui leur est fournie, pour calculer des durées d'efficacité plus précises que l'éventail actuellement fourni par les lignes directrices sur les durées d'efficacité (HOT).

Pour que les utilisateurs puissent se servir de ces systèmes, les organismes de réglementation doivent mettre à leur disposition l'information de régression sous-jacente aux lignes directrices sur les durées d'efficacité. Cette information est publiée dans plusieurs documents:

- Transports Canada (TC) et la Federal Aviation Administration (FAA) publient des documents en ligne qui fournissent aux utilisateurs l'information de régression applicable aux lignes directrices de l'hiver en cours sur les durées d'efficacité, en temps opportun et dans un format convivial; et
- TC publie ce rapport TP, qui documente les sources de l'information de régression et la façon dont elle a été obtenue.

Pour les lignes directrices sur les durées d'efficacité de 2025-2026, des données de régression ont été produites pour les deux tableaux de durées d'efficacité des liquides génériques de type I, les onze tableaux spécifiques à des liquides de type II, les trois tableaux spécifiques à des liquides de type III et les trente tableaux spécifiques à des liquides de type IV.

Les données ont été principalement obtenues à partir d'essais sur les durées d'efficacité tenus au cours des hivers 1996-1997 à 2024-2025. Plusieurs des données étaient déjà documentées dans un rapport précédent de TC, d'où elles ont en conséquence été puisées.

L'information de régression pour 2025-2026 a été publiée en ligne par TC et la FAA le 12 août 2025. Elle peut servir aux LWES, HOTDS et CTDS pour calculer les durées d'efficacité pour l'hiver 2025-2026.

Il est recommandé que les deux publications sur la régression – le document en ligne et le présent rapport – soient actualisées dans un an, afin de refléter tout changement apporté aux lignes directrices sur les durées d'efficacité pour l'hiver 2026-2027.

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CONTENTS	Page
1. INTRODUCTION.....	1
1.1 Background.....	1
1.2 Role of Regulators	3
1.2.1 Regulations for Liquid Water Equivalent Systems Use.....	3
1.2.2 Publication of Regression Equations and Related Coefficients	3
1.2.3 History of Regression Information Publications	4
1.3 Objectives.....	10
1.4 Report Format.....	10
1.5 Note on Frost and Allowance Time Conditions.....	10
1.6 Note on Mixed Precipitation Conditions.....	11
1.7 Note on TC/FAA Differences	11
2. METHODOLOGY FOR DERIVING HOLDOVER TIMES USING REGRESSION ANALYSIS	13
2.1 Step 1: Endurance Time Testing.....	13
2.1.1 Freezing Precipitation	13
2.1.2 Snow	14
2.2 Step 2: Regression Analysis.....	14
2.2.1 Freezing Precipitation	15
2.2.2 Snow	15
3. METHODOLOGIES FOR DETERMINING HOLDOVER TIME TABLE VALUES.....	17
3.1 Methodology for Determining Fluid-Specific Holdover Time Table Values	17
3.1.1 Fluid-Specific Holdover Time Values for Snow at Temperatures Below -14°C....	18
3.1.2 Fluid-Specific Holdover Time Values for Mixed Snow and Freezing Fog	18
3.1.3 Fluid-Specific Holdover Time Values for Moderate Snow and Rain	18
3.2 Methodology for Determining Type II/IV Generic Holdover Time Table Values	19
3.2.1 Note on Qualified Fluids.....	19
3.3 Methodology for Determining Adjusted Holdover Time Table Values for Use When Flaps/Slats Are Deployed.....	20
3.4 Methodology for Determining Degree-Specific Holdover Time Values	20
3.5 Evolution of Type I Generic Holdover Time Table Values.....	21
3.6 Status of Type III Generic Holdover Time Table	22
3.7 Differences Between the TC and FAA Holdover Time Table Values	22
4. DATA COLLECTION.....	23
4.1 Evolution of Regression Information	23
4.1.1 Changes Required for the 2020-21 Holdover Time Guidelines.....	23
4.1.2 Changes Required for the 2021-22 Holdover Time Guidelines.....	24
4.1.3 Changes Required for the 2022-23 Holdover Time Guidelines.....	25
4.1.4 Changes Required for the 2023-24 Holdover Time Guidelines.....	26
4.1.5 Changes Required for the 2024-25 Holdover Time Guidelines.....	26
4.2 Data for the 2025-26 Holdover Time Guidelines	27
4.2.1 Type I.....	28
4.2.2 Type II.....	29
4.2.3 Type III	30
4.2.4 Type IV.....	31
4.2.5 Lowest Usable Precipitation Rates for Snow	33
4.2.6 Highest Usable Precipitation Rates for Snow.....	33
4.2.7 Summary	34
4.2.8 Data Verification	34

5. REGRESSION INFORMATION PUBLICATION: 2025-26..... 39

5.1 Highlights and Changes..... 39

5.2 Guidance Material..... 39

5.3 Regression Coefficients Tables 39

5.3.1 Table Format and Footnotes 42

5.4 Data Verification Tables 42

5.5 Table of Lowest Usable Precipitation Rates in Snow 43

5.6 Table of Highest Usable Precipitation Rates in Snow..... 43

5.7 Data Limitations 43

5.7.1 Limitation #1: Air Temperature Greater Than or Equal To 0°C 43

5.7.2 Limitation #2: Non-Standard Fluid Dilutions 44

5.7.3 Limitation #3: Precipitation Rates Outside Rate Limit Boundaries 44

5.7.4 Limitation #4: Usable Precipitation Rates 45

5.7.5 Limitation #5: Holdover/Allowance Times Without Regression Information..... 45

5.8 Document Publication..... 45

6. CONCLUSIONS..... 47

7. RECOMMENDATIONS 49

REFERENCES 51

LIST OF APPENDICES

- A Transport Canada Statement of Work Excerpt – Aircraft & Anti-Icing Fluid Winter Testing 2024-25
- B Transport Canada Holdover Time (HOT) Guidelines Regression Information – Winter 2025-2026
- C FAA Holdover Time Guidelines Regression Information – Winter 2025-2026

LIST OF TABLES

Page

Table 1.1: Regression Information Publications.....5
Table 1.2: History of Regression Information Publications.....6
Table 4.1: Regression Data Sets Required for 2025-2635
Table 5.1: Regression Coefficients Tables for Winter 2025-26.....40

LIST OF FIGURES

Page

Figure 5.1: Sample Regression Curve – Cold-Soaked Wing.....44

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GLOSSARY

AC	Advisory Circular
APS	APS Aviation Inc.
ARP	Aerospace Recommended Practice
CARs	Canadian Aviation Regulations
CTDS	Check Time Determination Systems
DSHOT	Degree-Specific Holdover Time
FAA	Federal Aviation Administration
HOT	Holdover Time
HOTDS	Holdover Time Determination Systems
HUPR	Highest Usable Precipitation Rate
LOUT	Lowest Operational Use Temperature
LUPR	Lowest Usable Precipitation Rate
LWES	Liquid Water Equivalent Systems
NRC	National Research Council Canada
SAE	SAE International
TC	Transport Canada
WSET	Water Spray Endurance Test

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1. INTRODUCTION

Under winter precipitation conditions, aircraft surfaces are cleaned prior to takeoff. This is typically done with aircraft ground deicing fluids, which are freezing point depressant fluids developed specifically for aircraft use. If required, aircraft are then protected against further accumulation of precipitation by the application of aircraft ground anti-icing fluids, which are also freezing point depressant fluids. Most anti-icing fluids contain thickeners to extend protection time.

Prior to the 1990s, aircraft ground de/anti-icing had not been extensively researched. However, following several ground icing related incidents in the late 1980s, an aircraft ground icing research program was initiated by Transport Canada (TC). The objective of the program is to improve knowledge, enhance safety, and advance operational capabilities of aircraft operating in winter precipitation conditions.

Since its inception in the early 1990s, the aircraft ground icing research program has been managed by TC, with the co-operation of the United States Federal Aviation Administration (FAA), the National Research Council Canada (NRC), several major airlines, and de/anti-icing fluid manufacturers.

There is still an incomplete understanding of some of the hazards related to aircraft ground icing. As a result, the aircraft ground icing research program continues, with the objective of further reducing the risks posed by the operation of aircraft in winter precipitation and other icing conditions.

Under contract to the TC Programs Group Innovation Centre, with support from the FAA William J. Hughes Technical Center for Advanced Aerospace, TC Civil Aviation, and FAA Flight Standards – Air Carrier Operations, APS Aviation Inc. (APS) carried out research in the winter of 2024-25 in support of the aircraft ground icing research program. Each major project completed as part of the 2024-25 research is documented in a separate individual report. This report documents the regression information project.

1.1 Background

Determining holdover times (HOTs) for de/anti-icing fluids and developing guidelines for their use has been a focus of the TC/FAA aircraft ground icing research program since its inception. The HOT Guidelines provide pilots with tables of the protection times for de/anti-icing fluids in winter conditions. The values in the HOT Guidelines are determined by conducting regression analysis of flat-plate test data collected with de/anti-icing fluids. The HOT Guidelines are revised and republished annually to account for the results of additional testing with new and existing fluids.

Aircraft de/anti-icing fluid holdover time is a function of fluid dilution, precipitation rate, precipitation type, and ambient temperature. Although the current methodology for determining holdover times enables values to be calculated at virtually any temperature and precipitation rate, it is neither practical nor feasible to include all this information in the HOT Guidelines. Instead, holdover times are organized into tables that are divided into cells by precipitation type, temperature range, and fluid dilution. Within each of these cells, upper and lower values are given based on predetermined lower and upper precipitation rate limits and the lowest temperature in the temperature range.

Liquid water equivalent systems (LWES), also known in their specific forms as holdover time determination systems (HOTDS) or check time determination systems (CTDS), measure weather information (temperature, precipitation type, and precipitation rate) in real time. They combine these data with holdover time regression information to calculate more specific holdover times than are currently provided in the HOT Guidelines. These holdover times can be relayed directly to the cockpit.

There are several advantages to be gained by using these systems in place of holdover time tables.

1. **Extended Holdover Times:** Whereas holdover time table values are calculated based on the lowest temperature in each temperature range and the highest precipitation rate in each precipitation category, HOTDS can calculate values at any temperature or precipitation rate and can provide users with longer holdover times in some conditions.
2. **Ease of Use:** LWES are more user-friendly than holdover time tables, as they provide pilots with a single holdover time; pilots do not have to determine holdover times themselves by looking up specific weather conditions in the appropriate holdover time table, nor do they have to interpret a range of holdover times provided.
3. **Environmental and Cost Savings:** The information provided by LWES enables pilots to make better fluid selection decisions. This optimization is forecasted to increase the use of Type I fluid and decrease the use of Type IV fluid, potentially resulting in cost and environmental savings.

1.2 Role of Regulators

In order for LWES to be used, TC and the FAA must do the following:

1. Provide regulations that allow operators to use these systems; and
2. Publish the regression equations and related coefficients that are used in the development of the HOT Guidelines.

The following subsections describe these requirements in more detail.

1.2.1 Regulations for Liquid Water Equivalent Systems Use

TC has supported the development of LWES and has taken an active role in developing regulations for their use in Canada. The short-term methodology employed by TC to implement HOTDS in Canadian air operations included the development of the two documents outlined below.

1. A **performance standard** defining the minimum quality assurance requirements (quality management system, training and qualifications, installation, siting, operation, and maintenance) and minimum performance specifications (system accuracy, technical requirements for data inputs, and holdover time determinations) for HOTDS.
2. An **air carrier exemption** from Canadian Aviation Regulations (CARs) 622.11 for the operational use of the holdover time information provided by the HOTDS.

TC developed a performance standard and an air carrier exemption for WestJet in the winter of 2006-07. Subsequent exemptions were issued as global exemptions applicable to any air operator using HOTDS. The associated performance standard is provided as an appendix to the exemption document.

The FAA has taken a different approach, using an advisory circular (AC) to provide requirements for the use of LWES, HOTDS, and CTDS. AC 120-112, *Use of Liquid Water Equivalent System to Determine Holdover Times or Check Times for Anti-Icing Fluids*, was published in July 2015 and is available on the FAA website (see http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_120-112.pdf).

1.2.2 Publication of Regression Equations and Related Coefficients

The regression equations and coefficients used to calculate the values in the holdover time tables are required for LWES to function. LWES manufacturers must obtain this information from regulators or an equally valid source.

TC first published regression information in the fall of 2008 in the TC report, TP 14873E, *Regression Coefficients and Equations Used to Develop the Winter 2008-09 Aircraft Ground Deicing Holdover Time Tables* (1). The report documented the process of creating the initial regression information database and contained regression information relevant to the 2008-09 HOT Guidelines.

Following the publication of TP 14873E (1), it was determined that two regression documents need to be published annually. Two publications are necessary as manufacturers require slightly different information than regulators, and they require this information in a timely manner. Both publications must be updated annually because the HOT Guidelines are updated annually, and changes made to the HOT Guidelines must be reflected in the published regression information.

The two documents are summarized below and in Table 1.1.

1. **Document #1 – Online Publication:** The first document is for LWES manufacturers. It provides manufacturers with the current winter’s regression information and guidance for its application in a user-friendly format. It is published online, which allows the information to be made available in a timely manner, typically in the summer preceding the winter operating season.

TC has published its version of this document, entitled *Transport Canada Holdover Time (HOT) Guidelines Regression Information [Current Winter]*, annually since 2009.

The FAA has published its version of this document, entitled *FAA Holdover Time Regression Information [Current Winter]*, annually since 2013.

2. **Document #2 – TP Report:** The second document is a reference for regulators. Its purpose is to document the source(s) of the regression information provided in the online publications. It is published as a TC report with a TP number and may take several years to be published and made publicly available. The document is entitled *Regression Coefficients and Equations Used to Develop the Winter [Current Winter] Aircraft Ground Deicing Holdover Time Tables*.

1.2.3 History of Regression Information Publications

The history of regression information publications is provided in Table 1.2. Following the publication of the initial document for the winter of 2008-09, the two-document system was introduced for the winter of 2009-10 and has been followed since that time. It should be noted that the creation of new regression documents each year renders previous publications obsolete.

The documents that will be published for the winter of 2025-26 are shown in the last row of the table. These documents are currently the only valid publications.

Table 1.1: Regression Information Publications

Details	Document 1	Document 2
Publication Name(s)	<ul style="list-style-type: none"> • Transport Canada Holdover Time (HOT) Guidelines Regression Information [Current Winter] • FAA Holdover Time Regression Information [Current Winter] 	<ul style="list-style-type: none"> • Regression Coefficients and Equations Used to Develop the Winter [Current Winter] Aircraft Ground Deicing Holdover Time Tables
Publication Type	<ul style="list-style-type: none"> • Online publication 	<ul style="list-style-type: none"> • Transport Canada TP report
Publication Location(s)	<ul style="list-style-type: none"> • Transport Canada HOT Guidelines website: http://www.tc.gc.ca/en/services/aviation/general-operating-flight-rules/de-icing-aircraft/hold-over-guidelines.html • FAA Aircraft Ground Deicing website: www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/deicing/ 	<ul style="list-style-type: none"> • Available from Transport Canada
Purpose	<ul style="list-style-type: none"> • To provide regression information and guidance on its application to users in a timely manner and in a user-friendly document 	<ul style="list-style-type: none"> • To document the source(s) of the regression information provided in the online publication
Contents	<ul style="list-style-type: none"> • Regression equations and coefficients required for the current winter's HOT Guidelines • Guidance for application of regression information, including procedures for calculating generic holdover times • Lowest and highest usable precipitation rates (LUPRs and HUPRs) for snow 	<ul style="list-style-type: none"> • Methodology to derive holdover times using regression analysis • Methodology used to determine holdover time table values (fluid-specific and generic) • History of regression information collection • Source locations for current winter's information • Regression information required for the current winter's HOT Guidelines (incorporated by including the online publication as an appendix)

Table 1.2: History of Regression Information Publications

Winter	Document 1 (Online Publication)		Document 2 (TP Report)
	TC	FAA	
2008-09	<ul style="list-style-type: none"> • No online publication 	<ul style="list-style-type: none"> • No online publication 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2008-09 Aircraft Ground Deicing Holdover Time Tables (TP 14873E) • Publication: September 2018 • Validity: Obsolete
2009-10	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2009-2010 • Publication: January 2010 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • No online publication 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2009-10 Aircraft Ground Deicing Holdover Time Tables (TP 14937E) • Publication: September 2018 • Validity: Obsolete
2010-11	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2010-2011 • Publication: July 2010 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • No online publication 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2010-11 Aircraft Ground Deicing Holdover Time Tables (TP 15054E) • Publication: September 2018 • Validity: Obsolete
2011-12	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2011-2012 • Publication: July 2011 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • No online publication 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2011-12 Aircraft Ground Deicing Holdover Time Tables (TP 15159E) • Publication: September 2018 • Validity: Obsolete
2012-13	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2012-2013 • Publication: July 2012 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • No online publication 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2012-13 Aircraft Ground Deicing Holdover Time Tables (TP 15198E) • Publication: September 2018 • Validity: Obsolete

Table 1.2: History of Regression Information Publications (cont'd)

Winter	Document 1 (Online Publication)		Document 2 (TP Report)
	TC	FAA	
2013-14	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2013-2014 • Publication: August 2013 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Official FAA Holdover Time Regression Information Winter 2013-2014 • Publication: August 2013 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2013-14 Aircraft Ground Deicing Holdover Time Tables (TP 15229E) • Publication: September 2018 • Validity: Obsolete
2014-15	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2014-2015 • Publication: August 2014 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Official FAA Holdover Time Regression Information Winter 2014-2015 • Publication: August 2014 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2014-15 Aircraft Ground Deicing Holdover Time Tables (TP 15270E) • Publication: September 2018 • Validity: Obsolete
2015-16	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2015-2016 • Publication: July 2015 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: FAA Holdover Time Regression Information Winter 2015-2016 • Publication: July 2015 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2015-16 Aircraft Ground Deicing Holdover Time Tables (TP 15322E) • Publication: September 2018 • Validity: Obsolete
2016-17	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2016-2017 • Publication: August 2016 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: FAA Holdover Time Regression Information Winter 2016-2017 • Publication: August 2016 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2016-17 Aircraft Ground Deicing Holdover Time Tables (TP 15339E) • Publication: September 2018 • Validity: Obsolete
2017-18	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2017-2018 • Publication: August 2017 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: FAA Holdover Time Regression Information Winter 2017-2018 • Publication: August 2017 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2017-18 Aircraft Ground Deicing Holdover Time Tables (TP 15373E) • Publication: September 2018 • Validity: Obsolete

Table 1.2: History of Regression Information Publications (cont'd)

Winter	Document 1 (Online Publication)		Document 2 (TP Report)
	TC	FAA	
2018-19	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2018-2019 • Publication: August 2018 (online*) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: FAA Holdover Time Guidelines Regression Information Winter 2018-2019 • Publication: August 2018 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2018-19 Aircraft Ground Deicing Holdover Time Tables (TP 15397E) • Publication: November 2018 • Validity: Obsolete
2019-20	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2019-2020 • Publication: August 2019 (online*) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: FAA Holdover Time Guidelines Regression Information Winter 2019-2020 • Publication: August 2019 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2019-20 Aircraft Ground Deicing Holdover Time Tables (TP 15426E) • Publication: October 2019 • Validity: Obsolete
2020-21	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2020-2021 • Publication: August 2020 (online*) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: FAA Holdover Time Guidelines Regression Information Winter 2020-2021 • Publication: August 2020 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2020-21 Aircraft Ground Deicing Holdover Time Tables (TP 15451E) • Publication: November 2020 • Validity: Obsolete
2021-22	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2021-2022 • Publication: August 2021 (online*) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: FAA Holdover Time Guidelines Regression Information Winter 2021-2022 • Publication: August 2021 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2021-22 Aircraft Ground Deicing Holdover Time Tables (TP 15495E) • Publication: November 2021 • Validity: Obsolete
2022-23	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2022-2023 • Publication: August 2022 (online*) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: FAA Holdover Time Guidelines Regression Information Winter 2022-2023 • Publication: August 2022 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2022-23 Aircraft Ground Deicing Holdover Time Tables (TP 15535E) • Publication: November 2022 • Validity: Obsolete

Table 1.2: History of Regression Information Publications (cont'd)

Winter	Document 1 (Online Publication)		Document 2 (TP Report)
	TC	FAA	
2023-24	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2023-2024 • Publication: August 2023 (online*) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: FAA Holdover Time Guidelines Regression Information Winter 2023-2024 • Publication: August 2023 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2023-24 Aircraft Ground Deicing Holdover Time Tables (TP 15558E) • Publication: November 2023 • Validity: Obsolete
2024-25	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2024-2025 • Publication: August 2024 (online*) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: FAA Holdover Time Guidelines Regression Information Winter 2024-2025 • Publication: August 2024 (online) • Validity: Obsolete 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2024-25 Aircraft Ground Deicing Holdover Time Tables (TP 15607E) • Publication: November 2024 • Validity: Obsolete
2025-26	<ul style="list-style-type: none"> • Title: Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2025-2026 • Publication: August 2025 (online*) • Validity: Current 	<ul style="list-style-type: none"> • Title: FAA Holdover Time Guidelines Regression Information Winter 2025-2026 • Publication: August 2025 (online) • Validity: Current 	<ul style="list-style-type: none"> • Title: Regression Coefficients and Equations Used to Develop the Winter 2025-26 Aircraft Ground Deicing Holdover Time Tables (TP 15693E) • Publication: November 2025 • Validity: Current

*Information on how to request the document is provided online. The document itself was not published online.

1.3 Objectives

The primary objective of this report is to document how and from where the regression information for the 2025-26 winter aircraft ground deicing holdover time tables was obtained.

The report also has several secondary objectives:

- To document the methodology for deriving holdover times using regression analysis;
- To document the methodology used to determine holdover time table values (fluid-specific and generic); and
- To provide a history of regression information collection.

The detailed objectives of this project are provided in Appendix A as an excerpt from the related TC statement of work for Winter 2024-25.

1.4 Report Format

The following list provides short descriptions of subsequent sections of this report:

- Section 2 describes the methodology used to derive holdover times using regression analysis;
- Section 3 details the methodologies used to derive fluid-specific and generic holdover time table values;
- Section 4 presents the data collected for Winter 2024-25 and a history of data collected in previous winters;
- Section 5 describes the Winter 2025-26 regression information;
- Section 6 presents conclusions derived from the work; and
- Section 7 lists recommendations for future work.

1.5 Note on Frost and Allowance Time Conditions

The HOT Guidelines currently do not provide fluid-specific holdover times in frost conditions; generic holdover times that are not derived from regression analysis are provided for each of the four fluid types in a separate frost holdover time table instead.

The HOT Guidelines currently contain “allowance times” for ice pellets, small hail, and ice pellets mixed with several other types of precipitation, including freezing rain, freezing drizzle, rain, and snow. The allowance times are not fluid-specific and are not based on regression analysis.

As regression coefficients and equations are not used in the determination of frost holdover times or allowance times, regression information is not included for these conditions in the published regression information.

1.6 Note on Mixed Precipitation Conditions

The HOT Guidelines currently provide holdover times for certain mixed precipitation conditions, specifically mixed snow and freezing fog, and mixed moderate snow and rain. In both cases the holdover times are not derived using regression analysis. Instead, they are based on holdover times for related precipitation types, with adjustment factors applied.

For mixed snow and freezing fog, the holdover times are derived from those applicable to snow, snow grains, and snow pellets, with adjustments as outlined in Subsection 3.1.2. Similarly for mixed moderate snow and rain, the holdover times are based on those for rain on cold-soaked wings, with an adjustment factor applied as described in Subsection 3.1.3.

As regression coefficients and equations are not used in the determination of holdover times for these mixed precipitation conditions, corresponding regression information is not included in the published regression data.

1.7 Note on TC/FAA Differences

Several minor differences exist between the TC and FAA holdover time table values. Accordingly, there are differences in the respective regression information. These differences are detailed in Subsection 3.7. It remains the user’s responsibility to ensure the appropriate application of the data provided in this report.

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2. METHODOLOGY FOR DERIVING HOLDOVER TIMES USING REGRESSION ANALYSIS

The methodology used to derive holdover times using regression analysis is presented in this section. This information is included to provide a better understanding of how HOT values are derived.

There are two steps to deriving holdover times using regression analysis. The first step is to conduct endurance time testing to enable the collection of an appropriate data set. The second step is to analyse the data set using the regression analysis methodology.

2.1 Step 1: Endurance Time Testing

The first step in deriving holdover times using regression analysis is the collection of an appropriate endurance time data set. Endurance time tests measure the amount of protection time that de/anti-icing fluids offer against ice formation. These tests are carried out on flat plates in natural and simulated precipitation conditions.

Procedures for conducting endurance time tests have been refined over the years. They have culminated in the current standard approach, which has been followed since the 1990s. Since then, endurance time testing for the purpose of developing holdover times has been conducted by APS on behalf of TC and the FAA.

There are some differences in the way endurance time tests are carried out in freezing precipitation versus snow, largely due to the difference in control of test variables in simulated versus natural conditions.

2.1.1 Freezing Precipitation

Freezing fog, freezing rain, light freezing drizzle, and rain on a cold-soaked wing endurance time tests are conducted in simulated (laboratory) conditions. For each cell in the related holdover time table, four tests are conducted at the lowest temperature in the temperature range of the cell: two tests are conducted at the low precipitation rate, and two tests are conducted at the high precipitation rate.

The low and high precipitation rates are dependent on the precipitation type. The precipitation rate limits for freezing precipitation are as follows:¹

¹ Significant research has gone into the selection of these values. See Subsection 2.9.1 of the TC report, TP 14144E, *Aircraft Ground De/Anti-Icing Fluid Holdover Time Development Program for the 2002-03 Winter* (5).

- Freezing Fog: 2 and 5 g/dm²/h;
- Freezing Drizzle: 5 and 13 g/dm²/h;
- Light Freezing Rain: 13 and 25 g/dm²/h; and
- Rain on a Cold-Soaked Wing: 5 and 75 g/dm²/h.

2.1.2 Snow

Snow endurance time tests are conducted in natural conditions where temperature and precipitation rate cannot be controlled. Therefore, the protocol for measuring endurance times in snow is slightly different – tests are conducted in natural snow in a range of temperatures and precipitation rates. Attempts are made to capture data in all snowfall intensities encompassed by the HOT Guidelines.

Three snowfall intensity categories are provided in the holdover time tables. The precipitation rate limits used for the snowfall intensity categories are as follows:²

- Very Light Snow: 3 and 4 g/dm²/h;
- Light Snow: 4 and 10 g/dm²/h; and
- Moderate Snow: 10 and 25 g/dm²/h.

Historically, a single snowfall intensity category was provided in the Type II and Type IV holdover time tables. The precipitation rate limits used were 10 and 25 g/dm²/h. Some Type II holdover time tables retain these limits for historical reasons.

2.2 Step 2: Regression Analysis

Once a complete data set has been collected for a fluid, it is subjected to regression analysis. This analysis provides the “raw” HOT values for the fluid.

Due to the differences in the ways data are collected in snow and in freezing precipitation, the protocol for conducting regression analysis differs slightly for freezing precipitation versus snow. The freezing precipitation protocol is described in Subsection 2.2.1; the snow protocol is described in Subsection 2.2.2.

² These definitions are not directly correlated to meteorological observations.

2.2.1 Freezing Precipitation

The steps provided below are used to calculate freezing precipitation holdover times using regression analysis.

1. For each cell in a holdover time table, regression analysis is used to determine a best-fit power law curve from the data collected at the low and high precipitation rates associated with the cell (all tests are conducted at the same temperature; see Subsection 2.1.1). The equation used to treat the data is $t = 10^I R^A$, where:
 - t = time (minutes);
 - R = rate of precipitation (g/dm²/h); and
 - I, A = coefficients determined from the regression.
2. Holdover times are calculated for the low and high precipitation rate limits for each precipitation type (see Subsection 2.1.1) using the resulting regression equation.
3. Steps 1 and 2 provide “raw” holdover times. Depending on how the times will be used, they may be subject to rounding and capping (see Section 3).

2.2.2 Snow

The steps provided below are used to calculate snow holdover times using regression analysis.

1. The natural snow data are subdivided into two groups by temperature, and each subsequent step is performed separately on each group. The two groups are as follows:
 - Warm snow data, which consist of all data collected at temperatures greater than -16.5°C and are used to determine snow holdover times at temperatures greater than or equal to -14°C; and
 - Very cold snow data, which consist of all natural snow data collected at temperatures less than or equal to -14°C and are used to determine snow holdover times at temperatures below -14°C. Very cold snow data collection is optional; fluids for which cold temperature data are not collected receive generic holdover times for natural snow at temperatures below -14°C (see Subsection 3.1 for additional details).

2. Each data group is subdivided by fluid dilution. The data set for each fluid dilution is subjected to a multi-variable regression analysis. The general form of the regression equation is $t = 10^I R^A (2-T)^B$, where:
 - t = time (minutes);
 - R = rate of precipitation (g/dm²/h);
 - T = temperature (°C); and
 - I, A, B = coefficients determined from the regression.
3. A regression equation is generated for each fluid dilution in snow. Holdover times are calculated for the precipitation limits of each cell by using the appropriate regression equation and the most restrictive temperature in the cell.

Some fluids are temperature-independent in that they demonstrate no significant temperature dependence in snow testing (i.e., p-value for the temperature coefficient is >0.05). For these fluids, holdover times are calculated from a unified regression analysis that incorporates the full range of available snow data.

4. Steps 1 and 2 provide “raw” holdover times. Depending on how the times will be used, they may be subject to rounding and capping rules (see Section 3).

3. METHODOLOGIES FOR DETERMINING HOLDOVER TIME TABLE VALUES

The methodologies for determining fluid-specific and generic holdover time table values are presented in this section. This information is included to contextualize how the holdover time tables are compiled.

3.1 Methodology for Determining Fluid-Specific Holdover Time Table Values

Fluid-specific holdover times are calculated for most fluids submitted for holdover time testing. These times are used to develop the Type II, Type III, and Type IV fluid-specific holdover time tables (which in turn are used to develop the generic Type II and Type IV holdover time tables).

Fluid-specific holdover times are derived directly from regression analysis as described in Section 2.

In the case of Type II, Type III, and Type IV fluids, the regression-generated “raw” holdover times described in Section 2 are subject to rounding and capping to produce the values in the fluid-specific tables. The rounding and capping protocol is provided below.

1. Raw values are rounded to the nearest whole “5” digit. For example, values from 55.1 to 57.4 minutes are rounded down to 55 minutes, and values from 57.5 to 59.9 minutes are rounded up to 60 minutes.
2. In cases where the raw holdover times are below 10 minutes (Type II/IV fluids) or 20 minutes (Type III fluids), the numbers are rounded down to the nearest minute as a precautionary measure. For example, 9.7 minutes is rounded down to 9 minutes.
3. The rounded values are capped as follows:
 - Freezing Fog – 4 hours;
 - Freezing Drizzle, Freezing Rain, and Rain on a Cold-Soaked Wing – 2 hours;
 - Snow (TC) – 2 hours; and
 - Snow (FAA) – 3 hours.

3.1.1 Fluid-Specific Holdover Time Values for Snow at Temperatures Below -14°C

For Type II/IV fluids, obtaining fluid-specific holdover times for natural snow occurring at temperatures below -14°C requires collection of a “very cold snow” data set. This supplemental data collection is optional; fluids that are not tested in very cold snow conditions receive generic HOT values for natural snow at temperatures below -14°C. These generic holdover times differ depending on whether the fluid in question is a Type II fluid, an ethylene glycol-based Type IV fluid, or a propylene glycol-based Type IV fluid.

Snow holdover times in the coldest temperature band (below -25°C to lowest operational use temperature [LOUT]) for Type II/III/IV fluids that have undergone the additional cold snow testing and that have a LOUT below -29°C are not determined by regression analysis. These values are instead derived from comparative artificial snow testing performed with the fluid in question at temperatures of -25°C and the fluid’s LOUT.

3.1.2 Fluid-Specific Holdover Time Values for Mixed Snow and Freezing Fog

Fluid-specific holdover times for mixed snow and freezing fog conditions are not derived from regression analysis. Instead, they are based on the fluid holdover times for snow, snow grains, and snow pellets and further adjusted based on fluid type.

For Type I fluids, the mixed snow and freezing fog HOTs are directly equal to the corresponding HOTs for moderate snow, snow grains, and snow pellets.

For Type II, III, and IV fluids, the mixed snow and freezing fog HOTs are calculated to be 75 percent of the corresponding fluid-specific HOTs for moderate snow, snow grains, and snow pellets.

The values are subsequently rounded according to the guidelines detailed in Subsection 3.1.

3.1.3 Fluid-Specific Holdover Time Values for Moderate Snow and Rain

Fluid-specific holdover times for mixed moderate snow and rain conditions are not derived from regression analysis. Instead, they are based on the fluid holdover times for rain on a cold-soaked wing and further adjusted based on fluid type.

For Type I fluids, the mixed moderate snow and rain HOTs are directly equal to the corresponding HOTs for rain on a cold-soaked wing (shortest time in cell only).

For Type II, III, and IV fluids, the mixed moderate snow and rain HOTs are calculated to be 75 percent of the corresponding fluid-specific HOTs for rain on a cold-soaked wing (shortest time in cell only).

The values are subsequently rounded according to the guidelines detailed in Subsection 3.1.

3.2 Methodology for Determining Type II/IV Generic Holdover Time Table Values

The Type II and Type IV generic holdover time table values represent the most conservative (shortest) holdover times of all available Type II and Type IV fluids, respectively. The purpose of these tables is to provide operators with the minimum amount of holdover time available in a given weather condition when the operator does not know which fluid is being used. Since no single fluid underperforms all others across all weather conditions, it is necessary to complete an analysis to determine the shortest holdover times for each weather condition.

The list of fluids provided in the TC and FAA HOT Guidelines is used to determine which fluids are included in the Type II and Type IV generic analyses. These lists are updated on an annual basis as new fluids are added and obsolete fluids are removed (see Subsection 3.2.1).

It should be noted that SAE International (SAE) standards previously stipulated that Type IV fluids also qualified as Type II fluids. As a result, Type IV fluids were included in the Type II generic analysis. This stipulation changed in 2017; Type IV fluids are no longer qualified as Type II fluids and therefore are not included in the Type II generic analysis.

3.2.1 Note on Qualified Fluids

The protocol for the removal of obsolete Type II, III, and IV fluid data from the HOT Guidelines is provided in Subsection 5.11 of SAE Aerospace Recommended Practice (ARP) 5718C, *Qualifications Required for SAE Type II/III/IV Aircraft Deicing/Anti-Icing Fluid* (2). The protocol stipulates that fluids are removed from the HOT Guidelines four years after their fluid water spray endurance test (WSET)/aerodynamic qualification has expired.

This protocol is used to provide operators who have inventory of these fluids with an opportunity to use them, rather than having to dispose of them immediately when the fluid qualification expires (assuming the fluids also pass any required quality control checks).

The result of this protocol is that the fluids included in the HOT Guidelines – which are the same fluids included in the Type II and Type IV generic holdover time analyses and in the regression information publications – may not all be currently qualified fluids.

3.3 Methodology for Determining Adjusted Holdover Time Table Values for Use When Flaps/Slats Are Deployed

When flaps and/or slats are deployed prior to anti-icing fluid application and remain in that configuration while taxiing to takeoff, adjusted holdover times must be used. These adjusted HOT values are calculated by applying an adjustment factor to the standard HOT values. An adjustment factor of 76 percent is applied to the rounded standard HOT values; the value is then rounded to the nearest whole minute (up or down). Adjusted holdover time tables are published for all fluid-specific and generic tables for all fluid types.

3.4 Methodology for Determining Degree-Specific Holdover Time Values

Degree-specific holdover times (DSHOTs) are published annually for snow and snow-related precipitation conditions (including snow, snow grains, snow pellets, snow mixed with ice crystals, and snow mixed with freezing fog). The DSHOTs database provides specific HOT values for each Type II, III, and IV fluid at all temperatures decrementing down to a given fluid's LOU. A 1°C safeguard is incorporated in all DSHOT calculations (i.e., all published DSHOT values are calculated using a temperature that is 1°C colder than the listed temperature). Values greater than or equal to 10 minutes are rounded to the nearest minute (up or down), and values less than 10 minutes are rounded down to the nearest minute.

Fluid-specific DSHOTs have only been determined for snow conditions where the standard snow HOTs are derived through regression analysis. There are some exceptions where DSHOTs cannot be calculated:

- Snow HOTs below -14°C for fluids with generic snow HOTs below -14°C; and
- Snow HOTs below -25°C for fluids with the following characteristics:
 - Fluid-specific snow HOTs below -14°C; and
 - Fluid LOUts colder than -29°C.

Note: In the above-mentioned instances, the related data in the DSHOTs database have been populated with the applicable standard (i.e., non-degree-specific) HOTs.

Separate sets of DSHOT values are provided for standard anti-icing operations and for operations where flaps and slats are extended to the takeoff configuration prior to de/anti-icing (identified as “Adjusted” DSHOT values).

3.5 Evolution of Type I Generic Holdover Time Table Values

Unlike the Type II and Type IV generic holdover time table values, there is no specific protocol in place for determining Type I generic holdover time table values. Moreover, unlike the Type II/IV generic values, the Type I generic values are relatively static and do not change as Type I fluids are added or removed from the list of qualified fluids.

The static nature of the Type I generic values is supported by a significant body of research and testing that has shown that all Type I fluids formulated with glycol perform similarly from an endurance time perspective. New glycol-based fluids are no longer required to undergo endurance time testing.

As a result of extensive research and testing, which showed that holdover times of Type I fluids are shorter on composite surfaces than on aluminum surfaces, holdover times for Type I fluids on composite surfaces were added to the HOT Guidelines starting in the winter of 2010-11. The existing Type I holdover times remained in place for aluminum surfaces.

A summary of how the current Type I holdover times were derived, as well as the data sets that were used in their determinations, is provided below.

- The **Type I aluminum snow** holdover times are derived from regression analysis of the 2001-02 Type I snow data set. Testing was conducted in the winter of 2001-02 using a new test protocol and a number of representative Type I fluids. The tests are documented in the TC report, TP 13994E, *Generation of Holdover Times Using the New Type I Fluid Test Protocol* (3).
- The **Type I aluminum freezing precipitation** holdover times are not derived from regression analysis. They were established in the early 1990s and substantiated by testing conducted up to and including the winter of 1995-96. The values in the “below -3 to -6 °C” row were added in the winter of 2003-04 following testing with five representative Type I fluids in the winter of 2002-03. A detailed description of the evolution of the Type I aluminum freezing precipitation holdover times is provided in Appendix B of the TC report, TP 15052E, *Development of Type I Fluid Holdover Times for Use on Aircraft with Composite Surfaces* (Vol. 1) (4). Tests conducted for the “below -3 to -6 °C” row are documented in Subsection 8.4.2 of the TC report, TP 14144E, *Aircraft Ground De/Anti-Icing Fluid Holdover Time Development Program for the 2002-03 Winter* (5).

- The **Type I composite snow** holdover times were derived from regression analysis of the Type I composite snow data set, which includes data collected in the winters of 2006-07, 2007-08, and 2009-10. A detailed description of these data, as well as the derivation of the Type I composite snow holdover times from these data, is provided in TP 15052E (Vol. 1) (4).
- The **Type I composite freezing precipitation** holdover times were derived from endurance time testing conducted in 2009-10. Although regression analysis formed part of the analysis that determined the HOT values, the holdover times were not derived directly from the regression analysis. A detailed description of the data set, as well as the methodology used to derive the Type I composite freezing precipitation holdover times, is provided in TP 15052E (Vol. 1) (4).

3.6 Status of Type III Generic Holdover Time Table

Prior to the winter of 2015-16, no fluid-specific holdover time tables were published for Type III fluids. A generic holdover time table was published based loosely on the endurance time performance of the first next-generation Type III fluid. However, that changed in 2015-16 when regulators decided to publish fluid-specific holdover time tables for Type III fluids. These tables include data specific to fluid application temperature and aircraft rotation speed.

Currently, only one Type III fluid is listed in the HOT Guidelines. As a result, no Type III generic holdover time table is currently published.

3.7 Differences Between the TC and FAA Holdover Time Table Values

There are differences between the TC and FAA holdover time table values. The reasons for the differences and the holdover time tables that are impacted are described below.

1. **Snow cells:** TC caps snow holdover times at 2 hours; the FAA caps snow holdover times at 3 hours. This results in different holdover times in some cases. The holdover time tables impacted include the following: select Type II fluid-specific, Type IV fluid-specific, and Type IV generic.
2. **Light Freezing Rain “-3°C and Above” and “Below -3 to -6°C” cells:** the TC Type I holdover time tables give holdover times for these cells based on testing conducted at -6°C; the FAA Type I holdover time tables give holdover times for these cells based on testing conducted at -10°C. The holdover time tables impacted include the following: Type I.

4. DATA COLLECTION

The regression information underlying the HOT Guidelines was first collected and published in support of the Winter 2008-09 HOT Guidelines. Since then, the regression information has been updated annually to reflect the changes made to the HOT Guidelines. This section describes the evolution of the regression information (Subsection 4.1) and the data collected for the 2025-26 HOT Guidelines (Subsection 4.2).

Subsection 4.1 includes a year-by-year summary of the data collected, added, and removed over the past five years, focusing on changes most relevant to current operations. It also outlines any changes made to the way the information is published during that period. For details prior to this five-year period, please refer to previous editions of the report.

Subsection 4.2 details the data required, collected, and removed for the Winter 2025-26 publication. It also includes the source locations of the data contained in the 2025-26 publication.

4.1 Evolution of Regression Information

In the past, the regression information underlying the HOT Guidelines was not published in a format appropriate for use with LWES. The data were published only as part of the annual report on holdover time testing conducted by APS, and only the regression information for the fluids tested in a given year was published in the annual report for that year. As a result, the regression information was not readily available; multiple publications, some not yet available to the public, had to be consulted to obtain the data. Further complications, such as the testing of some fluids over multiple winters, made it difficult for LWES manufacturers to obtain the correct data.

4.1.1 Changes Required for the 2020-21 Holdover Time Guidelines

The regression information was updated in 2020 to reflect changes made to the HOT Guidelines for use in the winter of 2020-21.

1. Data were removed for one fluid that became obsolete and was removed from the HOT Guidelines for the winter of 2020-21:
 - ABAX Ecowing 26 (Type II).
2. Data were removed as the result of a change in LOUT for LNT E450 (Type IV) for the winter of 2020-21. The LOUT for this fluid is now -22.5°C ; data for this fluid for temperatures colder than -22.5°C have been removed.

Due to the COVID-19 pandemic, no new fluids or data were added to the HOT Guidelines for use in the winter of 2020-21. Further details can be found in the TC report, TP 15451E, *Regression Coefficients and Equations Used to Develop the Winter 2020-21 Aircraft Ground Deicing Holdover Time Tables* (6).

The 2020-21 online documents, *Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2020-2021* and *FAA Holdover Time Guidelines Regression Information Winter 2020-2021*, were published on the TC and FAA HOT Guidelines websites in August 2020.

4.1.2 Changes Required for the 2021-22 Holdover Time Guidelines

The regression information was updated in 2021 to reflect changes made to the HOT Guidelines for use in the winter of 2021-22.

1. Data were removed for two fluids that became obsolete and were removed from the HOT Guidelines for the winter of 2021-22:
 - Kilfrost Ice Clear II (Type II); and
 - LNT E450 (Type IV).
2. Data were collected and added to the regression database for nine new fluids that were added to the HOT Guidelines in 2021-22:
 - ROMCHIM ADD-PROTECT NG Type II (Type II);
 - AVIAFLUID AVIAFlight EG (Type IV);
 - AVIAFLUID AVIAFlight PG (Type IV);
 - AllClear ClearWing ECO (Type IV);
 - ASGlobal 4Flite EG (Type IV);
 - ASGlobal 4Flite PG (Type IV);
 - CHEMCO ChemR Nordik IV (Type IV);
 - JSC RCP Nordix Defrost NORTH 4 (Type IV); and
 - Newave Aerochemical FCY EGIV (Type IV).
3. Fluid-specific holdover times for very cold snow were added to the HOT Guidelines for several fluids:
 - AVIAFLUID AVIAFlight EG (Type IV);
 - AVIAFLUID AVIAFlight PG (Type IV);
 - AllClear ClearWing ECO (Type IV);
 - AllClear ClearWing EG (Type IV);

- CHEMCO ChemR EG IV (Type IV);
 - CHEMCO ChemR Nordik IV (Type IV);
 - Cryotech Polar Guard® Xtend (Type IV);
 - Newave Aerochemical FCY 9311 (Type IV); and
 - Newave Aerochemical FCY EGIV (Type IV).
4. Supplemental testing was conducted in 2020-21 with Cleanwing II to support a change to the fluid's snow holdover times. This resulted in the creation of light snow and very light snow columns within the Cleanwing II holdover time table. This research is documented in the TC report, TP 15494E, *Aircraft Ground De/Anti-Icing Fluid Holdover Time Development Program for the 2020-21 Winter (7)*; the related regression information was collected from that report.

Further details can be found in the TC report, TP 15495E, *Regression Coefficients and Equations Used to Develop the Winter 2021-22 Aircraft Ground Deicing Holdover Time Tables (8)*.

The 2021-22 online documents, *Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2021-2022* and *FAA Holdover Time Guidelines Regression Information Winter 2021-2022*, were published on the TC and FAA HOT Guidelines websites in August 2021.

4.1.3 Changes Required for the 2022-23 Holdover Time Guidelines

The regression information was updated in 2022 to reflect changes made to the HOT Guidelines for use in the winter of 2022-23.

1. Data were removed for one fluid that became obsolete and was removed from the HOT Guidelines for the winter of 2022-23:
 - Beijing Yadilite Aviation YD-102 Type II (Type II).
2. Data were collected and added to the regression database for two new fluids that were added to the HOT Guidelines in 2022-23:
 - Kilfrost Ice Clear II (Type II); and
 - MKS DevO COREICEPHOB TYPE II (Type II).
3. Fluid-specific holdover times for very cold snow were added to the HOT Guidelines for two fluids:
 - ASGlobal 4Flite EG (Type IV); and
 - ASGlobal 4Flite PG (Type IV).

4. Supplemental HUPR testing was conducted for three fluids to support a change to these fluids' HUPRs for snow:
 - ASGlobal 4Flite EG (Type IV);
 - ASGlobal 4Flite PG (Type IV); and
 - JSC RCP Nordix Defrost NORTH 4 (Type IV).

Further details can be found in the TC report, TP 15535E, *Regression Coefficients and Equations Used to Develop the Winter 2022-23 Aircraft Ground Deicing Holdover Time Tables* (9).

4.1.4 Changes Required for the 2023-24 Holdover Time Guidelines

The regression information was updated in 2023 to reflect changes made to the HOT Guidelines for use in the winter of 2023-24.

1. Data were removed for three fluids that became obsolete and were removed from the HOT Guidelines for the winter of 2023-24:
 - Newave Aerochemical FCY-2 Bio+ (Type II);
 - Clariant Max Flight 04 (Type IV); and
 - Shaanxi Cleanway Cleansurface IV (Type IV).
2. Data were removed for one fluid at the request of the manufacturer, and the fluid was removed from the HOT Guidelines for the winter of 2023-24:
 - JSC RCP Nordix Defrost EG 4 (Type IV).
3. Data were collected and added to the regression database for one new fluid that was added to the HOT Guidelines in 2023-24:
 - ALAB International PROFLIGHT EG 4 (Type IV).

Further details can be found in the TC report, TP 15558E, *Regression Coefficients and Equations Used to Develop the Winter 2023-24 Aircraft Ground Deicing Holdover Time Tables* (10).

4.1.5 Changes Required for the 2024-25 Holdover Time Guidelines

The regression information was updated in 2024 to reflect changes made to the HOT Guidelines for use in the winter of 2024-25.

1. Data were removed for six fluids from the HOT Guidelines for the winter of 2024-25:
 - Clariant Safewing MP II FLIGHT PLUS (Type II);
 - JSC RCO Nordix Defrost PG 2 (Type II);
 - AllClear ClearWing ECO (Type IV);
 - Clariant Max Flight AVIA (Type IV);
 - Clariant Max Flight SNEG (Type IV); and
 - Clariant Safewing EG IV NORTH (Type IV).
2. Data were collected and added to the regression database for replacing two existing fluids that were included in the HOT Guidelines for the winter of 2024-25:
 - MKS DevO Chemicals COREICEPHOB TYPE II (Type II); and
 - ALAB International PROFLIGHT EG4 (Type IV).
3. Data were collected and added to the regression database for four new fluids that were added to the HOT Guidelines for the winter of 2024-25:
 - ALAB International PROFLIGHT PG4 (Type IV);
 - Chongqing Joba Chemical FW-IV (Type IV);
 - MKS DevO Chemicals COREICEPHOB TYPE-IV PG (Type IV); and
 - Shaanxi Cleanway Cleansurface IV (Type IV).

Further details can be found in the TC report, TP 15607E, *Regression Coefficients and Equations Used to Develop the Winter 2024-25 Aircraft Ground Deicing Holdover Time Tables* (11).

4.2 Data for the 2025-26 Holdover Time Guidelines

The data required for the 2025-26 HOT Guidelines are detailed in this subsection. The data are detailed by fluid type: Type I in Subsection 4.2.1, Type II in Subsection 4.2.2, Type III in Subsection 4.2.3, and Type IV in Subsection 4.2.4.

Each subsection includes the following:

1. Data required: a description of the data required for the fluid type;
2. Data source(s): the original source location of the required data;
3. Data collection: the source of data collection for the 2024-25 publication; and
4. Data removal: a description of any data removed from the regression publication for Winter 2025-26.

Table 4.1, at the end of this section, summarizes the data included in the Winter 2025-26 regression publication.

4.2.1 Type I

4.2.1.1 Data Required

Regression information is required for the two generic Type I holdover time tables. As fluid-specific holdover time tables are not published for Type I fluids, no additional regression information is required.

4.2.1.2 Data Source(s)

The **Type I aluminum snow** holdover times are derived from regression analysis of the 2001-02 Type I snow data set (see Subsection 3.3). The data set is documented in TP 13994E (3).

The **Type I aluminum freezing precipitation** holdover times are not derived from regression analysis (see Subsection 3.3). The Type I aluminum freezing precipitation coefficients were calculated in 2008 using the values in the 2008-09 Type I holdover time table.

The **Type I composite snow** holdover times are derived from regression analysis of the Type I composite snow data set (which includes data from tests conducted in 2006-07, 2007-08, and 2009-10; see Subsection 3.3). The data set is documented in TP 15052E (Vol. 1) (4).

The **Type I composite freezing precipitation** holdover times are based on data collected in 2009-10. However, they are not derived directly from regression analysis (see Subsection 3.3). The data are documented in TP 15052E (Vol. 1) (4). As the holdover times are not derived directly from regression analysis, TP 15052E (4) does not include regression information. Therefore, the Type I freezing precipitation coefficients were calculated in 2010 using the 2010-11 HOT values. The calculations are detailed in Appendix C of TP 15054E (7).

4.2.1.3 Data Collection

The Type I regression information was collected previously (see Table 4.1) and was obtained from the previous regression publication, TP 15607E (11).

4.2.1.4 Data Removed

No Type I data were removed from the HOT Guidelines in 2025-26; therefore, no Type I data were removed from the regression publication.

4.2.2 Type II

4.2.2.1 Data Required

Regression information was required for the 11 Type II fluid-specific holdover time tables in the 2025-26 HOT Guidelines:

1. ABAX ECOWING AD-2;
2. Aviation Xi'an High-Tech Cleanwing II;
3. Clariant Safewing MP II FLIGHT;
4. Cryotech Polar Guard® II;
5. ESSPO CHEMICALS D.O.O Nordwing PG2;
6. Kilfrost ABC-K Plus;
7. Kilfrost Ice Clear II;
8. MKS DevO Chemicals COREICEPHOB TYPE II;
9. Newave Aerochemical FCY-2;
10. ROMCHIM ADD-PROTECT NG Type II; and
11. ROMCHIM ADD-PROTECT Type II.

Regression information was also required for the Type II generic holdover time table. As detailed in Subsection 3.2, the generic Type II holdover time table values are based on the shortest holdover times of all fluids on the TC and FAA lists of Type II fluids (see note on qualified fluids in Subsection 3.2.1).

As all Type II fluids had fluid-specific holdover time tables, and regression information was collected for those tables, no additional regression information was required to calculate the generic Type II holdover times.

4.2.2.2 Data Source(s)

Type II fluid-specific regression information was derived from holdover time testing conducted with the associated Type II fluids. The holdover time testing has been carried out over many years (see Table 4.1). These data were available from the reports on holdover time testing published annually.

4.2.2.3 Data Collection

Most of the data supporting the Type II regression information were collected previously (see Table 4.1) and were obtained from the previous regression publication, TP 15607E (11). However, one existing fluid, MKS DevO Chemicals COREICEPHOB TYPE II, underwent additional data collection in 2023-24 and 2024-25 in very cold snow, and these data have been incorporated. Additionally, one new fluid, ESSPO CHEMICALS D.O.O Nordwing PG2, was incorporated following data collection in 2024-25, which included both standard HOT testing and very cold snow testing.

4.2.2.4 Data Removed

The 75/25 and 50/50 fluid dilutions for the Type II fluid Newave Aerochemical FCY-2 were removed from the HOT Guidelines for 2025-26. The regression information for the related data was correspondingly removed from the regression publication.

4.2.3 Type III

4.2.3.1 Data Required

Regression information was required for three Type III fluid-specific holdover time tables in the 2025-26 HOT Guidelines:

1. AllClear AeroClear MAX, applied unheated, low speed;
2. AllClear AeroClear MAX, applied unheated, middle speed; and
3. AllClear AeroClear MAX, applied unheated, high speed.

It should be noted that the regression information for the low-speed, middle-speed, and high-speed holdover time tables is the same. The only difference is the temperatures at which the information is valid.

4.2.3.2 Data Source(s)

Type III regression information was derived from holdover time testing conducted with the associated Type III fluids using test procedures applicable to heated or unheated fluid applications. The holdover time testing was carried out over several winters (see Table 4.1). The data were available in the reports on holdover time testing published for the years the fluid was tested.

4.2.3.3 Data Collection

Regression information for all Type III holdover time tables was collected previously (see Table 4.1) and was obtained from the previous regression publication, 15607E (11).

4.2.3.4 Data Removed

No Type III data were removed from the HOT Guidelines or the regression publication for 2025-26.

4.2.4 Type IV

4.2.4.1 Data Required

Regression information was required for the 30 Type IV fluid-specific holdover time tables in the 2025-26 HOT Guidelines:

1. ABAX ECOWING AD-49;
2. AFLRUS LLC Green Flo Type 4;
3. ALAB International PROFLIGHT EG4;
4. ALAB International PROFLIGHT PG4;
5. AllClear Clear IV Flight;
6. AllClear ClearWing EG;
7. ASGlobal 4Flite EG;
8. ASGlobal 4Flite PG;
9. AVIAFLUID AVIAFlight EG;
10. AVIAFLUID AVIAFlight PG;
11. CHEMCO ChemR EG IV;
12. CHEMCO ChemR Nordik IV;
13. Chongqing Joba Chemical FW-IV;
14. Clariant Safewing MP IV LAUNCH;
15. Clariant Safewing MP IV LAUNCH PLUS;
16. Cryotech Polar Guard[®] Advance;
17. Cryotech Polar Guard[®] Xtend;
18. Dow Inc. UCAR ENDURANCE[™] EG106 ADF/AAF;
19. Dow Inc. UCAR[™] FLIGHTGUARD[™] AD-49;

20. ESSPO CHEMICALS D.O.O Nordwing PG4;
21. Inland Technologies ECO-SHIELD®;
22. JSC RCP Nordix Defrost ECO 4;
23. JSC RCP Nordix Defrost NORTH 4;
24. Kilfrost ABC-S Plus;
25. MKS DevO Chemicals COREICEPHOB TYPE-IV PG;
26. Newave Aerochemical FCY 9311;
27. Newave Aerochemical FCY-EGIV;
28. Newave Aerochemical FCY-EGIV PLUS;
29. Shaanxi Cleanway Cleansurface IV; and
30. Xinjiang Zhongtian Liyang Aviation Clearice-IV.

Regression information was also required for the Type IV generic holdover time table. As detailed in Subsection 3.2, the generic Type IV holdover time table values were based on the shortest holdover times of all fluids on the TC and FAA lists of Type IV fluids (see note on qualified fluids in Subsection 3.2.1).

As all Type IV fluids had fluid-specific holdover time tables, and regression information was collected for those tables, no additional regression information was required to calculate the generic Type IV holdover times.

4.2.4.2 Data Source(s)

Type IV fluid-specific regression information was derived from holdover time testing conducted with the associated Type IV fluids. The holdover time testing has been carried out over many years (see Table 4.1). The data were available in the reports on holdover time testing published annually.

4.2.4.3 Data Collection

Most of the data supporting the Type IV regression information were collected previously (see Table 4.1) and were obtained from the previous regression publication, TP 15607E (11). However, two existing fluids, ALAB International PROFLIGHT EG4 and ALAB International PROFLIGHT PG4, underwent additional data collection in 2023-24 and 2024-25 in very cold snow, and these data have been incorporated. Additionally, five new fluids, AFLRUS LLC Green Flo Type 4, AllClear Clear IV Flight, ESSPO CHEMICALS D.O.O Nordwing PG4, Newave Aerochemical FCY-EGIV PLUS, and Xinjiang Zhongtian Liyang Aviation Clearice-IV, were incorporated following data collection in 2024-25, which included both standard HOT testing and very cold snow testing.

4.2.4.4 Data Removed

No Type IV data were removed from the HOT Guidelines or the regression publication for 2025-26.

4.2.5 Lowest Usable Precipitation Rates for Snow

Analysis conducted in the winter of 2011-12 determined that natural snow data for some fluids were insufficient to support extrapolation of the regression curves to very low rates of precipitation. LUPRs for snow were subsequently determined for each Type II, Type III, and Type IV fluid brand, fluid dilution, and air temperature. This work is documented in the TC report, TP 15202E, *Aircraft Ground Icing General Research Activities During the 2011-12 Winter* (12). As a result of this work, a table of LUPRs was added to the regression publication for Winter 2012-13.

Many LUPRs were modified as a result of additional snow data being collected in the winter of 2012-13 to develop light and very light snow holdover times for Type II/IV fluids. The table of LUPRs was updated accordingly in the 2013-14 regression publication. The analysis that resulted in the new LUPRs is documented in the TC report, TP 15228E, *Aircraft Ground De/Anti-Icing Fluid Holdover Time Development Program for the 2012-13 Winter* (13).

In the winter of 2016-17, refinements were made to the LUPR analysis methodology, resulting in some minor changes to LUPR values for existing fluids. These changes are documented in the TC report, TP 15374E, *Aircraft Ground Icing General Research Activities During the 2016-17 Winter* (14).

Subsequently, LUPRs have been added for all new Type II, III, and IV fluids added to the HOT Guidelines each winter. The LUPR values were collected from the same report from which the regression information was collected.

4.2.6 Highest Usable Precipitation Rates for Snow

Analysis conducted in the winters of 2014-15 through 2016-17 determined that natural snow data for some fluids were not sufficient to support extrapolation of the regression curves to heavy rates of precipitation (above 25 g/dm²/h). HUPRs for snow were subsequently determined for each Type II, III, and IV fluid brand, fluid dilution, and air temperature. This work is documented in TP 15374E (14). As a result of this work, a table of HUPRs was added to the regression publication for Winter 2017-18.

Subsequently, HUPRs have been added for all new Type II, III, and IV fluids added to the HOT Guidelines each winter. The HUPR values were collected from the same report from which the regression information was collected.

4.2.7 Summary

Table 4.1 lists the regression data sets that are required for the 2025-26 HOT Guidelines and their respective sources. The first column specifies the fluid type and data set name, the second column specifies the source data for the regression information, and the third column indicates the year in which the data set was first included in the regression information documents.

It should be noted that multiple data sets exist for some fluids. In these cases, the data were examined to determine which data sets were used to develop the current fluid-specific values in the associated holdover time table. In some cases, the regression coefficients from multiple data sets have been included in the final information.

For brevity, the following abbreviations have been used within Table 4.1:

- NS: Natural snow;
- HS: Heavy snow;
- VCS: Very cold snow; and
- ZP: Freezing precipitation (including freezing drizzle, freezing fog, freezing rain, and rain on a cold-soaked wing).

Some regression coefficients are not derived directly from regression analysis of holdover time test data, specifically Type I freezing precipitation values, generic Type II/IV snow values below -14°C , and fluid-specific Type II/III/IV snow values below -25°C for fluids with LOUTs below -29°C . To obtain regression coefficients for these data sets, each cell value was assumed to be a test data point, and these data points were regressed to determine the regression coefficients for the resulting best-fit curves. For cases where the cell value was 0 minutes, a value of 0.01 minutes was used as the data point value.

4.2.8 Data Verification

To verify the accuracy of the data provided in the regression coefficients tables, the data were used to generate values for a fluid-specific holdover time table for each fluid. This information was cross-referenced with the values provided in the published generic and fluid-specific holdover time tables. The values were found to be the same, thus ensuring the accuracy of the regression coefficients.

Table 4.1: Regression Data Sets Required for 2025-26

Fluid Type: Data Set Name	Source of Regression Data	Year Added to Regression Publication
Type I: Generic (Aluminum Snow)	HOT Testing: 2001-02	2008-09
Type I: Generic (Composite Snow)	HOT Testing: 2006-07, 2007-08, 2009-10	2010-11
Type I: Generic (Aluminum Freezing Precipitation)	Created from 2008-09 holdover time table values	2008-09
Type I: Generic (Composite Freezing Precipitation)	Created from 2010-11 holdover time table values	2010-11
Type II: ABAX ECOWING AD-2	HOT Testing: 2016-17	2017-18
Type II: Aviation Xi'an High-Tech Cleanwing II	HOT Testing: 2008-09, 2015-16 (NS), 2019-20 (VCS), 2020-21 (VCS, NS)	2009-10
Type II: Clariant Safewing MP II FLIGHT	HOT Testing: 2005-06, 2009-10, 2016-17 (VCS)	2008-09
Type II: Cryotech Polar Guard® II	HOT Testing: 2010-11, 2016-17 (VCS, HS) (Polar Guard® Advance)	2013-14
Type II: ESSPO CHEMICALS D.O.O Nordwing PG2	HOT Testing: 2024-25 (Standard HOT Testing, VCS)	2025-26
Type II: Kilfrost ABC-K Plus	HOT Testing: 2007-08	2008-09
Type II: Kilfrost Ice Clear II	HOT Testing: 2021-22 (Standard HOT Testing, VCS)	2022-23
Type II: MKS DevO Chemicals COREICEPHOB TYPE II	HOT Testing: 2021-22, 2023-24 (Standard HOT Testing), 2021-22, 2023-24, 2024-25 (VCS)	2022-23
Type II: Newave Aerochemical FCY-2	HOT Testing: 2006-07 (100/0 only)	2008-09
Type II: ROMCHIM ADD-PROTECT NG Type II	HOT Testing: 2019-20, 2020-21	2021-22

Table 4.1: Regression Data Sets Required for 2025-26 (cont'd)

Fluid Type: Data Set Name	Source of Regression Data	Year Added to Regression Publication
Type II: ROMCHIM ADD-PROTECT Type II	HOT Testing: 2018-19	2019-20
Type III: AllClear AeroClear MAX, Applied Unheated, Low Speed	HOT Testing: 2016-17	2017-18
Type III: AllClear AeroClear MAX, Applied Unheated, Medium Speed	HOT Testing: 2016-17	2022-23
Type III: AllClear AeroClear MAX, Applied Unheated, High Speed	HOT Testing: 2016-17	2017-18
Type IV: ABAX ECOWING AD-49	HOT Testing: 2008-09, 2016-17 (HS)	2009-10
Type IV: AFLRUS LLC Green Flo Type 4	HOT Testing: 2024-25 (Standard HOT Testing, VCS)	2025-26
Type IV: ALAB International PROFLIGHT EG 4	HOT Testing: 2023-24 (Standard HOT Testing), 2023-24, 2024-25 (VCS)	2023-24
Type IV: ALAB International PROFLIGHT PG 4	HOT Testing: 2023-24 (Standard HOT Testing), 2023-24, 2024-25 (VCS)	2024-25
Type IV: AllClear Clear IV Flight	HOT Testing: 2024-25 (Standard HOT Testing, VCS)	2025-26
Type IV: AllClear ClearWing EG	HOT Testing: 2018-19, 2019-20 (VCS), 2020-21 (VCS)	2019-20
Type IV: ASGlobal 4Flite EG	HOT Testing: 2020-21, 2021-22 (VCS, HUPR)	2021-22
Type IV: ASGlobal 4Flite PG	HOT Testing: 2020-21, 2021-22 (VCS, HUPR)	2021-22
Type IV: AVIAFLUID AVIAFlight EG	HOT Testing: 2019-20 (Standard HOT Testing, VCS), 2020-21 (VCS)	2021-22
Type IV: AVIAFLUID AVIAFlight PG	HOT Testing: 2019-20 (Standard HOT Testing, VCS), 2020-21 (VCS)	2021-22
Type IV: CHEMCO ChemR EG IV	HOT Testing: 2016-17, 2019-20 (VCS), 2020-21 (VCS)	2017-18

Table 4.1: Regression Data Sets Required for 2025-26 (cont'd)

Fluid Type: Data Set Name	Source of Regression Data	Year Added to Regression Publication
Type IV: CHEMCO ChemR Nordik IV	HOT Testing: 2019-20 (Standard HOT Testing, VCS), 2020-21 (VCS)	2021-22
Type IV: Chongqing Joba Chemical FW-IV	HOT Testing: 2023-24 (Standard HOT Testing, VCS)	2024-25
Type IV: Clariant Safewing MP IV LAUNCH	HOT Testing: 2005-06 (ZP), 2006-07 (NS), 2016-17 (VCS)	2008-09
Type IV: Clariant Safewing MP IV LAUNCH PLUS	HOT Testing: 2012-13, 2016-17 (VCS)	2013-14
Type IV: Cryotech Polar Guard® Advance	HOT Testing: 2010-11, 2016-17 (VCS, HS)	2011-12
Type IV: Cryotech Polar Guard® Xtend	HOT Testing: 2018-19, 2019-20 (VCS), 2020-21 (VCS)	2019-20
Type IV: Dow Inc. UCAR ENDURANCE™ EG106 ADF/AAF	HOT Testing: 2005-06, 2016-17 (VCS)	2008-09
Type IV: Dow Inc. UCAR™ FLIGHTGUARD™ AD-49	HOT Testing: 2008-09, 2016-17 (HS) (ABAX AD-49)	2010-11
Type IV: ESSPO CHEMICALS D.O.O Nordwing PG4	HOT Testing: 2024-25 (Standard HOT Testing, VCS)	2025-26
Type IV: Inland Technologies ECO-SHIELD®	HOT Testing: 2015-16	2015-16
Type IV: JSC RCP Nordix Defrost ECO 4	HOT Testing: 2016-17	2017-18
Type IV: JSC RCP Nordix Defrost NORTH 4	HOT Testing: 2020-21	2021-22
Type IV: Kilfrost ABC-S Plus	HOT Testing: 2006-07	2008-09
Type IV: MKS DevO Chemicals COREICEPHOB TYPE-IV PG	HOT Testing: 2023-24	2024-25
Type IV: Newave Aerochemical FCY 9311	HOT Testing: 2013-14, 2019-20 (VCS), 2020-21 (VCS)	2014-15

Table 4.1: Regression Data Sets Required for 2025-26 (cont'd)

Fluid Type: Data Set Name	Source of Regression Data	Year Added to Regression Publication
Type IV: Newave Aerochemical FCY-EGIV	HOT Testing: 2019-20 (Standard HOT Testing, VCS), 2020-21 (VCS)	2021-22
Type IV: Newave Aerochemical FCY-EGIV PLUS	HOT Testing: 2024-25 (Standard HOT Testing, VCS)	2025-26
Type IV: Shaanxi Cleanway Cleansurface IV	HOT Testing: 2023-24 (Standard HOT Testing, VCS)	2024-25
Type IV: Xinjiang Zhongtian Liyang Aviation Clearice-IV	HOT Testing: 2024-25 (Standard HOT Testing, VCS)	2025-26

5. REGRESSION INFORMATION PUBLICATION: 2025-26

The regression information required to substantiate the 2025-26 HOT Guidelines is provided in the TC document *Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2025-2026* and the FAA document *FAA Holdover Time Guidelines Regression Information Winter 2025-2026*.

The contents of these documents are described in this section. The documents have a similar structure and nearly identical contents (see Subsection 3.7).

The 2025-26 regression information documents were published by TC and the FAA on August 12, 2025 (see Subsection 5.8). Copies of these documents are included in Appendix B (TC) and Appendix C (FAA).

5.1 Highlights and Changes

The highlights and changes section, included at the beginning of the documents, provides a detailed account of the changes made for 2025-26.

5.2 Guidance Material

The regression information publications include guidance on how to interpret and apply the information in the regression coefficients tables and how to calculate the Type II and Type IV generic holdover times. The documents also provide descriptions of the verification tables and their purpose, the LUPRs and HUPRs, and several limitations of the data (see Subsection 5.7).

5.3 Regression Coefficients Tables

There are 46 regression coefficients tables in the 2025-26 regression information publications. A list of the tables is provided in Table 5.1.

Table 5.1: Regression Coefficients Tables for Winter 2025-26

Fluid Type	Regression Coefficients Tables
Type I	<ul style="list-style-type: none"> • Generic Type I (Aluminum Wing Surfaces) • Generic Type I (Composite Wing Surfaces)
Type II	<ul style="list-style-type: none"> • ABAX ECOWING AD-2 • Aviation Xi'an Hi-Tech Cleanwing II • Clariant Safewing MP II FLIGHT • Cryotech Polar Guard® II • ESSPO CHEMICALS D.O.O Nordwing PG2 • Kilfrost ABC-K Plus • Kilfrost Ice Clear II • MKS DevO Chemicals COREICEPHOB TYPE II • Newave Aerochemical FCY-2 • ROMCHIM ADD-PROTECT NG Type II • ROMCHIM ADD-PROTECT Type II
Type III	<ul style="list-style-type: none"> • AllClear AeroClear MAX, Applied Unheated, Low Speed • AllClear AeroClear MAX, Applied Unheated, Medium Speed • AllClear AeroClear MAX, Applied Unheated, High Speed
Type IV	<ul style="list-style-type: none"> • ABAX ECOWING AD-49 • AFLRUS LLC Green Flo Type 4 • ALAB International PROFLIGHT EG 4 • ALAB International PROFLIGHT PG 4 • AllClear Clear IV Flight • AllClear ClearWing EG • ASGlobal 4Flite EG • ASGlobal 4Flite PG • AVIAFLUID AVIAFlight EG • AVIAFLUID AVIAFlight PG • CHEMCO ChemR EG IV • CHEMCO ChemR Nordik IV • Chongqing Joba Chemical FW-IV • Clariant Safewing MP IV LAUNCH • Clariant Safewing MP IV LAUNCH PLUS • Cryotech Polar Guard® Advance • Cryotech Polar Guard® Xtend • Dow Inc. UCAR ENDURANCE™ EG106 ADF/AAF • Dow Inc. UCAR™ FLIGHTGUARD™ AD-49 • ESSPO CHEMICALS D.O.O Nordwing PG4 • Inland Technologies ECO-SHIELD® • JSC RCP Nordix Defrost ECO 4 • JSC RCP Nordix Defrost NORTH 4

Table 5.1: Regression Coefficients Tables for Winter 2025-26 (cont'd)

Fluid Type	Regression Coefficients Tables
Type IV	<ul style="list-style-type: none">• Kilfrost ABC-S Plus• MKS DevO Chemicals COREICEPHOB TYPE-IV PG• Newave Aerochemical FCY 9311• Newave Aerochemical FCY-EGIV• Newave Aerochemical FCY-EGIV PLUS• Shaanxi Cleanway Cleansurface IV• Xinjiang Zhongtian Liyang Aviation Clearice-IV

5.3.1 Table Format and Footnotes

With one exception, each regression coefficients table is presented in the format of its corresponding holdover time table. A footnote is associated with each column heading to indicate the form of the regression equation for the cells in that column. The regression coefficients required for the equation are provided in the corresponding cells below.

The exception is in the Type II/IV tables, which have a single temperature band that provides the regression coefficients for both the “below -3 to -8°C” and “below -8 to -14°C” temperature bands in the holdover time tables. This was done because the regression coefficients are the same for both temperature bands.

The coefficients provided in each table cell are valid only for the conditions of the cell (i.e., temperature, precipitation type, and fluid dilution). In cells where no temperature coefficient (coefficient “B”) is provided, temperature is not an input in the equation. The regression coefficients are derived using the lowest temperature in the temperature range of the cell and must then be used for all temperatures in the cell.

Additional footnotes are provided for several of the tables. Two sets of coefficients are provided in some table cells, as different data sets are responsible for the upper and lower values in the cell (see Subsection 4.2.7). A footnote on these cells indicates that each set of regression coefficients must be used to calculate a holdover time and that the shortest holdover time calculated is the value that must be used.

Footnotes are also used to highlight discrepancies that may be encountered if the regression coefficients are used to calculate the values provided in the HOT Guidelines.

As per the protocol described in Subsection 3.1, generic regression coefficients are included in the “below -14 to -18°C,” “below -18 to -25°C,” and “below -25 to LOUT” snow cells for many Type II and Type IV fluids.

5.4 Data Verification Tables

Verification tables are included in the regression information publications. The values in these tables were calculated using the regression coefficients provided in the publications. There is a verification table provided for each data set listed in Table 5.1.

Verification tables are also provided for the generic Type II and generic Type IV holdover time tables. The values in these tables were determined using the methodologies for calculating Type II and Type IV generic holdover times detailed in Subsection 3.2.

Each verification table provides HOT values for select boundary conditions in the associated holdover time table. The verification tables can be used as aids for LWES manufacturers during the development process. These tables are not exhaustive, and manufacturers are cautioned that they must develop comprehensive verification and validation methods covering normal and exceptional conditions (e.g., values outside of the temperature range) to ensure the adequacy of their software algorithms.

5.5 Table of Lowest Usable Precipitation Rates in Snow

A table of the LUPRs in snow is provided for each Type II, Type III, and Type IV fluid, for each fluid dilution, and for each outside air temperature. These values were determined through examination of the robustness of the snow data sets at low rates of precipitation. The LUPR is the lowest precipitation rate for which sufficient natural snow data exist to support the use of the regression coefficients. It is also the lowest snow precipitation rate that can be input into LWES.

5.6 Table of Highest Usable Precipitation Rates in Snow

A table of the HUPRs in snow is provided for each Type II, III, and IV fluid, for each fluid dilution, and for each outside air temperature. These values were determined through examination of the robustness of the snow data sets at high rates of precipitation. The HUPR is the highest precipitation rate for which sufficient natural snow data exist to support use of the regression coefficients. It is also the highest snow precipitation rate that can be input by LWES.

5.7 Data Limitations

There are several limitations on the regression coefficients and equations that must be considered by users of the data. These limitations are described in the guidance section of the regression information publications and detailed below.

5.7.1 Limitation #1: Air Temperature Greater Than or Equal To 0°C

The regression equations that include a temperature coefficient cannot be populated with temperature data greater than or equal to 2°C. This is a limitation of the form of the equation. Regulators have determined 0°C must be input into the LWES when the temperature is above 0°C. This is specified in the online documents and in the related guidance documents.

5.7.2 Limitation #2: Non-Standard Fluid Dilutions

The data cannot be interpolated to determine holdover times for fluid dilutions other than the standard 100/0, 75/25, and 50/50 mixtures. This is due to the complex, non-linear, fluid-specific relationship between fluid dilution and holdover time.

5.7.3 Limitation #3: Precipitation Rates Outside Rate Limit Boundaries

Caution must be taken when using the regression equations to calculate holdover times with precipitation rates outside of the precipitation rate limits used in the development of holdover time tables (see Subsection 2.1).

The regression coefficients are based on best-fit power-law curves, and the shape of these curves can result in extreme values outside the precipitation rate limits at which endurance time tests are conducted. Caution must be exercised in applying the regression coefficients at precipitation rates outside of the precipitation rate limits, especially at precipitation rates below the lower limit where the power-law curves give much longer holdover times.

This limitation is illustrated in the sample regression shown in Figure 5.1. This example illustrates that at precipitation rates below the lower rate limit at which tests are conducted (5 g/dm²/h in this example), derived holdover times can increase substantially with a small decrease in precipitation rate. For example, at the lower rate limit of 5 g/dm²/h, the endurance time is approximately 82 minutes; at a slightly lower rate of 3 g/dm²/h, the endurance time increases to 122 minutes.

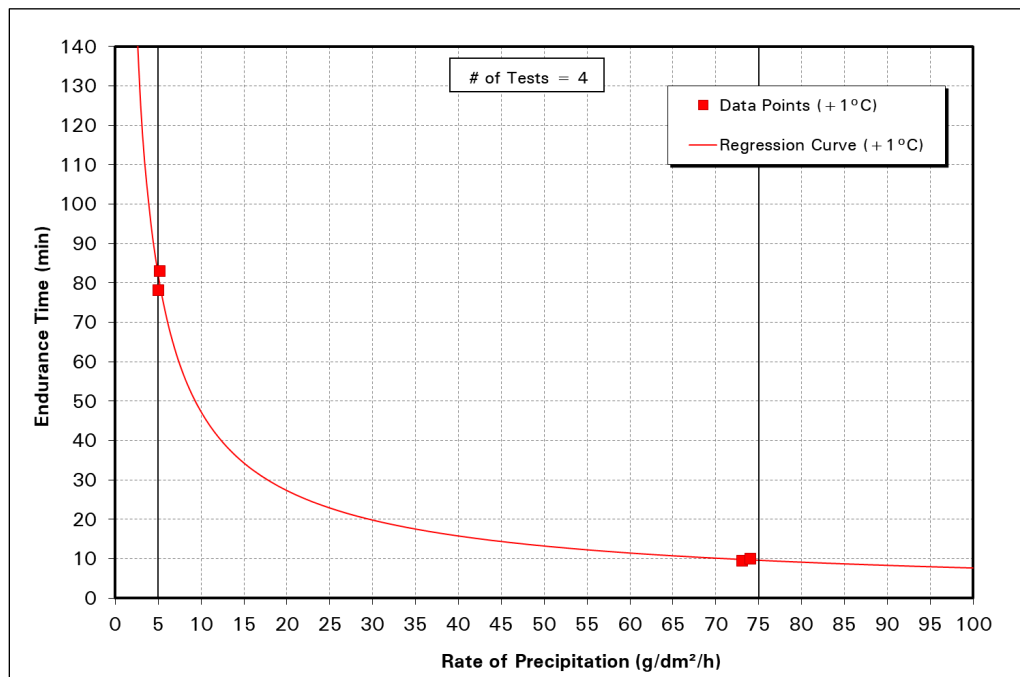


Figure 5.1: Sample Regression Curve – Cold-Soaked Wing

5.7.4 Limitation #4: Usable Precipitation Rates

The lowest and highest precipitation rates that can be input into the regression equations are determined by the more restrictive of the following:

- Lowest/highest rates provided in the applicable regulatory document (the FAA advisory circular or the TC exemption document) for each precipitation type;
- Minimum demonstrated precipitation measuring equipment rates in accordance with the applicable regulatory document (the FAA advisory circular or the TC exemption document); and
- For snow only, the LUPRs/HUPRs provided respectively in Table 5 and Table 6 of the online documents (see Subsections 5.5 and 5.6).

5.7.5 Limitation #5: Holdover/Allowance Times Without Regression Information

Regression is currently not used in the determination of frost holdover times or any allowance times (applicable to ice pellets, small hail, and ice pellets mixed with other types of precipitation). Therefore, LWES cannot use regression-based calculations to provide frost holdover times or any allowance times.

5.8 Document Publication

The regression information required for the 2025-26 HOT Guidelines was published online by TC and the FAA in August 2025.

TC published the document *Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2025-2026* on August 12, 2025. Information on how to request the document is available here:

- <https://www.tc.gc.ca/en/services/aviation/general-operating-flight-rules/de-icing-aircraft/hold-over-guidelines.html>

The FAA published the document *FAA Holdover Time Guidelines Regression Information Winter 2025-2026* on August 12, 2025. The document is available here:

- https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/deicing/

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6. CONCLUSIONS

The regression information required for the 2025-26 HOT Guidelines was published online by TC and the FAA on August 12, 2025.

The data required, collected, and removed for the 2025-26 online publications were documented in this report. The data were collected from the previous regression reports. The data were primarily sourced from the results of holdover time testing conducted from the winters of 1996-97 to 2024-25.

The regression coefficients and equations can be used as inputs in LWES, HOTDS, and CTDS for the winter of 2025-26. However, users are cautioned that care must be taken in the application of the regression information. There are several rules, exceptions, and cautions detailed in this report, in the online publications, and in the HOT Guidelines themselves that must be respected. It is also important to note that additional restrictions may be placed on the usage of the data by regulators (for example, by the TC exemption document or the FAA advisory circular).

Because the HOT Guidelines are updated on an annual basis and include changes such as the addition of newly qualified fluids, the removal of unavailable fluids, and modifications to the generic tables, the regression information must also be updated on an annual basis. This includes the regression information provided in the online publications and in this report.

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7. RECOMMENDATIONS

Due to the dynamic nature of the holdover time tables, it is recommended that the regression information publications – the online documents and this report – be updated and published on an annual basis.

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APPENDIX A

**TRANSPORT CANADA
STATEMENT OF WORK EXCERPT –
AIRCRAFT & ANTI-ICING FLUID WINTER TESTING 2024-25**

**TRANSPORT CANADA
STATEMENT OF WORK EXCERPT –
AIRCRAFT & ANTI-ICING FLUID WINTER TESTING 2024-25**

17. Update: Regression Coefficients Used to Compute Holdover Times

- a) Update the TC and FAA regression coefficients tables and verification tables to reflect changes made to the HOT guidelines for the new winter operating season.
- b) Prepare a final report to document the applicable regression coefficients underlying the new winter's published holdover guidelines.

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APPENDIX B

**TRANSPORT CANADA
HOLDOVER TIME (HOT) GUIDELINES
REGRESSION INFORMATION –
WINTER 2025-2026**

Transport Canada Holdover Time (HOT) Guidelines Regression Information Winter 2025-2026

Original Issue: August 12, 2025

This document should be used in conjunction with the Transport Canada Holdover Time Guidelines, available at:
<https://tc.canada.ca/en/aviation/general-operating-flight-rules/holdover-time-hot-guidelines-icing-anti-icing-aircraft>.

Questions or comments on the content of the holdover time guidelines should be addressed to Transport Canada - Commercial Flight Standards by e-mail at AARTFInfo-InfoAARTF@tc.gc.ca.

To receive notification of HOT Guideline updates, subscribe to or update your e-news subscription at the following Transport Canada Web site:
<http://wwwapps.tc.gc.ca/Comm/5/ListServ/menu.aspx>.
Subscribing to e-news will require an email address and selecting Holdover Time (HOT) Guidelines under Publications / Air Transportation / Aviation Safety / Safety Information.

CHANGE CONTROL RECORDS

This page indicates any changes made to individual pages within the document. Changed pages have the appropriate revision date in the footer. Sidebars are shown to assist in identifying where changes have been made on these pages.

It is the responsibility of the end user to periodically check the following website for updates on Regression Information: <https://tc.canada.ca/en/aviation/general-operating-flight-rules/holdover-time-hot-guidelines-icing-anti-icing-aircraft>.

<i>REVISION</i>	<i>DATE</i>	<i>DESCRIPTION OF CHANGES</i>	<i>AFFECTED PAGES</i>	<i>AUTHOR</i>

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE OF CONTENTS

Change Control Records..... 2
Table of Contents 3
List of Tables 4
Highlights and Changes for Winter 2025-2026 6
Guidance for Using Regression Information 7
Regression Information Tables for Winter 2025-2026 10

LIST OF TABLES

Table 1-1: Generic Type I (Aluminum Wing Surfaces)	11
Table 1-2: Generic Type I (Composite Wing Surfaces)	12
Table 2-1: ABAX ECOWING AD-2	13
Table 2-2: Aviation Xi'an High-Tech Cleanwing II	14
Table 2-3: Clariant Safewing MP II FLIGHT	15
Table 2-4: Cryotech Polar Guard® II	16
Table 2-5: ESSPO CHEMICALS Nordwing PG2	17
Table 2-6: Kilfrost ABC-K Plus	18
Table 2-7: Kilfrost Ice Clear II	19
Table 2-8: MKS DevO Chemicals COREICEPHOB Type II	20
Table 2-8 (Cont'd): MKS DevO Chemicals COREICEPHOB Type II	21
Table 2-9: Newave Aerochemical FCY-2	22
Table 2-10: ROMCHIM ADD-PROTECT NG Type II	23
Table 2-11: ROMCHIM ADD-PROTECT Type II	24
Table 2-12: Type II Generic	25
Table 3-1: AllClear AeroClear MAX, Applied Unheated on Low Speed Aircraft	26
Table 3-2: AllClear AeroClear MAX, Applied Unheated on Middle Speed Aircraft	27
Table 3-3: AllClear AeroClear MAX, Applied Unheated on High Speed Aircraft	28
Table 4-1: ABAX ECOWING AD-49	29
Table 4-2: AFLRUS LLC Green Flo Type 4	30
Table 4-3: ALAB International PROFLIGHT EG4	31
Table 4-4: ALAB International PROFLIGHT PG4	32
Table 4-5: AllClear Clear IV Flight	33
Table 4-6: AllClear ClearWing EG	34
Table 4-7: ASGlobal 4Flite EG	35
Table 4-8: ASGlobal 4Flite PG	36
Table 4-9: AVIAFLUID AVIAFlight EG	37
Table 4-10: AVIAFLUID AVIAFlight PG	38
Table 4-11: CHEMCO ChemR EG IV	39
Table 4-12: CHEMCO ChemR Nordik IV	40
Table 4-13: CHhongqing Joba Chemical FW-IV	41
Table 4-14: Clariant Safewing MP IV LAUNCH	42
Table 4-15: Clariant Safewing MP IV LAUNCH PLUS	43
Table 4-16: Cryotech Polar Guard® Advance	44
Table 4-17: Cryotech Polar Guard® Xtend	45
Table 4-18: Dow Inc. UCAR ENDURANCE™ EG106 ADF/AAF	46
Table 4-19: Dow Inc. UCAR™ FLIGHTGUARD™ AD-49	47
Table 4-20: ESSPO CHEMICALS Nordwing PG4	48
Table 4-21: Inland Technologies ECO-SHIELD®	49
Table 4-22: JSC RCP Nordix Defrost ECO 4	50
Table 4-23: JSC RCP Nordix Defrost NORTH 4	51
Table 4-24: Kilfrost ABC-S Plus	52
Table 4-25: MKS DevO Chemicals COREICEPHOB TYPE-IV PG	53
Table 4-26: Newave Aerochemical FCY 9311	54
Table 4-27: Newave Aerochemical FCY-EGIV	55
Table 4-28: Newave Aerochemical FCY-EGIV PLUS	56
Table 4-29: Shaanxi Cleanway Cleansurface IV	57
Table 4-30: Xinjiang Zhongtian Aviation Clearice-IV	58

TC HOT Guidelines Regression Information

Winter 2025-2026

Table 4-31: Type IV Generic 59
Table 5: Lowest Usable Precipitation Rates in Snow 60
Table 6: Highest Usable Precipitation Rates in Snow..... 62

TC HOT Guidelines Regression Information**Winter 2025-2026****HIGHLIGHTS AND CHANGES FOR WINTER 2025-2026**

The principal changes for this year are briefly indicated herein.

Type I Fluid

- The regression verification tables have been updated for all Type I fluids to incorporate the new precipitation of Moderate Snow mixed with Rain.

Type II Fluid

- The regression coefficients tables and verification tables have been added for the one new Type II fluid added to the holdover time (HOT) guidelines:
 - ESSPO CHEMICALS D.O.O Nordwing PG2 (Type II)
- The regression coefficients tables and verification tables have been updated for the two existing Type II fluids:
 - MKS DevO Chemicals COREICEPHOB Type II (Type II)
 - Newave Aerochemical FCY-2 (Type II)
- The regression verification tables have been updated for all Type II fluids to incorporate the new precipitation of Moderate Snow mixed with Rain.

Type III Fluid

- The regression verification tables have been updated for all Type III fluids to incorporate the new precipitation of Moderate Snow mixed with Rain.

Type IV Fluid

- The regression coefficients tables and verification tables has been added for the five new Type IV fluids, added to the holdover time (HOT) guidelines:
 - AFLRUS LLC Green Flo Type 4 (Type IV)
 - AllClear Systems Clear IV Flight (Type IV)
 - ESSPO CHEMICALS D.O.O Nordwing PG4 (Type IV)
 - Newave Aerochemical, FCY-EGIV PLUS (Type IV)
 - Xinjiang Zhongtian Liyang Aviation Clearice-IV (Type IV)
- The regression coefficients tables and verification tables have been updated for the two existing Type IV fluids:
 - ALAB International PROFLIGHT EG4 (Type IV)
 - ALAB International PROFLIGHT PG4 (Type IV)
- The regression verification tables have been updated for all Type IV fluids to incorporate the new precipitation of Moderate Snow mixed with Rain.

GUIDANCE FOR USING REGRESSION INFORMATION

Holdover time determination systems (HOTDS) are systems that use real-time collected weather data (e.g., temperature, precipitation type and precipitation rate) and regression information to calculate more precise holdover times than those obtained from the holdover time guidelines.

As a result of the development of HOTDS, Transport Canada is required to make the regression coefficients and equations underlying the holdover time tables available to users. The purpose of this document is to provide the holdover time guidelines regression information for the 2025-2026 holdover time guidelines and to provide guidance on its usage.

The sources of the regression data, along with a history of the publication of regression information, are documented in the latest Transport Canada report, *Regression Coefficients and Equations Used to Develop the Aircraft Ground Deicing Holdover Time Tables*. This document can be referenced for further information if required.

The use of these systems is only possible by operators meeting the conditions set out in the requirements in sections 7.1, 7.2, 9.1 and Appendix A - *Minimum Assurance Requirements and Performance Specifications for Holdover Time Determination Systems (HOTDS)* of Standard 622.11 (<http://www.tc.gc.ca/eng/civilaviation/regserv/cars/part6-standards-standard622-513.htm>).

Interpreting Regression Coefficients Tables

Regression information is provided in this document in a series of regression coefficients tables. Each regression coefficients table shows the regression coefficients and equations that are to be used to calculate holdover times at specific outside air temperatures, under specific precipitation types, with specific fluid dilutions (as applicable for Type II/III/IV fluids).

Each regression coefficients table is presented in the format of its corresponding holdover time table. One exception is the Type II and Type IV regression coefficients tables, which have a single temperature band (below -3 to -14°C) which provides the regression coefficients for both the below -3 to -8°C and below -8 to -14°C temperature bands in the Type II and Type IV holdover time tables. A footnote is provided at the top of each column to indicate the form of the regression equation for the cells in that column. The regression coefficients required for the equation are given in the corresponding cells below.

The coefficients provided in each table cell are valid only for the conditions (temperature, precipitation type, fluid dilution) of that cell. In cells where no temperature coefficient (coefficient "B") is provided, temperature is not an input into the equation.

Applicability of Regression Coefficients Tables

The Type I generic regression coefficients tables are applicable for all Type I fluids. Fluid-specific regression coefficients tables are available and applicable for all Type II, Type III, and Type IV fluids. If the specific fluid being used is not known, the methodology for calculating Type II or Type IV generic holdover times must be followed (see next page).

To use the regression information provided in this document to obtain holdover times that are valid for operations in which flaps/slats are deployed prior to de/anti-icing: use the regression information applicable to the fluid and weather condition and multiply the result obtained by 76%.

TC HOT Guidelines Regression Information

Winter 2025-2026

Calculating Type II and Type IV Generic Holdover Times

Generic Type II and Type IV holdover times are used when a flight crew is unaware of the specific fluid that has been used to de/anti-ice their aircraft. The generic values represent the shortest possible holdover time of either all Type II or all Type IV fluids available. The following methodologies must be applied to HOTDS programming to enable the systems to determine generic Type II and Type IV holdover times.

Type II: To calculate Type II generic holdover times, the HOTDS must be programmed to calculate the holdover time for each Type II fluid on the Transport Canada list of fluids tested for anti-icing performance and aerodynamic acceptance and return the shortest holdover time calculated. This is the generic Type II holdover time.

Type IV: To calculate Type IV generic holdover times, the HOTDS must be programmed to calculate the holdover time for each Type IV fluid on the Transport Canada list of fluids tested for anti-icing performance and aerodynamic acceptance and return the shortest holdover time calculated. This is the generic Type IV holdover time.

Verification Tables

Verification tables are provided for each of the regression coefficients tables and for the generic Type II and generic Type IV holdover times. Each verification table provides verification values for select boundary conditions in the associated holdover time table. For Type II, III and IV fluids, the verification tables also include verification values for the lowest usable precipitation rate in snow.

NOTE: HOTDS manufacturers may find it useful to use these verification tables as an aid in verifying the implementation of their software algorithms. However, HOTDS manufacturers are cautioned that these tables are not all encompassing and that they must develop comprehensive verification and validation methods to ensure the adequacy of their software algorithms.

Lowest and Highest Usable Precipitation Rates in Snow (Table 5 and Table 6)

Snow test data for some fluids is not sufficient to support extrapolation of the regression curves to very low and/or very high rates of precipitation. The lowest usable precipitation rates (LUPRs) and highest usable precipitation rates (HUPRs) in snow have been identified and are included in Table 5 (LUPRs) and Table 6 (HUPRs) for Type II, III and IV fluids (Type I fluids are not affected). The LUPRs and HUPRs differ by fluid brand, fluid dilution and temperature.

NOTE: Currently LUPRs and HUPRs are provided for snow only; LUPRs and HUPRs are not provided for any other precipitation type. The lowest and highest precipitation rates that can be used in other precipitation types are specified in Appendix A - Minimum Assurance Requirements and Performance Specifications for Holdover Time Determination Systems (HOTDS) of Standard 622.11.

Limitations of Regression Information

Users are cautioned that care must be taken in the application of the regression information. There are several rules, exceptions and cautions detailed in both this document and in the holdover time guidelines that must be considered. It is also important to note that additional restrictions may be put on their usage in Appendix A - Minimum Assurance Requirements and Performance Specifications for Holdover Time Determination Systems (HOTDS) of Standard 622.11.

Several limitations on the usage of the regression information are listed below.

- The regression coefficients can only be used with liquid water equivalent information that is provided by an HOTDS in accordance with Appendix A of Standard 622.11.
- If regression equations include a temperature coefficient, 0°C must be input into the HOTDS when temperature is above 0°C.

TC HOT Guidelines Regression Information**Winter 2025-2026**

- Regression data is developed for specific fluid dilutions. The data cannot be interpolated to determine holdover times for use with dilutions other than the standard 100/0, 75/25 and 50/50 mixtures.
- The regression coefficients are based on best-fit power-law curves and the shape of these curves can result in extreme values outside the precipitation rate limits at which endurance time tests are conducted. Therefore, these values are not necessarily accurate. Caution must therefore be exercised when using the regression equations to calculate holdover times outside of the precipitation rate limits used in the development of holdover time tables, especially at precipitation rates below the lower precipitation rate limit, where the power-law curves give much longer holdover times.
- The lowest precipitation rate to be used as an input to the snow regression equations (this does not apply to other precipitation types) is constrained by the higher of the following:
 1. Minimum demonstrated precipitation measuring equipment rates in accordance with Appendix A of Standard 622.11 (in no case shall this be less than 2.0 g/dm²/h); and
 2. Lowest usable precipitation rate (LUPR) for each fluid/dilution/temperature as defined in Table 5 of this document. The LUPR is the lowest precipitation rate for which sufficient snow data exists to support use of the regression coefficients.
- The highest precipitation rate to be used as an input to the snow regression equations (this does not apply to other precipitation types) is constrained by the lower of the following:
 1. The highest precipitation rate for snow stated in Appendix A of Standard 622.11 (50 g/dm²/h); and
 2. The highest usable precipitation rate (HUPR) for each fluid/dilution/temperature as defined in Table 6 of this document. The HUPR is the highest precipitation rate for which sufficient snow data exists to support use of the regression coefficients.
- All other lowest and highest precipitation rates to be used as inputs to the regression equations are precipitation type dependent and provided in Appendix A of Standard 622.11.
- As regression coefficients and equations are not currently used in the determination of frost holdover times, regression coefficient information is not provided for frost.
- As regression coefficients and equations are not used in the determination of the allowance times provided for ice pellets, small hail and ice pellets mixed with other types of precipitation, regression coefficient information is not provided for allowance times.

TC HOT Guidelines Regression Information**Winter 2025-2026****REGRESSION INFORMATION TABLES FOR WINTER 2025-2026**

The regression information for winter 2025-2026 is presented in a series of tables on the following pages. The regression information tables are presented first and are followed by the tables of highest and lowest usable precipitation rates.

The regression information tables are sorted by fluid type (Type I, then Type II, then Type III, then Type IV). Within each fluid type group, the tables are arranged in alphabetical order. The tables are as follows:

- Tables 1-1 to 1-2: Type I Fluid Regression Information Tables
- Tables 2-1 to 2-12: Type II Fluid Regression Information Tables
- Tables 3-1 to 3-3: Type III Fluid Regression Information Tables
- Tables 4-1 to 4-31: Type IV Fluid Regression Information Tables

The tables of highest and lowest usable precipitation rates are presented following the regression information. The tables are as follows:

- Table 5: Lowest Usable Precipitation Rates
- Table 6: Highest Usable Precipitation Rates

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 1-1: GENERIC TYPE I (ALUMINUM WING SURFACES)

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions					
	Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}	Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
-3 °C and above (27 °F and above)	I = 1.3735 A = -0.4751	I = 2.0072 A = -0.5752 B = -0.5585	I = 1.3829 A = -0.3848	I = 1.4688 A = -0.6200	I = 0.9355 A = -0.3384	CAUTION: No holdover time guidelines exist
below -3 to -6 °C (below 27 to 21 °F)	I = 1.2734 A = -0.5299	I = 2.0072 A = -0.5752 B = -0.5585	I = 1.3842 A = -0.6152	I = 1.4688 A = -0.6200		
below -6 to -10 °C (below 21 to 14 °F)	I = 1.1678 A = -0.5575	I = 2.0072 A = -0.5752 B = -0.5585	I = 1.2545 A = -0.5857	I = 2.2598 A = -1.4012		
below -10 °C (below 14 °F)	I = 1.1473 A = -0.6415	I = 2.0072 A = -0.5752 B = -0.5585				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)

2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)

3 Type I aluminum snow values are rounded down to the nearest one minute (e.g., 6.5 mins = 6 mins, 18.6 mins = 18 mins) to determine holdover time table values

Outside Air Temp. (°C)	HOTDS Verification Times Under Various Weather Conditions (minutes)															
	As Calculated from Regression Coefficients															
	Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)				Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain*** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
	5	2	25	10	25	10	4	3	13	5	25	13	75	75	75	5
+1 / -3 *	11.0	17.0	6.5	11.0	6.5	11.0	18.6	22.0	9.0	13.0	4.0	6.0	2.0	2.0	2.0	5.0
-6	8.0	13.0	5.0	8.5	5.0	8.5	14.3	16.9	5.0	9.0	4.0	6.0				
-10	6.0	10.0	4.0	6.7	4.0	6.7	11.4	13.5	4.0	7.0	2.0	5.0				
-25	5.0	9.0	2.5	4.3	2.5	4.3	7.3	8.6								

* Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C

**Mixed snow and freezing fog calculated at the equivalent moderate snow, snow grains or snow pellets holdover times

***Mixed moderate snow and rain calculated at the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 1-2: GENERIC TYPE I (COMPOSITE WING SURFACES)
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions					
	Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}	Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
-3 °C and above (27 °F and above)	I = 1.3931 A = -0.6279	I = 1.6656 A = -0.7424 B = -0.2094	I = 1.4691 A = -0.5081	I = 1.4688 A = -0.6200	I = 1.1144 A = -0.5943	CAUTION: No holdover time guidelines exist
below -3 to -6 °C (below 27 to 21 °F)	I = 0.9976 A = -0.3140	I = 1.6656 A = -0.7424 B = -0.2094	I = 1.3842 A = -0.6152	I = 1.4688 A = -0.6200		
below -6 to -10 °C (below 21 to 14 °F)	I = 1.1308 A = -0.7565	I = 1.6656 A = -0.7424 B = -0.2094	I = 1.2545 A = -0.5857	I = 2.2598 A = -1.4012		
below -10 °C (below 14 °F)	I = 1.0289 A = -0.6107	I = 2.0072 A = -0.5752 B = -0.5585				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)

2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)

3 Type I composite snow values below 10 mins are rounded down to the nearest one minute (e.g., 2.5 mins = 2 mins) to determine holdover time table values

Outside Air Temp. (°C)	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients															
	Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)				Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain*** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
	5	2	25	10	25	10	4	3	13	5	25	13	75	75	75	5
1 / -3 *	9.0	16.0	3.0	6.0	3.0	6.0	11.8	14.6	8.0	13.0	4.0	6.0	1.0	1.0	1.0	5.0
-6	6.0	8.0	2.7	5.4	2.7	5.4	10.7	13.3	5.0	9.0	4.0	6.0				
-10	4.0	8.0	2.5	5.0	2.5	5.0	9.8	12.2	4.0	7.0	2.0	5.0				
-25	4.0	7.0	2.5	4.3	2.5	4.3	7.3	8.6								

* Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C

**Mixed snow and freezing fog calculated at the equivalent moderate snow, snow grains or snow pellets holdover times

***Mixed moderate snow and rain calculated at the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 2-1: ABAX ECOWING AD-2
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5300 A = -0.8946	I = 2.7889 A = -0.7155 B = -0.2871	I = 2.7889 A = -0.7155 B = -0.2871	I = 2.7889 A = -0.7155 B = -0.2871	I = 2.6240 A = -0.8987	I = 2.5285 A = -0.7682	I = 2.4977 A = -0.8034	CAUTION: No holdover time guidelines exist
	75/25	I = 1.9838 A = -0.1716	I = 2.5435 A = -0.7664 B = -0.0812	I = 2.5435 A = -0.7664 B = -0.0812	I = 2.5435 A = -0.7664 B = -0.0812	I = 2.2055 A = -0.5820	I = 2.2411 A = -0.6851	I = 2.3107 A = -0.8650	
	50/50	I = 1.6478 A = -0.5976	I = 2.0999 A = -0.7867 B = -0.1524	I = 2.0999 A = -0.7867 B = -0.1524	I = 2.0999 A = -0.7867 B = -0.1524	I = 1.6770 A = -0.6366	I = 1.5734 A = -0.5302		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5699 A = -1.2862	I = 2.7889 A = -0.7155 B = -0.2871	I = 2.7889 A = -0.7155 B = -0.2871	I = 2.7889 A = -0.7155 B = -0.2871	I = 2.6096 A = -1.0768	I = 2.3302 A = -0.7561		
	75/25	I = 2.4425 A = -1.2784	I = 2.5435 A = -0.7664 B = -0.0812	I = 2.5435 A = -0.7664 B = -0.0812	I = 2.5435 A = -0.7664 B = -0.0812	I = 2.7079 A = -1.3713	I = 2.3728 A = -0.7324		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.8390 A = -0.8725	I = 2.1496 A = -1.4094 B = 0.0000	I = 1.9908 A = -1.1457 B = 0.0000	I = 2.2123 A = -1.3672 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.8390 A = -0.8725	I = 2.0233 A = -1.7757 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -27 °C (below -13 to -17 °F)	100/0	I = 1.8390 A = -0.8725	I = 1.4031 A = -1.1696 B = 0.0000	I = 1.7565 A = -1.7565 B = 0.0000	I = 5.0259 A = -5.0259 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	80.3	182.3	29.0	56.0	38.7	74.6	176.5	42.0	99.0	28.5	47.1	7.4	7.4	9.8	86.3
	75/25	73.1	85.5	19.5	39.4	26.0	52.5	132.2	36.1	62.9	19.2	30.1	3.7	3.7	4.9	50.8
	50/50	17.0	29.4	5.9	12.1	7.8	16.1	41.5	9.3	17.1	6.8	9.6				
-8	100/0	46.9	152.3	23.8	45.8	31.7	61.1	144.7	25.7	71.9	18.8	30.8				
	75/25	35.4	114.2	18.5	37.2	24.6	49.6	124.9	15.1	56.2	22.3	36.1				
-10 / -14 ***	100/0	46.9	152.3	20.8	40.1	27.7	53.4	126.4	25.7	71.9	18.8	30.8				
	75/25	35.4	114.2	17.8	35.9	23.7	47.8	120.2	15.1	56.2	22.3	36.1				
-18	100/0	16.9	37.7	1.5	5.3	2.0	7.0	30.0								
-25	100/0	16.9	37.7	0.8	2.3	1.0	3.0	15.0								
-27	100/0	16.9	37.7	0.0	0.8	0.0	1.0	7.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 2-2: AVIATION XI'AN HIGH-TECH CLEANWING II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.2573 A = -0.7407	I = 2.6057 A = -0.6656 B = -0.3133	I = 2.6057 A = -0.6656 B = -0.3133	I = 2.6057 A = -0.6656 B = -0.3133	I = 2.1979 A = -0.5728	I = 2.2567 A = -0.6317	I = 2.1512 A = -0.6064	CAUTION: No holdover time guidelines exist
	75/25	I = 2.0742 A = -0.5411	I = 2.3044 A = -0.6229 B = -0.0204	I = 2.3044 A = -0.6229 B = -0.0204	I = 2.3044 A = -0.6229 B = -0.0204	I = 2.1475 A = -0.5338	I = 2.2158 A = -0.6683	I = 2.1568 A = -0.6861	
	50/50	I = 1.9836 A = -0.6276	I = 2.5060 A = -0.7213 B = -0.5237	I = 2.5060 A = -0.7213 B = -0.5237	I = 2.5060 A = -0.7213 B = -0.5237	I = 2.0341 A = -0.6288	I = 2.1847 A = -0.7830		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3283 A = -0.9431	I = 2.6057 A = -0.6656 B = -0.3133	I = 2.6057 A = -0.6656 B = -0.3133	I = 2.6057 A = -0.6656 B = -0.3133	I = 2.1441 A = -0.6033	I = 1.8282 A = -0.4021		
	75/25	I = 2.3328 A = -1.0611	I = 2.3044 A = -0.6229 B = -0.0204	I = 2.3044 A = -0.6229 B = -0.0204	I = 2.3044 A = -0.6229 B = -0.0204	I = 1.6685 A = -0.1061	I = 1.7474 A = -0.3274		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9950 A = -0.9540	I = 4.0861 A = -0.7279 B = -1.5166	I = 4.0861 A = -0.7279 B = -1.5166	I = 4.0861 A = -0.7279 B = -1.5166				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9950 A = -0.9540	I = 4.0861 A = -0.7279 B = -1.5166	I = 4.0861 A = -0.7279 B = -1.5166	I = 4.0861 A = -0.7279 B = -1.5166				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients															
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)		
		5	2	25	10	25	10	LUPR ¹	13	5	25	13	75	75	75	5	
+1 / -3 **	100/0	54.9	108.2	21.5	39.5	28.6	52.6	117.3	36.3	62.7	23.6	35.7	7.7	7.7	10.3	53.4	
	75/25	49.7	81.5	19.7	34.9	26.3	46.5	98.4	35.7	59.5	19.1	29.6	5.6	5.6	7.4	47.6	
	50/50	35.1	62.3	10.1	19.7	13.5	26.2	62.5	21.6	39.3	12.3	20.5					
-8	100/0	46.7	110.8	17.3	31.7	23.0	42.3	94.4	29.7	52.8	18.5	24.0					
	75/25	39.0	103.1	19.4	34.4	25.9	45.8	97.0	35.5	39.3	19.5	24.1					
-10 / -14 ***	100/0	46.7	110.8	14.9	27.4	19.9	36.5	81.4	29.7	52.8	18.5	24.0					
	75/25	39.0	103.1	19.2	34.1	25.6	45.4	96.1	35.5	39.3	19.5	24.1					
-18	100/0	21.3	51.0	9.4	18.2	12.5	24.3	58.3									
-25	100/0	21.3	51.0	5.9	11.6	7.9	15.4	37.0									

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 2-3: CLARIANT SAFEWING MP II FLIGHT
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4369 A = -0.1630	I = 2.7425 A = -0.5435 B = -0.3120	I = 2.7425 A = -0.5435 B = -0.3120	I = 2.7425 A = -0.5435 B = -0.3120	I = 2.6541 A = -0.6697	I = 2.9080 A = -0.8860	I = 2.4810 A = -0.7583	
	75/25	I = 2.3415 A = -0.4326	I = 3.0163 A = -0.7162 B = -0.5615	I = 3.0163 A = -0.7162 B = -0.5615	I = 3.0163 A = -0.7162 B = -0.5615	I = 2.1306 A = -0.2689	I = 2.5596 A = -0.7512	I = 2.5884 or I = 2.2277 A = -0.9638 or A = -0.7375	
	50/50	I = 2.2250 A = -0.6732	I = 2.2879 A = -0.7080 B = -0.2971	I = 2.2879 A = -0.7080 B = -0.2971	I = 2.2879 A = -0.7080 B = -0.2971	I = 1.7413 A = -0.3693	I = 1.9070 A = -0.6463		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.2233 A = -0.6827	I = 2.7425 A = -0.5435 B = -0.3120	I = 2.7425 A = -0.5435 B = -0.3120	I = 2.7425 A = -0.5435 B = -0.3120	I = 2.6220 A = -0.9557	I = 2.5701 A = -0.8095		
	75/25	I = 2.1182 A = -1.0244	I = 3.0163 A = -0.7162 B = -0.5615	I = 3.0163 A = -0.7162 B = -0.5615	I = 3.0163 A = -0.7162 B = -0.5615	I = 2.6085 or I = 2.7141 A = -1.0800 or A = -1.2023	I = 2.3076 A = -0.6932		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.8996 A = -0.6356	I = 6.2483 A = -1.1556 B = -2.8476	I = 6.2483 A = -1.1556 B = -2.8476	I = 6.2483 A = -1.1556 B = -2.8476				CAUTION: No holdover time guidelines exist
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.8996 A = -0.6356	I = 6.2483 A = -1.1556 B = -2.8476	I = 6.2483 A = -1.1556 B = -2.8476	I = 6.2483 A = -1.1556 B = -2.8476				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 1.8996 A = -0.6356	I = 6.2483 A = -1.1556 B = -2.8476	I = 6.2483 A = -1.1556 B = -2.8476	I = 6.2483 A = -1.1556 B = -2.8476				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6
 4 Calculate value using both sets of coefficients; take shortest holdover time calculated

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)	Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)		
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	210.4	244.2	43.7	71.8	58.2	95.7	184.1	80.9	153.5	46.7	83.4	8.6	8.6	11.5	89.3
	75/25	109.4	162.7	31.4	60.6	41.9	80.8	191.5	67.8	87.6	32.3	52.8	4.5	4.5	6.0	51.5
	50/50	56.8	105.3	9.2	17.7	12.3	23.6	55.3	21.4	30.4	10.1	15.4				
-8	100/0	55.7	104.2	35.2	57.8	46.9	77.1	148.3	36.1	89.9	27.4	46.6				
	75/25	25.2	64.5	21.3	41.1	28.4	54.8	129.7	23.7	71.4	21.8	34.3				
-10 / -14 ***	100/0	55.7	104.2	30.4	50.0	40.5	66.6	128.1	36.1	89.9	27.4	46.6				
	75/25	25.2	64.5	16.4	31.6	21.8	42.1	99.6	23.7	71.4	21.8	34.3				
-18	100/0	28.5	51.1	6.4	18.3	8.5	24.4	98.2								
-25	100/0	28.5	51.1	2.7	7.8	3.6	10.4	41.8								
-29	100/0	28.5	51.1	1.8	5.3	2.4	7.0	28.2								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 2-4: CRYOTECH POLAR GUARD® II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5794 A = -0.5025	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.2682 A = -0.2524	I = 2.2584 A = -0.2806	I = 2.6661 A = -0.7999	CAUTION: No holdover time guidelines exist
	75/25	I = 2.5776 A = -0.5705	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.2204 A = -0.1898	I = 2.8328 A = -0.8896	I = 2.6248 A = -0.8807	
	50/50	I = 2.1254 A = -0.6271	I = 2.8810 A = -1.0631 B = -0.5673	I = 2.8810 A = -1.0631 B = -0.5673	I = 2.8810 A = -1.0631 B = -0.5673	I = 2.2943 A = -0.9086	I = 2.3695 A = -0.9996		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5101 A = -1.1145	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.7077 A = -1.0390	I = 2.0801 A = -0.3886		
	75/25	I = 2.2594 A = -0.9785	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.4495 A = -0.9076	I = 2.0483 A = -0.3597		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9253 A = -0.6979	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9253 A = -0.6979	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134				
below -25 to -30.5 °C (below -13 to -23 °F)	100/0	I = 1.9253 A = -0.6979	I = 2.0544 A = -1.1592 B = 0.0000	I = 2.0544 A = -1.1592 B = 0.0000	I = 2.0544 A = -1.1592 B = 0.0000				

1 Regression Equation: $t = 10^3 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^3 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	169.1	268.0	49.2	85.2	65.6	113.6	233.5	97.1	123.5	73.5	88.3	11.0	11.0	14.7	127.9
	75/25	151.0	254.6	30.1	63.7	40.1	84.9	227.7	102.1	122.4	38.8	69.5	7.1	7.1	9.4	102.1
	50/50	48.6	86.4	7.5	19.8	10.0	26.4	94.9	19.2	45.6	9.4	18.0				
-8	100/0	53.8	149.5	36.3	62.9	48.4	83.8	172.4	35.5	95.8	34.4	44.4				
	75/25	37.6	92.2	23.6	50.1	31.5	66.8	179.1	27.4	65.3	35.1	44.4				
-10 / -14 ***	100/0	53.8	149.5	29.6	51.2	39.4	68.2	140.3	35.5	95.8	34.4	44.4				
	75/25	37.6	92.2	20.1	42.6	26.8	56.8	152.2	27.4	65.3	35.1	44.4				
-18	100/0	27.4	51.9	8.6	24.9	11.5	33.2	134.2								
-25	100/0	27.4	51.9	3.6	10.4	4.8	13.8	56.0								
-30.5	100/0	27.4	51.9	2.0	5.9	2.7	7.9	31.7								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 2-5: ESSPO CHEMICALS NORDWING PG2
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4914 A = -0.7105	I = 2.8949 A = -0.7581 B = -0.3527	I = 2.8949 A = -0.7581 B = -0.3527	I = 2.8949 A = -0.7581 B = -0.3527	I = 2.4158 A = -0.5492	I = 2.1981 A = -0.3494	I = 2.4454 A = -0.6143	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3833 A = -0.7941	I = 2.8949 A = -0.7581 B = -0.3527	I = 2.8949 A = -0.7581 B = -0.3527	I = 2.8949 A = -0.7581 B = -0.3527	I = 2.3727 A = -0.6066	I = 2.7322 A = -0.9280		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7518 A = -0.6827	I = 4.3464 A = -0.9392 B = -1.4611	I = 4.3464 A = -0.9392 B = -1.4611	I = 4.3464 A = -0.9392 B = -1.4611				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7518 A = -0.6827	I = 4.3464 A = -0.9392 B = -1.4611	I = 4.3464 A = -0.9392 B = -1.4611	I = 4.3464 A = -0.9392 B = -1.4611				
below -25 to -30 °C (below -13 to -22 °F)	100/0	I = 1.5558 A = -0.3434	I = 1.9177 A = -0.9366 B = 0.0000	I = 1.9177 A = -0.9366 B = 0.0000	I = 1.9177 A = -0.9366 B = 0.0000				

1 Regression Equation: $t = 10I RA$, where R = precipitation rate (g/dm²/h)

2 Regression Equation: $t = 10I RA (2-T)B$, where R = precipitation rate (g/dm²/h) and T = temperature (in °C)

3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR ⁶	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	98.8	189.5	29.1	58.3	38.8	77.7	193.5	63.7	107.6	51.2	64.4	14.8	14.8	19.7	103.8
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	67.3	139.4	22.8	45.6	30.4	60.8	151.5	49.8	88.9	27.2	49.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	67.3	139.4	19.3	38.6	25.7	51.5	128.4	49.8	88.9	27.2	49.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	18.8	35.2	10.2	24.1	13.6	32.1	99.4								
-25	100/0	18.8	35.2	6.6	15.5	8.8	20.7	64.1								
-30	100/0	20.7	28.3	3.1	7.2	4.1	9.6	29.6								

* Refer to Table 5 for the lowest usable precipitation rates in snow

** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C

*** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C

**** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times

***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 2-6: KILFROST ABC-K PLUS
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions					
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}	Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
-3 °C and above (27 °F and above)	100/0	I = 2.5148 A = -0.5532	I = 2.6804 A = -0.5771 B = -0.1414	I = 2.2527 A = -0.1978	I = 2.5473 A = -0.5588	I = 2.6523 A = -0.7393	CAUTION: No holdover time guidelines exist
	75/25	I = 2.3020 A = -0.4342	I = 2.5273 A = -0.6849 B = -0.0149	I = 2.3200 A = -0.3522	I = 2.4709 A = -0.5601	I = 2.5956 A = -0.7470	
	50/50	I = 1.9950 A = -0.6463	I = 2.3972 A = -0.8261 B = -0.5288	I = 1.7256 A = -0.3910	I = 2.0364 A = -0.7354		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.0780 A = -0.8928	I = 2.6804 A = -0.5771 B = -0.1414	I = 2.4865 A = -0.9979	I = 3.2510 A = -1.5260		
	75/25	I = 2.3405 A = -1.3357	I = 2.5273 A = -0.6849 B = -0.0149	I = 2.4921 A = -1.0863	I = 3.6906 A = -1.9574		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9498 A = -0.6590	I = 2.2123 A = -1.3672 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9498 A = -0.6590	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 1.9498 A = -0.6590	I = 5.0259 A = -5.0259 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	134.3	223.0	44.6	75.8	59.5	101.0	202.4	107.7	130.1	58.4	84.1	13.9	13.9	18.5	136.6
	75/25	99.7	148.4	27.2	50.9	36.3	67.9	127.2	84.7	118.5	48.7	70.3	11.8	11.8	15.7	118.4
	50/50	34.9	63.2	5.6	11.9	7.5	15.9	43.0	19.5	28.3	10.2	16.5				
-8	100/0	28.4	64.5	40.5	68.7	54.0	91.6	183.5	23.7	61.5	13.1	35.6				
	75/25	25.5	66.8	26.9	50.4	35.9	67.2	125.9	19.1	54.1	9.0	32.4				
-10 / -14 ***	100/0	28.4	64.5	37.9	64.3	50.5	85.7	171.7	23.7	61.5	13.1	35.6				
	75/25	25.5	66.8	26.7	50.1	35.6	66.8	125.0	19.1	54.1	9.0	32.4				
-18	100/0	30.8	56.4	1.5	5.3	2.0	7.0	7.0								
-25	100/0	30.8	56.4	0.8	2.3	1.0	3.0	3.0								
-29	100/0	30.8	56.4	0.0	0.8	0.0	1.0	1.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 2-7: KILFROST ICE CLEAR II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.3507 A = -0.6180	I = 2.6644 A = -0.6692 B = -0.1515	I = 2.6644 A = -0.6692 B = -0.1515	I = 2.6644 A = -0.6692 B = -0.1515	I = 2.3449 A = -0.5100	I = 2.6586 A = -0.7656	I = 2.6138 A = -0.7538	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4722 A = -0.9547	I = 2.6644 A = -0.6692 B = -0.1515	I = 2.6644 A = -0.6692 B = -0.1515	I = 2.6644 A = -0.6692 B = -0.1515	I = 2.5827 A = -1.0030	I = 2.3138 A = -0.5303		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7916 A = -0.3979	I = 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7916 A = -0.3979	I = 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987				
below -25 to -28 °C (below -13 to -18 °F)	100/0	I = 1.7916 A = -0.3979	I = 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987				

1 Regression Equation: $t = 10^3 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^3 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
5	2	25	10	25	10	LUPR ¹	13	5	25	13	75	75	75	5		
+1 / -3 **	100/0	82.9	146.1	31.5	58.1	42.0	77.5	173.5	59.8	97.4	38.8	63.9	11.9	11.9	15.9	122.2
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	63.8	153.0	28.4	52.4	37.8	69.8	156.2	29.2	76.1	37.4	52.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	63.8	153.0	26.4	48.8	35.2	65.0	145.4	29.2	76.1	37.4	52.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	32.6	47.0	11.6	21.7	15.5	28.9	65.8								
-25	100/0	32.6	47.0	6.2	11.6	8.2	15.4	35.1								
-28	100/0	32.6	47.0	5.0	9.2	6.6	12.3	28.1								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 2-8: MKS DEVO CHEMICALS COREICEPHOB TYPE II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

USE OF THE REGRESSION COEFFICIENTS TABLE

This fluid was retested with a Lowest On-Wing Viscosity (LOWV) below that of the original fluid sample tested. As per ARP 5718, the holdover times should be determined using the following protocol:

1. Generate outputs using regression coefficients from both the original and retested fluid samples.
2. Use the lowest value in each cell to establish the fluid holdover times.
3. Validate the calculated holdover times against the verification table provided on the subsequent page to ensure accuracy.

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
ORIGINAL FLUID SAMPLE									
-3 °C and above (27 °F and above)	100/0	I = 2.3217 A = -0.3631	I = 2.9268 A = -0.6775 B = -0.4716	I = 2.9268 A = -0.6775 B = -0.4716	I = 2.9268 A = -0.6775 B = -0.4716	I = 2.4040 A = -0.4677	I = 2.5645 A = -0.6443	I = 2.4656 A = -0.7099	CAUTION: No holdover time guidelines exist
	50/50	I = 2.1717 A = -0.5171	I = 2.4249 A = -0.6155 B = -0.0410	I = 2.4249 A = -0.6155 B = -0.0410	I = 2.4249 A = -0.6155 B = -0.0410	I = 2.2073 A = -0.4575	I = 2.3968 A = -0.6952		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3168 A = -0.8411	I = 2.9268 A = -0.6775 B = -0.4716	I = 2.9268 A = -0.6775 B = -0.4716	I = 2.9268 A = -0.6775 B = -0.4716	I = 2.4949 A = -0.9099	I = 2.3371 A = -0.7041		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.6667 A = -0.5734	I = 6.1052 A = -0.6203 B = -3.2300	I = 6.1052 A = -0.6203 B = -3.2300	I = 6.1052 A = -0.6203 B = -3.2300				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.6667 A = -0.5734	I = 6.1052 A = -0.6203 B = -3.2300	I = 6.1052 A = -0.6203 B = -3.2300	I = 6.1052 A = -0.6203 B = -3.2300				
below -25 to -27 °C (below -13 to -17 °F)	100/0	I = 1.6667 A = -0.5734	I = 6.1052 A = -0.6203 B = -3.2300	I = 6.1052 A = -0.6203 B = -3.2300	I = 6.1052 A = -0.6203 B = -3.2300				
RETESTED FLUID SAMPLE									
-3 °C and above (27 °F and above)	100/0	I = 2.4653 A = -0.5604	I = 3.1650 A = -0.8867 B = -0.4453	I = 3.1650 A = -0.8867 B = -0.4453	I = 3.1650 A = -0.8867 B = -0.4453	I = 2.4599 A = -0.5479	I = 2.3590 A = -0.5101	I = 2.5381 A = -0.7680	CAUTION: No holdover time guidelines exist
	50/50	I = 2.2046 A = -0.4409	I = 2.6577 A = -0.7712 B = -0.3219	I = 2.6577 A = -0.7712 B = -0.3219	I = 2.6577 A = -0.7712 B = -0.3219	I = 2.1779 A = -0.3968	I = 1.9533 A = -0.4099		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.1088 A = -0.6248	I = 3.1650 A = -0.8867 B = -0.4453	I = 3.1650 A = -0.8867 B = -0.4453	I = 3.1650 A = -0.8867 B = -0.4453	I = 2.7357 A = -1.1104	I = 2.1346 A = -0.4951		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.4812 A = -0.4205	I = 4.8603 A = -0.7571 B = -2.1166	I = 4.8603 A = -0.7571 B = -2.1166	I = 4.8603 A = -0.7571 B = -2.1166				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.4812 A = -0.4205	I = 4.8603 A = -0.7571 B = -2.1166	I = 4.8603 A = -0.7571 B = -2.1166	I = 4.8603 A = -0.7571 B = -2.1166				
below -25 to -27 °C (below -13 to -17 °F)	100/0	I = 1.4812 A = -0.4205	I = 4.8603 A = -0.7571 B = -2.1166	I = 4.8603 A = -0.7571 B = -2.1166	I = 4.8603 A = -0.7571 B = -2.1166				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 2-8 (CONT'D): MKS DEVO CHEMICALS COREICEPHOB TYPE II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	116.9	163.1	30.8	62.3	41.1	83.1	187.9	70.5	119.9	44.2	61.8	9.4	9.4	12.5	93.2
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	64.6	103.8	17.0	34.4	22.6	45.9	116.1	49.9	77.2	24.0	31.4				
-8	100/0	47.0	83.3	22.7	44.9	30.2	59.9	135.5	30.3	72.3	22.5	35.7				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	47.0	83.3	18.4	36.0	24.5	48.0	108.6	30.3	72.3	22.5	35.7				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	15.4	22.6	8.2	14.4	10.9	19.2	40.4								
	-25	100/0	15.4	22.6	3.1	5.5	4.1	7.3	15.3							
-27	100/0	15.4	22.6	2.5	4.4	3.3	5.8	12.2								

* Refer to Table 5 for the lowest usable precipitation rates in snow

** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C

*** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C

**** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times

***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 2-9: NEWAVE AEROCHEMICAL FCY-2
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions					
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}	Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
-3 °C and above (27 °F and above)	100/0	I = 2.3831 A = -0.7394	I = 2.7862 A = -0.6652 B = -0.5351	I = 2.3424 A = -0.7349	I = 2.1756 A = -0.5685	I = 2.0886 A = -0.6241	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.1844 A = -0.7552	I = 2.7862 A = -0.6652 B = -0.5351	I = 2.2637 A = -0.8968	I = 1.6935 A = -0.3738		
	75/25	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7388 A = -0.5485	I = 2.2123 A = -1.3672 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7388 A = -0.5485	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -28 °C (below -13 to -18 °F)	100/0	I = 1.7388 A = -0.5485	I = 5.0259 A = -5.0259 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	73.5	144.7	22.8	41.9	30.4	55.8	124.4	33.4	67.4	24.0	34.9	6.2	6.2	8.3	44.9
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	45.3	90.6	15.8	28.9	21.0	38.5	85.8	18.4	43.3	14.8	18.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	45.3	90.6	12.2	22.5	16.3	30.0	66.8	18.4	43.3	14.8	18.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	22.7	37.5	1.5	5.3	2.0	7.0	7.0								
-25	100/0	22.7	37.5	0.8	2.3	1.0	3.0	3.0								
-28	100/0	22.7	37.5	0.0	0.8	0.0	1.0	1.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 2-10: ROMCHIM ADD-PROTECT NG TYPE II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.3974 A = -0.7794	I = 3.0299 A = -0.8381 B = -0.4851	I = 3.0299 A = -0.8381 B = -0.4851	I = 3.0299 A = -0.8381 B = -0.4851	I = 2.3113 A = -0.5668	I = 2.2728 A = -0.5113	I = 2.4042 A = -0.8164	CAUTION: No holdover time guidelines exist
	75/25	I = 2.2548 A = -0.6819	I = 2.8970 A = -0.8514 B = -0.4622	I = 2.8970 A = -0.8514 B = -0.4622	I = 2.8970 A = -0.8514 B = -0.4622	I = 2.3252 A = -0.6462	I = 2.3988 A = -0.7047	I = 2.2378 A = -0.7242	
	50/50	I = 2.0350 A = -0.9539	I = 2.3515 A = -0.7025 B = -0.2827	I = 2.3515 A = -0.7025 B = -0.2827	I = 2.3515 A = -0.7025 B = -0.2827	I = 1.9619 A = -0.6157	I = 2.0649 A = -0.7375		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.1684 A = -0.6263	I = 3.0299 A = -0.8381 B = -0.4851	I = 3.0299 A = -0.8381 B = -0.4851	I = 3.0299 A = -0.8381 B = -0.4851	I = 2.3829 A = -0.7538	I = 2.1520 A = -0.5404		
	75/25	I = 2.1020 A = -0.5437	I = 2.8970 A = -0.8514 B = -0.4622	I = 2.8970 A = -0.8514 B = -0.4622	I = 2.8970 A = -0.8514 B = -0.4622	I = 2.4793 A = -0.9714	I = 2.3197 A = -0.7496		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.4934 A = -0.5224	I = 2.1496 A = -1.4094 B = 0.0000	I = 1.9908 A = -1.1457 B = 0.0000	I = 2.2123 A = -1.3672 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.4934 A = -0.5224	I = 2.0233 A = -1.7757 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -28 °C (below -13 to -18 °F)	100/0	I = 1.4934 A = -0.5224	I = 1.4031 A = -1.1696 B = 0.0000	I = 1.7565 A = -1.7565 B = 0.0000	I = 5.0259 A = -5.0259 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	71.2	145.5	24.8	53.4	33.1	71.2	195.4	47.9	82.2	36.1	50.5	5.6	5.6	7.5	68.2
	75/25	60.0	112.1	18.2	39.6	24.2	52.8	147.1	40.3	74.7	25.9	41.1	5.7	5.7	7.6	53.9
	50/50	23.3	56.0	11.2	21.2	14.9	28.3	65.9	18.9	34.0	10.8	17.5				
-8	100/0	53.8	95.5	17.7	38.2	23.6	50.9	139.6	34.9	71.8	24.9	35.5				
	75/25	52.7	86.8	13.2	28.7	17.6	38.3	106.8	25.0	63.1	18.7	30.5				
-10 / -14 ***	100/0	53.8	95.5	14.1	30.4	18.6	40.5	111.1	34.9	71.8	24.9	35.5				
	75/25	52.7	86.8	10.6	23.1	14.1	30.8	85.9	25.0	63.1	18.7	30.5				
-18	100/0	13.4	21.7	1.5	5.3	2.0	7.0	30.0								
-25	100/0	13.4	21.7	0.8	2.3	1.0	3.0	15.0								
-28	100/0	13.4	21.7	0.0	0.8	0.0	1.0	7.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 2-11: ROMCHIM ADD-PROTECT TYPE II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5740 A = -0.8251	I = 2.8637 A = -0.7431 B = -0.5033	I = 2.8637 A = -0.7431 B = -0.5033	I = 2.8637 A = -0.7431 B = -0.5033	I = 2.6191 A = -0.9213	I = 2.4792 A = -0.7630	I = 2.1185 A = -0.6149	CAUTION: No holdover time guidelines exist
	75/25	I = 2.0354 A = -0.6203	I = 2.5210 A = -0.6815 B = -0.4862	I = 2.5210 A = -0.6815 B = -0.4862	I = 2.5210 A = -0.6815 B = -0.4862	I = 2.0120 A = -0.5901	I = 2.1011 A = -0.6689	I = 1.7686 A = -0.5325	
	50/50	I = 1.7404 A = -0.6221	I = 1.9864 A = -0.5840 B = -0.2529	I = 1.9864 A = -0.5840 B = -0.2529	I = 1.9864 A = -0.5840 B = -0.2529	I = 2.0897 A = -0.9018	I = 1.7429 A = -0.6010		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 1.8401 A = -0.5735	I = 2.8637 A = -0.7431 B = -0.5033	I = 2.8637 A = -0.7431 B = -0.5033	I = 2.8637 A = -0.7431 B = -0.5033	I = 2.2574 A = -0.7754	I = 2.0901 A = -0.5723		
	75/25	I = 1.9219 A = -0.6509	I = 2.5210 A = -0.6815 B = -0.4862	I = 2.5210 A = -0.6815 B = -0.4862	I = 2.5210 A = -0.6815 B = -0.4862	I = 1.8894 A = -0.5596	I = 1.8836 A = -0.5597		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.5810 A = -0.5714	I = 2.1496 A = -1.4094 B = 0.0000	I = 1.9908 A = -1.1457 B = 0.0000	I = 2.2123 A = -1.3672 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.5810 A = -0.5714	I = 2.0233 A = -1.7757 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -28 °C (below -13 to -18 °F)	100/0	I = 1.5810 A = -0.5714	I = 1.4031 A = -1.1696 B = 0.0000	I = 1.7565 A = -1.7565 B = 0.0000	I = 5.0259 A = -5.0259 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	99.4	211.7	22.3	44.0	29.7	58.7	143.7	39.2	94.4	25.9	42.6	6.9	6.9	9.2	48.8
	75/25	40.0	70.6	12.7	23.7	16.9	31.6	71.8	22.6	39.8	14.7	22.7	4.4	4.4	5.9	24.9
	50/50	20.2	35.7	7.4	12.6	9.8	16.8	34.0	12.2	28.8	8.0	11.8				
-8	100/0	27.5	46.5	15.8	31.1	21.0	41.4	101.4	24.8	51.9	19.5	28.4				
	75/25	29.3	53.2	9.1	17.0	12.1	22.6	51.2	18.5	31.5	12.6	18.2				
-10 / -14 ***	100/0	27.5	46.5	12.5	24.5	16.6	32.7	80.0	24.8	51.9	19.5	28.4				
	75/25	29.3	53.2	7.2	13.4	9.6	17.9	40.8	18.5	31.5	12.6	18.2				
-18	100/0	15.2	25.6	1.5	5.3	2.0	7.0	30.0								
-25	100/0	15.2	25.6	0.8	2.3	1.0	3.0	15.0								
-28	100/0	15.2	25.6	0.0	0.8	0.0	1.0	7.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 2-12: TYPE II GENERIC
VERIFICATION TABLE**

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>													
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog*** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)		Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain**** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	13	5	25	13	75	5	75	5
+1 / -3 *	100/0	54.9	108.2	21.5	39.5	28.6	52.6	33.4	62.7	23.6	34.9	5.6	5.6	7.5	44.9
	75/25	40.0	70.6	12.7	23.7	16.9	31.6	22.6	39.8	14.7	22.7	3.7	3.7	4.9	24.9
	50/50	17.0	29.4	5.6	11.9	7.5	15.9	9.3	17.1	6.8	9.6				
-8	100/0	27.5	46.5	15.8	28.9	21.0	38.5	18.4	43.3	13.1	18.9				
	75/25	25.2	53.2	9.1	17.0	12.1	22.6	15.1	31.5	9.0	18.2				
-10 / -14 **	100/0	27.5	46.5	12.2	22.5	16.3	30.0	18.4	43.3	13.1	18.9				
	75/25	25.2	53.2	7.2	13.4	9.6	17.9	15.1	31.5	9.0	18.2				
-18	100/0	13.4	21.7	1.5	5.3	2.0	7.0								
	100/0	13.4	21.7	0.8	2.3	1.0	3.0								

*Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 **Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 ***Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ****Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 3-1: ALLCLEAR AEROCLEAR MAX, APPLIED UNHEATED ON LOW SPEED AIRCRAFT
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions ¹					
		Freezing Fog, Freezing Mist, or Ice Crystals ²	Snow, Snow Grains or Snow Pellets ^{3*}	Freezing Drizzle ²	Light Freezing Rain ²	Rain on Cold Soaked Wing ²	Other
-3 °C and above (27 °F and above)	100/0	I = 2.3532 A = -0.9867	I = 2.4111 A = -0.8236 B = 0.0000	I = 2.2733 A = -0.8172	I = 2.4359 A = -0.9105	I = 2.1350 A = -0.7258	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	
below -3 to -10°C (below 27 to 14 °F)	100/0	I = 2.2318 A = -0.7815	I = 2.4111 A = -0.8236 B = 0.0000	I = 2.1031 A = -0.6645	I = 2.2245 A = -0.7407		
	75/25	n/a	n/a	n/a	n/a		
below -10 to -16 °C (below 14 to 3 °F)	100/0	I = 2.3342 A = -1.0165	I = 2.4111 A = -0.8236 B = 0.0000				

1 CAUTION: Fluid must be applied unheated on aircraft conforming to the SAE AS5900 low speed aerodynamic test criterion to use these regression coefficients
 2 Regression Equation: $t = 10^4 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 3 Regression Equation: $t = 10^4 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 4 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog ^{***} (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ^{****} (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	46.1	113.8	13.7	29.0	18.2	38.7	104.3	23.1	50.4	14.6	26.4	4.4	4.4	5.9	42.4
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10	100/0	48.5	99.2	13.7	29.0	18.2	38.7	104.3	23.1	43.5	15.5	25.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-16	100/0	42.0	106.7	13.7	29.0	18.2	38.7	104.3								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 ***Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ****Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 3-2: ALLCLEAR AEROCLEAR MAX, APPLIED UNHEATED ON MIDDLE SPEED AIRCRAFT
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions ¹					
		Freezing Fog, Freezing Mist, or Ice Crystals ²	Snow, Snow Grains or Snow Pellets ^{3,4}	Freezing Drizzle ²	Light Freezing Rain ²	Rain on Cold Soaked Wing ²	Other
-3 °C and above (27 °F and above)	100/0	I = 2.3532 A = -0.9867	I = 2.4111 A = -0.8236 B = 0.0000	I = 2.2733 A = -0.8172	I = 2.4359 A = -0.9105	I = 2.1350 A = -0.7258	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	
below -3 to -10°C (below 27 to 14 °F)	100/0	I = 2.2318 A = -0.7815	I = 2.4111 A = -0.8236 B = 0.0000	I = 2.1031 A = -0.6645	I = 2.2245 A = -0.7407		
	75/25	n/a	n/a	n/a	n/a		
below -10 to -20.5 °C (below 14 to -5 °F)	100/0	I = 2.3342 A = -1.0165	I = 2.4111 A = -0.8236 B = 0.0000				

1 CAUTION: Fluid must be applied unheated on aircraft conforming to the SAE AS5900 low speed aerodynamic test criterion to use these regression coefficients
 2 Regression Equation: $t = 10^4 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 3 Regression Equation: $t = 10^4 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 4 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients															
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog ^{***} (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ^{****} (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)		
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5	
+1 / -3 **	100/0	46.1	113.8	13.7	29.0	18.2	38.7	104.3	23.1	50.4	14.6	26.4	4.4	4.4	5.9	42.4	
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
-10	100/0	48.5	99.2	13.7	29.0	18.2	38.7	104.3	23.1	43.5	15.5	25.1					
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a					
-20.5	100/0	42.0	106.7	13.7	29.0	18.2	38.7	104.3									

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 ***Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ****Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 3-3: ALLCLEAR AEROCLEAR MAX, APPLIED UNHEATED ON HIGH SPEED AIRCRAFT
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions ¹					
		Freezing Fog, Freezing Mist, or Ice Crystals ²	Snow, Snow Grains or Snow Pellets ^{2*}	Freezing Drizzle ²	Light Freezing Rain ²	Rain on Cold Soaked Wing ²	Other
-3 °C and above (27 °F and above)	100/0	I = 2.3532 A = -0.9867	I = 2.4111 A = -0.8236 B = 0.0000	I = 2.2733 A = -0.8172	I = 2.4359 A = -0.9105	I = 2.1350 A = -0.7258	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	
below -3 to -10°C (below 27 to 14 °F)	100/0	I = 2.2318 A = -0.7815	I = 2.4111 A = -0.8236 B = 0.0000	I = 2.1031 A = -0.6645	I = 2.2245 A = -0.7407		
	75/25	n/a	n/a	n/a	n/a		
below -10 to -25 °C (below 14 to -13 °F)	100/0	I = 2.3342 A = -1.0165	I = 2.4111 A = -0.8236 B = 0.0000				
below -25 to -35 °C (below -13 to -31 °F)	100/0	I = 2.1252 A = -1.0990	I = 2.1551 A = -0.8234 B = 0.0000				

1 CAUTION: Fluid must be applied unheated on aircraft conforming to the SAE AS5900 high speed aerodynamic test criterion to use these regression coefficients
 2 Regression Equation: $t = 10^4 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 3 Regression Equation: $t = 10^4 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 4 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog ^{***} (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ^{****} (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR [*]	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	46.1	113.8	13.7	29.0	18.2	38.7	104.3	23.1	50.4	14.6	26.4	4.4	4.4	5.9	42.4
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10	100/0	48.5	99.2	13.7	29.0	18.2	38.7	104.3	23.1	43.5	15.5	25.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-25	100/0	42.0	106.7	13.7	29.0	18.2	38.7	104.3								
-35	100/0	22.8	62.3	7.6	16.1	10.1	21.5	57.8								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 **** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-1: ABAX ECOWING AD-49
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4713 A = -0.2370	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 2.3729 A = -0.3927	I = 2.4943 A = -0.5000	I = 2.6531 A = -0.8558	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5177 A = -1.7715	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 2.8172 A = -1.2681	I = 1.9828 A = -0.5016		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7838 A = -0.5976	I = 2.3257 A = -1.4094 B = 0.0000	I = 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7838 A = -0.5976	I = 2.4506 A = -2.4094 B = 0.0000	I = 1.7911 A = -1.3140 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -26 °C (below -13 to -15 °F)	100/0	I = 1.7838 A = -0.5976	I = 1.5915 A = -1.2398 B = 0.0000	I = 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	26	10	26	10	LUPR [†]	13	5	26	13	76	75	76	5
+1 / -3 **	100/0	202.1	251.2	44.1	85.0	58.8	113.3	267.9	86.2	125.4	62.4	86.6	8.4	8.4	11.2	113.5
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	19.0	96.5	35.0	67.2	46.6	89.6	211.9	25.4	85.3	19.1	26.5				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
-10 / -14 ***	100/0	19.0	96.5	29.8	57.4	39.7	76.5	180.8	25.4	85.3	19.1	26.5				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	23.2	40.2	1.5	6.8	2.0	9.0	45.0								
-25	100/0	23.2	40.2	0.8	2.3	1.0	3.0	20.0								
-26	100/0	23.2	40.2	0.0	1.5	0.0	2.0	10.0								

[†] Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 4-2: AFLRUS LLC GREEN FLO TYPE 4
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4128 A = -0.7639	I = 2.6272 A = -0.7645 B = -0.1883	I = 2.6272 A = -0.7645 B = -0.1883	I = 2.6272 A = -0.7645 B = -0.1883	I = 2.3004 A = -0.6719	I = 2.4777 A = -0.8985	I = 2.3769 A = -0.7605	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5388 A = -1.1787	I = 2.6272 A = -0.7645 B = -0.1883	I = 2.6272 A = -0.7645 B = -0.1883	I = 2.6272 A = -0.7645 B = -0.1883	I = 2.1389 A = -0.5122	I = 2.5160 A = -0.9044		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.0935 A = -0.7922	I = 3.0656 A = -0.8834 B = -0.4781	I = 3.0656 A = -0.8834 B = -0.4781	I = 3.0656 A = -0.8834 B = -0.4781				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.0935 A = -0.7922	I = 3.0656 A = -0.8834 B = -0.4781	I = 3.0656 A = -0.8834 B = -0.4781	I = 3.0656 A = -0.8834 B = -0.4781				
below -25 to -30 °C (below -13 to -22 °F)	100/0	I = 2.0430 A = -0.8798	I = 2.0465 A = -0.8837 B = 0.0000	I = 2.0465 A = -0.8837 B = 0.0000	I = 2.0465 A = -0.8837 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	75.7	152.4	20.0	40.4	26.7	53.8	135.2	35.6	67.7	16.7	30.0	6.7	6.7	8.9	70.0
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	51.9	152.7	17.6	35.4	23.5	47.2	118.6	37.0	60.4	17.9	32.3				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	51.9	152.7	16.1	32.4	21.5	43.2	108.6	37.0	60.4	17.9	32.3				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	34.7	71.6	12.2	27.2	16.2	36.3	105.2								
-25	100/0	34.7	71.6	10.5	23.6	14.0	31.5	91.2								
-30	100/0	26.8	60.0	4.9	10.9	6.5	14.5	42.2								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 4-3: ALAB INTERNATIONAL PROFLIGHT EG4
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4706 A = -0.2841	I = 2.7580 A = -0.7077 B = 0.0000	I = 2.7580 A = -0.7077 B = 0.0000	I = 2.7580 A = -0.7077 B = 0.0000	I = 2.3592 A = -0.3847	I = 2.3221 A = -0.4973	I = 2.7211 A = -0.8970	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5208 A = -0.4856	I = 2.7580 A = -0.7077 B = 0.0000	I = 2.7580 A = -0.7077 B = 0.0000	I = 2.7580 A = -0.7077 B = 0.0000	I = 2.4912 A = -0.5979	I = 3.0504 A = -0.9541		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.3177 A = -1.1409	I = 5.3305 A = -0.7671 B = -2.0348	I = 5.3305 A = -0.7671 B = -2.0348	I = 5.3305 A = -0.7671 B = -2.0348				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.3177 A = -1.1409	I = 5.3305 A = -0.7671 B = -2.0348	I = 5.3305 A = -0.7671 B = -2.0348	I = 5.3305 A = -0.7671 B = -2.0348				
below -25 to -26 °C (below -13 to -15 °F)	100/0	I = 2.3177 A = -1.1409	I = 5.3305 A = -0.7671 B = -2.0348	I = 5.3305 A = -0.7671 B = -2.0348	I = 5.3305 A = -0.7671 B = -2.0348				

- 1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
- 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
- 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	187.1	242.7	44.0	84.2	58.7	112.3	263.2	85.2	123.1	42.4	58.6	8.2	8.2	10.9	124.2
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	151.8	236.9	44.0	84.2	58.7	112.3	263.2	86.9	118.4	52.1	97.2				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	151.8	236.9	44.0	84.2	58.7	112.3	263.2	86.9	118.4	52.1	97.2				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	33.1	94.2	30.6	61.8	40.8	82.4	207.6								
-25	100/0	33.1	94.2	16.7	33.6	22.2	44.8	112.7								
-26	100/0	33.1	94.2	15.5	31.2	20.6	41.6	104.7								

* Refer to Table 5 for the lowest usable precipitation rates in snow ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 4-4: ALAB INTERNATIONAL PROFLIGHT PG4
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.3021 A = -0.5493	I = 2.8229 A = -0.7812 B = -0.2123	I = 2.8229 A = -0.7812 B = -0.2123	I = 2.8229 A = -0.7812 B = -0.2123	I = 2.1502 A = -0.3163	I = 2.1311 A = -0.3835	I = 2.3363 A = -0.6318	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3983 A = -0.8146	I = 2.8229 A = -0.7812 B = -0.2123	I = 2.8229 A = -0.7812 B = -0.2123	I = 2.8229 A = -0.7812 B = -0.2123	I = 2.1974 A = -0.4881	I = 2.1345 A = -0.4140		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.8402 A = -0.4430	I = 4.4810 A = -0.8615 B = -1.5954	I = 4.4810 A = -0.8615 B = -1.5954	I = 4.4810 A = -0.8615 B = -1.5954				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.8402 A = -0.4430	I = 4.4810 A = -0.8615 B = -1.5954	I = 4.4810 A = -0.8615 B = -1.5954	I = 4.4810 A = -0.8615 B = -1.5954				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 1.8402 A = -0.4430	I = 4.4810 A = -0.8615 B = -1.5954	I = 4.4810 A = -0.8615 B = -1.5954	I = 4.4810 A = -0.8615 B = -1.5954				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	82.8	137.0	28.7	58.7	38.2	78.2	200.3	62.8	84.9	39.4	50.6	10.7	10.7	14.2	78.5
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	67.4	142.3	24.8	50.6	33.0	67.5	172.9	45.0	71.8	36.0	47.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
	100/0	67.4	142.3	22.4	45.8	29.9	61.1	156.5	45.0	71.8	36.0	47.1				
-10 / -14 ***	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
	100/0	33.9	50.9	11.9	26.3	15.9	35.0	98.7								
	100/0	33.9	50.9	7.4	16.3	9.8	21.7	61.1								
-18	100/0	33.9	50.9	5.9	13.1	7.9	17.4	49.1								
-25	100/0	33.9	50.9	5.9	13.1	7.9	17.4	49.1								
-29	100/0	33.9	50.9	5.9	13.1	7.9	17.4	49.1								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-5: ALLCLEAR CLEAR IV FLIGHT
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4187 A = -0.6251	I = 2.8809 A = -0.7265 B = -0.3761	I = 2.8809 A = -0.7265 B = -0.3761	I = 2.8809 A = -0.7265 B = -0.3761	I = 2.3220 A = -0.4456	I = 2.4277 A = -0.5350	I = 2.2397 A = -0.5102	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3291 A = -0.8799	I = 2.8809 A = -0.7265 B = -0.3761	I = 2.8809 A = -0.7265 B = -0.3761	I = 2.8809 A = -0.7265 B = -0.3761	I = 2.3473 A = -0.5912	I = 2.1188 A = -0.3788		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7949 A = -0.5150	I = 4.1571 A = -0.7309 B = -1.5046	I = 4.1571 A = -0.7309 B = -1.5046	I = 4.1571 A = -0.7309 B = -1.5046				
below -18 to -23 °C (below 0 to -9 °F)	100/0	I = 1.7949 A = -0.5150	I = 4.1571 A = -0.7309 B = -1.5046	I = 4.1571 A = -0.7309 B = -1.5046	I = 4.1571 A = -0.7309 B = -1.5046				

- 1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
- 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
- 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	95.9	170.0	30.0	58.4	40.0	77.9	186.8	66.9	102.5	47.8	67.9	14.4	14.4	19.2	76.4
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	51.8	115.9	23.1	45.0	30.8	60.0	143.9	48.8	85.9	38.8	49.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	51.8	115.9	19.4	37.7	25.8	50.3	120.6	48.8	85.9	38.8	49.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	27.2	43.6	11.3	22.1	15.1	29.4	70.9								
	100/0	27.2	43.6	8.1	15.8	10.8	21.0	50.7								

- * Refer to Table 5 for the lowest usable precipitation rates in snow
- ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
- *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
- **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
- ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-6: ALLCLEAR CLEARWING EG
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4808 A = -0.6236	I = 2.7895 A = -0.7766 B = -0.1648	I = 2.7895 A = -0.7766 B = -0.1648	I = 2.7895 A = -0.7766 B = -0.1648	I = 2.2517 A = -0.3764	I = 3.1105 A = -1.1890	I = 2.4690 A = -0.7435	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.6368 A = -0.9489	I = 2.7895 A = -0.7766 B = -0.1648	I = 2.7895 A = -0.7766 B = -0.1648	I = 2.7895 A = -0.7766 B = -0.1648	I = 2.1945 A = -0.3445	I = 2.8711 A = -0.9900		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.3601 A = -0.9134	I = 4.7809 A = -0.8032 B = -1.7747	I = 4.7809 A = -0.8032 B = -1.7747	I = 4.7809 A = -0.8032 B = -1.7747				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.3601 A = -0.9134	I = 4.7809 A = -0.8032 B = -1.7747	I = 4.7809 A = -0.8032 B = -1.7747	I = 4.7809 A = -0.8032 B = -1.7747				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.3601 A = -0.9134	I = 4.7809 A = -0.8032 B = -1.7747	I = 4.7809 A = -0.8032 B = -1.7747	I = 4.7809 A = -0.8032 B = -1.7747				

1 Regression Equation: $t = 10^4 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^4 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	110.9	196.4	29.1	59.3	38.8	79.0	201.3	68.0	97.4	28.1	61.1	8.9	8.9	11.9	89.0
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	94.1	224.5	25.0	52.9	34.6	70.5	179.5	64.7	89.9	30.7	58.7				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
-10 / -14 ***	100/0	94.1	224.5	24.0	48.9	32.0	65.2	166.2	64.7	89.9	30.7	58.7				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
-18	100/0	52.7	121.7	16.7	35.0	22.3	46.6	122.7								
-25	100/0	52.7	121.7	9.8	20.6	13.1	27.4	72.0								
-29	100/0	52.7	121.7	7.7	16.1	10.3	21.4	56.4								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-7: ASGLOBAL 4FLITE EG
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5283 A = -0.7924	I = 2.7028 A = -0.7583 B = -0.2145	I = 2.7028 A = -0.7583 B = -0.2145	I = 2.7028 A = -0.7583 B = -0.2145	I = 2.2777 A = -0.6136	I = 2.5046 A = -0.8767	I = 2.3356 A = -0.7595	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4381 A = -0.7329	I = 2.7028 A = -0.7583 B = -0.2145	I = 2.7028 A = -0.7583 B = -0.2145	I = 2.7028 A = -0.7583 B = -0.2145	I = 2.2338 A = -0.5642	I = 2.4121 A = -0.7932		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.0968 A = -0.5619	I = 3.3322 A = -0.7962 B = -0.6729	I = 3.3322 A = -0.7962 B = -0.6729	I = 3.3322 A = -0.7962 B = -0.6729				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.0968 A = -0.5619	I = 3.3322 A = -0.7962 B = -0.6729	I = 3.3322 A = -0.7962 B = -0.6729	I = 3.3322 A = -0.7962 B = -0.6729				
below -25 to -30 °C (below -13 to -22 °F)	100/0	I = 2.1030 A = -0.9200	I = 2.2062 A = -0.7962 B = 0.0000	I = 2.2062 A = -0.7962 B = 0.0000	I = 2.2062 A = -0.7962 B = 0.0000				

- 1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
- 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
- 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3**	100/0	94.3	194.9	23.3	46.7	31.1	62.3	155.3	39.3	70.6	19.0	33.7	6.2	6.2	8.2	63.8
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	84.3	165.0	20.1	40.3	26.8	53.7	133.8	40.3	69.1	20.1	33.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14***	100/0	84.3	165.0	18.2	36.5	24.2	48.6	121.0	40.3	69.1	20.1	33.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
	100/0	50.6	84.7	16.6	34.4	22.1	45.8	119.4								
-25	100/0	50.6	84.7	13.5	28.1	18.0	37.4	97.5								
-30	100/0	28.8	67.0	9.3	19.3	12.4	25.7	67.0								

- * Refer to Table 5 for the lowest usable precipitation rates in snow
- ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
- *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
- **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
- ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-8: ASGLOBAL 4FLITE PG
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4855 A = -0.6410	I = 2.9661 A = -0.6490 B = -0.4864	I = 2.9661 A = -0.6490 B = -0.4864	I = 2.9661 A = -0.6490 B = -0.4864	I = 2.1915 A = -0.3146	I = 2.5200 A = -0.6341	I = 2.2831 A = -0.5569	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.2316 A = -0.5964	I = 2.9661 A = -0.6490 B = -0.4864	I = 2.9661 A = -0.6490 B = -0.4864	I = 2.9661 A = -0.6490 B = -0.4864	I = 2.0710 A = -0.3106	I = 2.4941 A = -0.6796		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.8152 A = -0.5003	I = 4.7113 A = -0.7433 B = -1.8834	I = 4.7113 A = -0.7433 B = -1.8834	I = 4.7113 A = -0.7433 B = -1.8834				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.8152 A = -0.5003	I = 4.7113 A = -0.7433 B = -1.8834	I = 4.7113 A = -0.7433 B = -1.8834	I = 4.7113 A = -0.7433 B = -1.8834				
below -25 to -26 °C (below -13 to -15 °F)	100/0	I = 1.8152 A = -0.5003	I = 4.7113 A = -0.7433 B = -1.8834	I = 4.7113 A = -0.7433 B = -1.8834	I = 4.7113 A = -0.7433 B = -1.8834				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals ¹ (g/dm ² /h)		Mixed Snow and Freezing Fog ² (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ³ (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
5	2	25	10	25	10	LUPR ⁴	13	5	25	13	75	75	75	5		
+1 / -3 **	100/0	109.0	196.1	39.2	71.2	52.3	94.9	207.2	69.4	93.7	43.0	65.1	13.0	13.0	17.3	78.3
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	65.3	112.7	28.1	50.8	37.4	67.7	147.9	53.1	71.4	35.0	54.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ****	100/0	65.3	112.7	22.3	40.4	29.7	53.9	117.7	53.1	71.4	35.0	54.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	29.2	46.2	12.5	24.7	16.7	32.9	80.6								
-25	100/0	29.2	46.2	7.1	14.0	9.5	18.7	45.8								
-26	100/0	29.2	46.2	6.6	13.1	8.8	17.5	42.8								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-9: AVIAFLUID AVIAFLIGHT EG
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4936 A = -0.7662	I = 2.5416 A = -0.5966 B = -0.1650	I = 2.5416 A = -0.5966 B = -0.1650	I = 2.5416 A = -0.5966 B = -0.1650	I = 2.5110 A = -0.6263	I = 2.6126 A = -0.8113	I = 2.6633 A = -0.8384	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5170 A = -0.8812	I = 2.5416 A = -0.5966 B = -0.1650	I = 2.5416 A = -0.5966 B = -0.1650	I = 2.5416 A = -0.5966 B = -0.1650	I = 2.2536 A = -0.4445	I = 2.4418 A = -0.6514		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.3805 A = -1.1620	I = 3.4362 A = -0.7022 B = -0.7851	I = 3.4362 A = -0.7022 B = -0.7851	I = 3.4362 A = -0.7022 B = -0.7851				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.3805 A = -1.1620	I = 3.4362 A = -0.7022 B = -0.7851	I = 3.4362 A = -0.7022 B = -0.7851	I = 3.4362 A = -0.7022 B = -0.7851				
below -25 to -31 °C (below -13 to -24 °F)	100/0	I = 2.0469 A = -0.7482	I = 1.9668 A = -0.7022 B = 0.0000	I = 1.9668 A = -0.7022 B = 0.0000	I = 1.9668 A = -0.7022 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	90.8	183.2	29.3	50.7	39.1	67.6	138.6	65.1	118.4	30.1	51.2	9.2	9.2	12.3	119.5
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	79.6	178.5	26.2	45.2	34.9	60.3	123.6	57.3	87.7	34.0	52.0				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	79.6	178.5	24.2	41.9	32.3	55.8	114.4	57.3	87.7	34.0	52.0				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	37.0	107.3	20.3	38.7	27.1	51.6	120.2								
-25	100/0	37.0	107.3	16.1	30.6	21.4	40.8	94.9								
-31	100/0	33.4	66.3	7.3	13.8	9.7	18.4	42.8								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-10: AVIAFLUID AVIAFLIGHT PG
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.7578 A = -0.8947	I = 3.0863 A = -0.6642 B = -0.6086	I = 3.0863 A = -0.6642 B = -0.6086	I = 3.0863 A = -0.6642 B = -0.6086	I = 2.0792 A = 0.0000	I = 2.8829 A = -0.7432	I = 2.5971 A = -0.6957	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3529 A = -0.7865	I = 3.0863 A = -0.6642 B = -0.6086	I = 3.0863 A = -0.6642 B = -0.6086	I = 3.0863 A = -0.6642 B = -0.6086	I = 2.9286 A = -1.2431	I = 2.4317 A = -0.5672		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7548 A = -0.7332	I = 5.2600 A = -0.6724 B = -2.4320	I = 5.2600 A = -0.6724 B = -2.4320	I = 5.2600 A = -0.6724 B = -2.4320				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7548 A = -0.7332	I = 5.2600 A = -0.6724 B = -2.4320	I = 5.2600 A = -0.6724 B = -2.4320	I = 5.2600 A = -0.6724 B = -2.4320				
below -25 to -25.5 °C (below -13 to -14 °F)	100/0	I = 1.7548 A = -0.7332	I = 5.2600 A = -0.6724 B = -2.4320	I = 5.2600 A = -0.6724 B = -2.4320	I = 5.2600 A = -0.6724 B = -2.4320				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	135.7	307.9	40.5	74.4	54.0	99.2	220.8	120.0	120.0	69.8	113.5	14.7	14.7	19.6	129.1
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	63.6	130.7	26.6	48.8	35.4	65.1	144.8	35.0	114.7	43.5	63.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	63.6	130.7	20.0	36.7	26.6	48.9	108.8	35.0	114.7	43.5	63.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	17.5	34.2	10.7	19.9	14.3	26.5	59.6								
-25	100/0	17.5	34.2	5.2	9.6	6.9	12.8	28.7								
-25.5	100/0	17.5	34.2	5.0	9.2	6.6	12.2	27.5								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-11: CHEMCO CHEMR EG IV
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5221 A = -0.6191	I = 2.8018 A = -0.9158 B = 0.0000	I = 2.8018 A = -0.9158 B = 0.0000	I = 2.8018 A = -0.9158 B = 0.0000	I = 2.5776 A = -0.8305	I = 2.3603 A = -0.6816	I = 2.6437 A = -0.8858	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.6566 A = -1.0376	I = 2.8018 A = -0.9158 B = 0.0000	I = 2.8018 A = -0.9158 B = 0.0000	I = 2.8018 A = -0.9158 B = 0.0000	I = 2.3439 A = -0.5194	I = 2.3463 A = -0.5867		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.1693 A = -0.8359	I = 2.3992 A = -0.7726 B = 0.0000	I = 2.3992 A = -0.7726 B = 0.0000	I = 2.3992 A = -0.7726 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.1693 A = -0.8359	I = 2.3992 A = -0.7726 B = 0.0000	I = 2.3992 A = -0.7726 B = 0.0000	I = 2.3992 A = -0.7726 B = 0.0000				
below -25 to -27 °C (below -13 to -17 °F)	100/0	I = 2.1693 A = -0.8359	I = 2.3992 A = -0.7726 B = 0.0000	I = 2.3992 A = -0.7726 B = 0.0000	I = 2.3992 A = -0.7726 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	122.8	216.6	24.9	57.7	33.2	76.9	231.7	44.9	99.3	25.6	39.9	7.2	7.2	9.6	105.8
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	85.4	220.9	24.9	57.7	33.2	76.9	231.7	58.3	95.7	33.6	49.3				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
-10 / -14 ***	100/0	85.4	220.9	24.9	57.7	33.2	76.9	231.7	58.3	95.7	33.6	49.3				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
-18	100/0	38.5	82.7	15.7	31.7	20.9	42.3	107.3								
-25	100/0	38.5	82.7	15.7	31.7	20.9	42.3	107.3								
-27	100/0	38.5	82.7	15.7	31.7	20.9	42.3	107.3								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-12: CHEMCO CHEMR NORDIK IV
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.6325 A = -0.7158	I = 2.7042 A = -0.6856 B = 0.0000	I = 2.7042 A = -0.6856 B = 0.0000	I = 2.7042 A = -0.6856 B = 0.0000	I = 2.6092 A = -0.6398	I = 2.4979 A = -0.5367	I = 2.5308 A = -0.6285	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.6790 A = -0.9206	I = 2.7042 A = -0.6856 B = 0.0000	I = 2.7042 A = -0.6856 B = 0.0000	I = 2.7042 A = -0.6856 B = 0.0000	I = 2.5682 A = -0.6212	I = 2.7893 A = -0.7992		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.2331 A = -0.9189	I = 4.2171 A = -0.7360 B = -1.1607	I = 4.2171 A = -0.7360 B = -1.1607	I = 4.2171 A = -0.7360 B = -1.1607				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.2331 A = -0.9189	I = 4.2171 A = -0.7360 B = -1.1607	I = 4.2171 A = -0.7360 B = -1.1607	I = 4.2171 A = -0.7360 B = -1.1607				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.2331 A = -0.9189	I = 4.2171 A = -0.7360 B = -1.1607	I = 4.2171 A = -0.7360 B = -1.1607	I = 4.2171 A = -0.7360 B = -1.1607				

1 Regression Equation: $t = 10^t R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^t R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	135.6	261.2	41.8	78.3	55.7	104.4	238.3	78.8	145.2	55.9	79.4	16.9	16.9	22.5	123.5
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	106.5	252.3	41.8	78.3	55.7	104.4	238.3	75.2	136.1	47.0	79.3				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	106.5	252.3	41.8	78.3	55.7	104.4	238.3	75.2	136.1	47.0	79.3				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	39.0	90.5	35.8	70.1	47.7	93.5	226.9								
-25	100/0	39.0	90.5	25.2	49.5	33.6	66.0	160.2								
-29	100/0	39.0	90.5	21.5	42.2	28.7	56.2	136.4								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-13: CHHONGQING JOBA CHEMICAL FW-IV
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4476 A = -0.2252	I = 2.9200 A = -0.7491 B = -0.2538	I = 2.9200 A = -0.7491 B = -0.2538	I = 2.9200 A = -0.7491 B = -0.2538	I = 2.2934 A = -0.3029	I = 2.3766 A = -0.5092	I = 2.6472 A = -0.7934	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5397 A = -0.5125	I = 2.9200 A = -0.7491 B = -0.2538	I = 2.9200 A = -0.7491 B = -0.2538	I = 2.9200 A = -0.7491 B = -0.2538	I = 2.7129 A = -0.9102	I = 3.0052 A = -1.0519		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.3347 A = -1.1477	I = 4.2404 A = -0.8555 B = -1.2663	I = 4.2404 A = -0.8555 B = -1.2663	I = 4.2404 A = -0.8555 B = -1.2663				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.3347 A = -1.1477	I = 4.2404 A = -0.8555 B = -1.2663	I = 4.2404 A = -0.8555 B = -1.2663	I = 4.2404 A = -0.8555 B = -1.2663				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.3347 A = -1.1477	I = 4.2404 A = -0.8555 B = -1.2663	I = 4.2404 A = -0.8555 B = -1.2663	I = 4.2404 A = -0.8555 B = -1.2663				

1 Regression Equation: $t = 10^4 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^4 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals ¹		Mixed Snow and Freezing Fog ^{***}		Snow, Snow Grains or Snow Pellets			Freezing Drizzle		Light Freezing Rain		Mixed Moderate Snow and Rain ^{****}		Rain on Cold Soaked Wing	
		5	2	25	10	25	10	LUPR [*]	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	195.1	239.8	37.2	73.9	49.6	98.5	242.8	90.4	120.7	46.2	64.5	10.8	10.8	14.4	123.8
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	151.9	242.9	31.2	62.0	41.6	82.6	203.6	50.0	119.3	34.3	68.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	151.9	242.9	27.7	55.0	36.9	73.3	180.7	50.0	119.3	34.3	68.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	34.1	97.5	18.7	41.0	24.9	54.6	153.0								
-25	100/0	34.1	97.5	12.8	28.1	17.1	37.4	104.6								
-29	100/0	34.1	97.5	10.7	23.6	14.3	31.4	87.8								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-14: CLARIANT SAFEWING MP IV LAUNCH
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.3942 A = 0.0152	I = 2.7218 A = -0.5330 B = -0.2408	I = 2.7218 A = -0.5330 B = -0.2408	I = 2.7218 A = -0.5330 B = -0.2408	I = 2.7789 A = -0.7426	I = 2.9492 A = -0.8489	I = 2.5170 A = -0.7291	CAUTION: No holdover time guidelines exist
	75/25	I = 2.4388 A = -0.1431	I = 2.7841 A = -0.6180 B = -0.2044	I = 2.7841 A = -0.6180 B = -0.2044	I = 2.7841 A = -0.6180 B = -0.2044	I = 2.7945 A = -0.7101	I = 2.7548 A = -0.7917	I = 2.6192 A = -0.8499	
	50/50	I = 2.4323 A = -0.7333	I = 2.3978 A = -0.6703 B = -0.1021	I = 2.3978 A = -0.6703 B = -0.1021	I = 2.3978 A = -0.6703 B = -0.1021	I = 2.0818 A = -0.5727	I = 1.7686 A = -0.3607		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.2823 A = -0.7333	I = 2.7218 A = -0.5330 B = -0.2408	I = 2.7218 A = -0.5330 B = -0.2408	I = 2.7218 A = -0.5330 B = -0.2408	I = 2.7424 A = -1.0767	I = 2.6379 A = -0.8846		
	75/25	I = 2.1203 A = -0.7220	I = 2.7841 A = -0.6180 B = -0.2044	I = 2.7841 A = -0.6180 B = -0.2044	I = 2.7841 A = -0.6180 B = -0.2044	I = 2.6204 A = -1.0940	I = 2.4901 A = -0.7708		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.8894 A = -0.6349	I = 6.5565 A = -1.3090 B = -2.9993	I = 6.5565 A = -1.3090 B = -2.9993	I = 6.5565 A = -1.3090 B = -2.9993				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.8894 A = -0.6349	I = 6.5565 A = -1.3090 B = -2.9993	I = 6.5565 A = -1.3090 B = -2.9993	I = 6.5565 A = -1.3090 B = -2.9993				
below -25 to -28.5 °C (below -13 to -19 °F)	100/0	I = 1.8894 A = -0.6349	I = 6.5565 A = -1.3090 B = -2.9993	I = 6.5565 A = -1.3090 B = -2.9993	I = 6.5565 A = -1.3090 B = -2.9993				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	254.0	250.5	48.2	78.6	64.3	104.8	199.2	89.5	181.9	57.9	100.8	10.6	10.6	14.1	101.7
	75/25	218.2	248.7	44.9	79.1	59.9	105.5	222.0	100.8	198.7	44.5	74.6	8.0	8.0	10.6	106.0
	50/50	83.1	162.8	18.4	34.0	24.5	45.3	101.5	27.8	48.0	18.4	23.3				
-8	100/0	58.8	115.2	40.8	66.5	54.4	88.7	168.5	34.9	97.7	25.2	44.9				
	75/25	41.3	80.0	39.0	68.7	52.0	91.6	192.7	25.2	71.7	25.9	42.8				
-10 / -14 ***	100/0	58.8	115.2	36.5	59.4	48.6	79.2	150.5	34.9	97.7	25.2	44.9				
	75/25	41.3	80.0	35.4	62.4	47.2	83.2	175.0	25.2	71.7	25.9	42.8				
-18	100/0	27.9	49.9	5.0	16.6	6.7	22.1	107.1								
-25	100/0	27.9	49.9	2.0	6.8	2.7	9.0	43.5								
-28.5	100/0	27.9	49.9	1.4	4.7	1.9	6.2	30.2								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-15: CLARIANT SAFEWING MP IV LAUNCH PLUS
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.3920 A = -0.0283	I = 3.2161 A = -0.8902 B = -0.3284	I = 3.2161 A = -0.8902 B = -0.3284	I = 3.2161 A = -0.8902 B = -0.3284	I = 2.1074 A = -0.0294	I = 3.1822 A = -0.9927	I = 2.5435 A = -0.6674	CAUTION: No holdover time guidelines exist
	75/25	I = 2.3948 A = -0.0330	I = 3.2776 A = -0.9501 B = -0.3856	I = 3.2776 A = -0.9501 B = -0.3856	I = 3.2776 A = -0.9501 B = -0.3856	I = 2.0839 A = -0.0124	I = 2.0297 A = -0.0872	I = 2.4962 A = -0.6485	
	50/50	I = 2.1682 A = -0.4153	I = 2.6868 A = -0.8488 B = -0.2819	I = 2.6868 A = -0.8488 B = -0.2819	I = 2.6868 A = -0.8488 B = -0.2819	I = 2.4651 A = -0.9953	I = 1.8233 A = -0.4948		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4166 A = -0.9721	I = 3.2161 A = -0.8902 B = -0.3284	I = 3.2161 A = -0.8902 B = -0.3284	I = 3.2161 A = -0.8902 B = -0.3284	I = 2.8810 A = -1.3058	I = 2.2126 A = -0.5630		
	75/25	I = 2.4251 A = -1.1486	I = 3.2776 A = -0.9501 B = -0.3856	I = 3.2776 A = -0.9501 B = -0.3856	I = 3.2776 A = -0.9501 B = -0.3856	I = 2.5583 A = -1.0902	I = 2.1385 A = -0.5738		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9339 A = -0.8158	I = 6.5722 A = -1.2696 B = -3.0196	I = 6.5722 A = -1.2696 B = -3.0196	I = 6.5722 A = -1.2696 B = -3.0196				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9339 A = -0.8158	I = 6.5722 A = -1.2696 B = -3.0196	I = 6.5722 A = -1.2696 B = -3.0196	I = 6.5722 A = -1.2696 B = -3.0196				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 1.9339 A = -0.8158	I = 6.5722 A = -1.2696 B = -3.0196	I = 6.5722 A = -1.2696 B = -3.0196	I = 6.5722 A = -1.2696 B = -3.0196				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	235.6	241.8	41.4	93.6	55.2	124.8	364.6	118.8	122.1	62.3	119.2	14.7	14.7	19.6	119.4
	75/25	235.4	242.6	35.9	85.7	47.9	114.3	358.7	117.5	118.9	80.9	85.6	14.3	14.3	19.1	110.4
	50/50	75.5	110.5	15.1	32.8	20.1	43.7	121.6	22.7	58.8	13.5	18.7				
-8	100/0	54.6	133.0	33.0	74.6	44.0	99.4	290.4	26.7	93.0	26.6	38.5				
	75/25	41.9	120.0	27.5	65.6	36.6	87.5	274.6	22.1	62.6	21.7	31.6				
-10 / -14 ***	100/0	54.6	133.0	28.3	63.9	37.7	85.2	248.8	26.7	93.0	26.6	38.5				
	75/25	41.9	120.0	23.0	54.8	30.6	73.0	229.1	22.1	62.6	21.7	31.6				
-18	100/0	23.1	48.8	5.6	17.8	7.4	23.7	109.1								
-25	100/0	23.1	48.8	2.3	7.2	3.0	9.6	44.1								
-29	100/0	23.1	48.8	1.5	4.7	2.0	6.3	29.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-16: CRYOTECH POLAR GUARD® ADVANCE
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5794 A = -0.5025	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.2682 A = -0.2524	I = 2.2584 A = -0.2806	I = 2.6661 A = -0.7999	CAUTION: No holdover time guidelines exist
	75/25	I = 2.5776 A = -0.5705	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.2204 A = -0.1898	I = 2.8328 A = -0.8896	I = 2.6248 A = -0.8807	
	50/50	I = 2.1254 A = -0.6271	I = 2.8810 A = -1.0631 B = -0.5673	I = 2.8810 A = -1.0631 B = -0.5673	I = 2.8810 A = -1.0631 B = -0.5673	I = 2.2943 A = -0.9086	I = 2.3695 A = -0.9996		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5101 A = -1.1145	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.7077 A = -1.0390	I = 2.0801 A = -0.3886		
	75/25	I = 2.2594 A = -0.9785	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.4495 A = -0.9076	I = 2.0483 A = -0.3597		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9253 A = -0.6979	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9253 A = -0.6979	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134				
below -25 to -30.5 °C (below -13 to -23 °F)	100/0	I = 1.9253 A = -0.6979	I = 2.0544 A = -1.1592 B = 0.0000	I = 2.0544 A = -1.1592 B = 0.0000	I = 2.0544 A = -1.1592 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	169.1	288.0	49.2	85.2	65.6	113.6	233.5	97.1	123.5	73.5	88.3	11.0	11.0	14.7	127.9
	75/25	151.0	254.6	30.1	63.7	40.1	84.9	227.7	102.1	122.4	38.8	69.5	7.1	7.1	9.4	102.1
	50/50	48.6	86.4	7.5	19.8	10.0	26.4	94.9	19.2	45.6	9.4	18.0				
-8	100/0	53.8	149.5	36.3	62.9	48.4	83.8	172.4	35.5	95.8	34.4	44.4				
	75/25	37.6	92.2	23.6	50.1	31.5	66.8	179.1	27.4	65.3	35.1	44.4				
-10 / -14 ***	100/0	53.8	149.5	29.6	51.2	39.4	68.2	140.3	35.5	95.8	34.4	44.4				
	75/25	37.6	92.2	20.1	42.6	26.8	56.8	152.2	27.4	65.3	35.1	44.4				
-18	100/0	27.4	51.9	8.6	24.9	11.5	33.2	134.2								
-25	100/0	27.4	51.9	3.6	10.4	4.8	13.8	56.0								
-30.5	100/0	27.4	51.9	2.0	5.9	2.7	7.9	31.7								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-17: CRYOTECH POLAR GUARD® XTEND
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5325 A = -0.5036	I = 2.9681 A = -0.6559 B = -0.3399	I = 2.9681 A = -0.6559 B = -0.3399	I = 2.9681 A = -0.6559 B = -0.3399	I = 2.0792 A = 0.0000	I = 3.0299 A = -0.8932	I = 2.4479 A = -0.6234	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.2661 A = -0.7204	I = 2.9681 A = -0.6559 B = -0.3399	I = 2.9681 A = -0.6559 B = -0.3399	I = 2.9681 A = -0.6559 B = -0.3399	I = 2.7919 A = -1.1481	I = 1.9558 A = -0.1963		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7603 A = -0.5578	I = 6.6792 A = -0.8166 B = -3.2905	I = 6.6792 A = -0.8166 B = -3.2905	I = 6.6792 A = -0.8166 B = -3.2905				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7603 A = -0.5578	I = 6.6792 A = -0.8166 B = -3.2905	I = 6.6792 A = -0.8166 B = -3.2905	I = 6.6792 A = -0.8166 B = -3.2905				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 1.7603 A = -0.5578	I = 6.6792 A = -0.8166 B = -3.2905	I = 6.6792 A = -0.8166 B = -3.2905	I = 6.6792 A = -0.8166 B = -3.2905				

- 1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
- 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
- 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog*** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain**** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	151.5	240.4	48.8	89.0	65.1	118.7	261.6	120.0	120.0	60.4	108.4	14.3	14.3	19.0	102.8
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	57.9	112.0	38.6	70.4	51.4	93.8	206.7	32.6	97.6	48.0	54.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	57.9	112.0	32.9	60.0	43.8	80.0	176.1	32.6	97.6	48.0	54.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	23.5	39.1	13.8	28.7	18.1	38.2	102.0								
-25	100/0	23.5	39.1	5.0	10.7	6.7	14.2	38.0								
-29	100/0	23.5	39.1	3.2	6.8	4.3	9.0	24.1								

- * Refer to Table 5 for the lowest usable precipitation rates in snow
- ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
- *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
- **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
- ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-18: DOW INC. UCAR ENDURANCE™ EG106 ADF/AAF
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4198 A = -0.4664	I = 2.8358 A = -0.7951 B = -0.1996	I = 2.8358 A = -0.7951 B = -0.1996	I = 2.8358 A = -0.7951 B = -0.1996	I = 2.4460 A = -0.5295	I = 2.5011 A = -0.5672	I = 2.5903 A = -0.7102	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4942 A = -0.6588	I = 2.8358 A = -0.7951 B = -0.1996	I = 2.8358 A = -0.7951 B = -0.1996	I = 2.8358 A = -0.7951 B = -0.1996	I = 2.5065 A = -0.6779	I = 2.6525 A = -0.7145		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.0589 A = -0.7941	I = 3.3185 A = -0.8385 B = -0.6048	I = 3.3185 A = -0.8385 B = -0.6048	I = 3.3185 A = -0.8385 B = -0.6048				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.0589 A = -0.7941	I = 3.3185 A = -0.8385 B = -0.6048	I = 3.3185 A = -0.8385 B = -0.6048	I = 3.3185 A = -0.8385 B = -0.6048				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.0589 A = -0.7941	I = 3.3185 A = -0.8385 B = -0.6048	I = 3.3185 A = -0.8385 B = -0.6048	I = 3.3185 A = -0.8385 B = -0.6048				

- 1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
- 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
- 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	124.1	190.3	28.8	59.7	38.4	79.6	207.5	71.8	119.1	51.1	74.0	13.6	13.6	18.1	124.1
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	108.1	197.6	25.1	52.1	33.5	69.4	180.7	56.4	107.8	45.0	71.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	108.1	197.6	22.9	47.3	30.5	63.1	164.5	56.4	107.8	45.0	71.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	31.9	66.0	17.2	37.0	22.9	49.3	135.4								
-25	100/0	31.9	66.0	14.3	30.8	19.1	41.1	112.9								
-29	100/0	31.9	66.0	13.2	28.4	17.6	37.8	103.9								

- * Refer to Table 5 for the lowest usable precipitation rates in snow
- ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
- *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
- **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
- ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 4-19: DOW INC. UCAR™ FLIGHTGUARD™ AD-49
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4713 A = -0.2370	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 2.3729 A = -0.3927	I = 2.4943 A = -0.5000	I = 2.6531 A = -0.8558	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5177 A = -1.7715	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 2.8172 A = -1.2681	I = 1.9828 A = -0.5016		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7838 A = -0.5976	I = 2.3257 A = -1.4094 B = 0.0000	I = 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7838 A = -0.5976	I = 2.4506 A = -2.4094 B = 0.0000	I = 1.7911 A = -1.3140 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -26 °C (below -13 to -15 °F)	100/0	I = 1.7838 A = -0.5976	I = 1.5915 A = -1.2398 B = 0.0000	I = 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	26	10	26	10	LUPR [†]	13	5	26	13	76	75	76	5
+1 / -3 **	100/0	202.1	251.2	44.1	85.0	58.8	113.3	267.9	86.2	125.4	62.4	86.6	8.4	8.4	11.2	113.5
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	19.0	96.5	35.0	67.2	46.6	89.6	211.9	25.4	85.3	19.1	26.5				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
-10 / -14 ***	100/0	19.0	96.5	29.8	57.4	39.7	76.5	180.8	25.4	85.3	19.1	26.5				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
-18	100/0	23.2	40.2	1.5	6.8	2.0	9.0	45.0								
-25	100/0	23.2	40.2	0.8	2.3	1.0	3.0	20.0								
-26	100/0	23.2	40.2	0.0	1.5	0.0	2.0	10.0								

[†] Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-20: ESSPO CHEMICALS NORDWING PG4
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5045 A = -0.7647	I = 2.8170 A = -0.7760 B = -0.2363	I = 2.8170 A = -0.7760 B = -0.2363	I = 2.8170 A = -0.7760 B = -0.2363	I = 2.3693 A = -0.4879	I = 2.1857 A = -0.3528	I = 2.4613 A = -0.6221	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4892 A = -1.0743	I = 2.8170 A = -0.7760 B = -0.2363	I = 2.8170 A = -0.7760 B = -0.2363	I = 2.8170 A = -0.7760 B = -0.2363	I = 2.3076 A = -0.5179	I = 2.3108 A = -0.5481		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7856 A = -0.4965	I = 4.2823 A = -0.9467 B = -1.3959	I = 4.2823 A = -0.9467 B = -1.3959	I = 4.2823 A = -0.9467 B = -1.3959				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7856 A = -0.4965	I = 4.2823 A = -0.9467 B = -1.3959	I = 4.2823 A = -0.9467 B = -1.3959	I = 4.2823 A = -0.9467 B = -1.3959				
below -25 to -30 °C (below -13 to -22 °F)	100/0	I = 1.6593 A = -0.4469	I = 2.0608 A = -0.9483 B = 0.0000	I = 2.0608 A = -0.9483 B = 0.0000	I = 2.0608 A = -0.9483 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	93.3	189.1	27.7	56.3	36.9	75.1	191.2	67.0	106.7	49.3	62.0	14.8	14.8	19.7	106.3
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	54.7	146.5	23.5	47.9	31.3	63.8	162.4	53.8	88.2	35.0	50.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	54.7	146.5	21.0	42.8	28.0	57.1	145.3	53.8	88.2	35.0	50.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	27.5	43.3	10.4	24.8	13.9	33.1	103.4								
-25	100/0	27.5	43.3	6.8	16.4	9.1	21.8	68.0								
-30	100/0	22.2	33.5	4.1	9.8	5.4	13.0	40.6								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-21: INLAND TECHNOLOGIES ECO-SHIELD®
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4628 A = -0.8425	I = 2.6693 A = -0.6224 B = -0.2015	I = 2.6693 A = -0.6224 B = -0.2015	I = 2.6693 A = -0.6224 B = -0.2015	I = 2.5329 A = -0.8434	I = 1.8305 A = -0.1843	I = 2.4740 A = -0.7236	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4493 A = -0.8541	I = 2.6693 A = -0.6224 B = -0.2015	I = 2.6693 A = -0.6224 B = -0.2015	I = 2.6693 A = -0.6224 B = -0.2015	I = 2.3150 A = -0.5411	I = 1.9809 A = -0.3441		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9894 A = -0.6913	I = 2.3257 A = -1.4094 B = 0.0000	I = 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9894 A = -0.6913	I = 2.4506 A = -2.4094 B = 0.0000	I = 1.7911 A = -1.3140 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -25.5 °C (below -13 to -14 °F)	100/0	I = 1.9894 A = -0.6913	I = 1.5915 A = -1.2398 B = 0.0000	I = 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	74.8	161.9	34.1	60.4	45.5	80.5	170.4	39.2	87.8	37.4	42.2	9.8	9.8	13.1	92.9
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	71.2	155.7	29.7	52.5	39.6	70.0	148.2	51.6	86.5	31.6	39.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	71.2	155.7	27.0	47.8	36.0	63.7	134.8	51.6	86.5	31.6	39.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	32.1	60.4	1.5	6.8	2.0	9.0	45.0								
-25	100/0	32.1	60.4	0.8	2.3	1.0	3.0	20.0								
-25.5	100/0	32.1	60.4	0.0	1.5	0.0	2.0	10.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 4-22: JSC RCP NORDIX DEFROST ECO 4
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4080 A = -0.6597	I = 2.7595 A = -0.7621 B = -0.1757	I = 2.7595 A = -0.7621 B = -0.1757	I = 2.7595 A = -0.7621 B = -0.1757	I = 2.1497 A = -0.2970	I = 2.5972 A = -0.7187	I = 2.2932 A = -0.6241	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5248 A = -1.1145	I = 2.7595 A = -0.7621 B = -0.1757	I = 2.7595 A = -0.7621 B = -0.1757	I = 2.7595 A = -0.7621 B = -0.1757	I = 2.2310 A = -0.4646	I = 2.2288 A = -0.4780		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.8711 A = -0.5814	I = 2.3257 A = -1.4094 B = 0.0000	I = 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.8711 A = -0.5814	I = 2.4506 A = -2.4094 B = 0.0000	I = 1.7911 A = -1.3140 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -25.5 °C (below -13 to -14 °F)	100/0	I = 1.8711 A = -0.5814	I = 1.5915 A = -1.2398 B = 0.0000	I = 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	88.5	162.0	28.0	56.2	37.3	74.9	187.5	65.9	87.5	39.1	62.6	10.0	10.0	13.3	71.9
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	55.7	154.6	24.8	49.7	33.0	66.3	166.0	51.7	80.6	36.4	49.7				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	55.7	154.6	22.8	45.8	30.4	61.1	152.9	51.7	80.6	36.4	49.7				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	29.2	49.7	1.5	6.8	2.0	9.0	45.0								
-25	100/0	29.2	49.7	0.8	2.3	1.0	3.0	20.0								
-25.5	100/0	29.2	49.7	0.0	1.5	0.0	2.0	10.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-23: JSC RCP NORDIX DEFROST NORTH 4
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.6515 A = -0.7575	I = 2.7447 A = -0.8267 B = 0.0000	I = 2.7447 A = -0.8267 B = 0.0000	I = 2.7447 A = -0.8267 B = 0.0000	I = 2.6377 A = -0.7492	I = 2.4403 A = -0.6778	I = 2.7110 A = -0.9348	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.6157 A = -0.5906	I = 2.7447 A = -0.8267 B = 0.0000	I = 2.7447 A = -0.8267 B = 0.0000	I = 2.7447 A = -0.8267 B = 0.0000	I = 2.6041 A = -0.7058	I = 2.5954 A = -0.7285		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.3727 A = -1.0450	I = 2.2480 A = -0.9120 B = 0.0000	I = 2.1544 A = -0.7565 B = 0.0000	I = 2.3979 A = -1.0000 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.3727 A = -1.0450	I = 2.2685 A = -1.1070 B = 0.0000	I = 2.2465 A = -1.0704 B = 0.0000	I = 2.3751 A = -1.1990 B = 0.0000				
below -25 to -26 °C (below -13 to -15 °F)	100/0	I = 2.3727 A = -1.0450	I = 2.1021 A = -1.1696 B = 0.0000	I = 2.1466 A = -1.2435 B = 0.0000	I = 2.4160 A = -1.5129 B = 0.0000				

1 Regression Equation: $t = 10^4 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^4 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog*** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain**** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	132.4	265.1	29.1	62.1	38.8	82.8	224.0	63.6	130.0	31.1	48.4	6.8	6.8	9.1	114.2
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	159.5	274.1	29.1	62.1	38.8	82.8	224.0	65.7	129.1	37.8	60.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	159.5	274.1	29.1	62.1	38.8	82.8	224.0	65.7	129.1	37.8	60.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	43.9	114.3	7.5	18.8	10.0	25.0	65.0								
-25	100/0	43.9	114.3	3.8	11.3	5.0	15.0	55.0								
-26	100/0	43.9	114.3	1.5	6.0	2.0	8.0	35.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-24: KILFROST ABC-S PLUS
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5882 A = -0.6773	I = 2.7997 A = -0.5886 B = -0.1639	I = 2.7997 A = -0.5886 B = -0.1639	I = 2.7997 A = -0.5886 B = -0.1639	I = 2.1349 A = -0.0810	I = 3.2080 A = -1.0102	I = 2.5437 A = -0.6337	CAUTION: No holdover time guidelines exist
	75/25	I = 2.4204 A = -0.6975	I = 2.5586 A = -0.5815 B = -0.1638	I = 2.5586 A = -0.5815 B = -0.1638	I = 2.5586 A = -0.5815 B = -0.1638	I = 2.1108 A = -0.2951	I = 2.5019 A = -0.7097	I = 2.4230 A = -0.7288	
	50/50	I = 1.8988 A = -0.5888	I = 2.1742 A = -0.6668 B = 0.0000	I = 2.1742 A = -0.6668 B = 0.0000	I = 2.1742 A = -0.6668 B = 0.0000	I = 2.2203 A = -0.8993	I = 1.7490 A = -0.4516		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.7468 A = -1.4224	I = 2.7997 A = -0.5886 B = -0.1639	I = 2.7997 A = -0.5886 B = -0.1639	I = 2.7997 A = -0.5886 B = -0.1639	I = 2.9992 A = -1.4676	I = 2.3542 A = -0.7931		
	75/25	I = 2.3554 A = -1.0359	I = 2.5586 A = -0.5815 B = -0.1638	I = 2.5586 A = -0.5815 B = -0.1638	I = 2.5586 A = -0.5815 B = -0.1638	I = 2.8273 A = -1.3891	I = 2.1553 A = -0.6538		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9370 A = -0.5185	I = 2.3257 A = -1.4094 B = 0.0000	I = 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9370 A = -0.5185	I = 2.4506 A = -2.4094 B = 0.0000	I = 1.7911 A = -1.3140 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -28 °C (below -13 to -18 °F)	100/0	I = 1.9370 A = -0.5185	I = 1.5915 A = -1.2398 B = 0.0000	I = 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog ^{***} (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ^{****} (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR [*]	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	130.3	242.3	54.6	93.7	72.8	124.9	253.7	110.8	119.8	62.5	121.0	17.0	17.0	22.7	126.1
	75/25	85.7	162.3	32.1	54.7	42.8	72.9	146.8	60.5	80.3	32.3	51.4	8.6	8.6	11.4	82.0
	50/50	30.7	52.7	13.1	24.2	17.5	32.2	71.8	16.5	39.1	13.1	17.6				
-8	100/0	56.6	208.3	48.8	83.6	65.0	111.5	228.4	23.1	94.1	17.6	29.6				
	75/25	42.8	110.6	28.7	48.8	38.2	65.1	131.0	19.1	71.8	17.4	26.7				
-10 / -14 ***	100/0	56.6	208.3	45.2	77.4	60.2	103.2	209.7	23.1	94.1	17.6	29.6				
	75/25	42.8	110.6	26.6	45.2	35.4	60.2	121.3	19.1	71.8	17.4	26.7				
-18	100/0	37.5	60.4	1.5	6.8	2.0	9.0	45.0								
-25	100/0	37.5	60.4	0.8	2.3	1.0	3.0	20.0								
-28	100/0	37.5	60.4	0.0	1.5	0.0	2.0	10.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 4-25: MKS DEVO CHEMICALS COREICEPHOB TYPE-IV PG
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5147 A = -0.5177	I = 3.1944 A = -0.8559 B = -0.4836	I = 3.1944 A = -0.8559 B = -0.4836	I = 3.1944 A = -0.8559 B = -0.4836	I = 2.3070 A = -0.3347	I = 2.6455 A = -0.6713	I = 2.5469 A = -0.7833	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 1.8551 A = -0.9628	I = 3.1944 A = -0.8559 B = -0.4836	I = 3.1944 A = -0.8559 B = -0.4836	I = 3.1944 A = -0.8559 B = -0.4836	I = 2.5656 A = -0.8764	I = 2.6477 A = -0.9684		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7334 A = -0.8596	I = 2.3257 A = -1.4094 B = 0.0000	I = 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7334 A = -0.8596	I = 2.4506 A = -2.4094 B = 0.0000	I = 1.7911 A = -1.3140 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 1.7334 A = -0.8596	I = 1.5915 A = -1.2398 B = 0.0000	I = 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

- 1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
- 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
- 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals		Mixed Snow and Freezing Fog***		Snow, Snow Grains or Snow Pellets			Freezing Drizzle		Light Freezing Rain		Mixed Moderate Snow and Rain****		Rain on Cold Soaked Wing	
		g/dm ² /h		g/dm ² /h		g/dm ² /h			g/dm ² /h		g/dm ² /h		g/dm ² /h		g/dm ² /h	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	142.2	228.5	34.3	75.1	45.7	100.1	280.5	85.9	118.3	50.9	79.0	9.0	9.0	12.0	99.9
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	15.2	36.8	24.5	53.7	32.7	71.6	200.6	38.8	89.7	19.7	37.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	15.2	36.8	19.5	42.8	26.0	57.0	159.9	38.8	89.7	19.7	37.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	13.6	29.8	1.5	6.8	2.0	9.0	45.0								
-25	100/0	13.6	29.8	0.8	2.3	1.0	3.0	20.0								
-29	100/0	13.6	29.8	0.0	1.5	0.0	2.0	10.0								

- * Refer to Table 5 for the lowest usable precipitation rates in snow
- ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
- *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
- **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
- ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-26: NEWAVE AEROCHEMICAL FCY 9311
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.6186 A = -0.7874	I = 2.8340 A = -0.7480 B = -0.3361	I = 2.8340 A = -0.7480 B = -0.3361	I = 2.8340 A = -0.7480 B = -0.3361	I = 2.5218 A = -0.6026	I = 2.7035 A = -0.8019	I = 2.4128 A = -0.6988	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4840 A = -1.3099	I = 2.8340 A = -0.7480 B = -0.3361	I = 2.8340 A = -0.7480 B = -0.3361	I = 2.8340 A = -0.7480 B = -0.3361	I = 2.4894 A = -0.8313	I = 2.3272 A = -0.7195		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9261 A = -0.6637	I = 4.8041 A = -0.8155 B = -1.9481	I = 4.8041 A = -0.8155 B = -1.9481	I = 4.8041 A = -0.8155 B = -1.9481				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9261 A = -0.6637	I = 4.8041 A = -0.8155 B = -1.9481	I = 4.8041 A = -0.8155 B = -1.9481	I = 4.8041 A = -0.8155 B = -1.9481				
below -25 to -29.5 °C (below -13 to -21 °F)	100/0	I = 1.9261 A = -0.6637	I = 1.9749 A = -0.8155 B = 0.0000	I = 1.9749 A = -0.8155 B = 0.0000	I = 1.9749 A = -0.8155 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	117.0	240.8	26.9	53.3	35.8	71.0	174.7	70.9	126.1	38.2	64.6	9.5	9.5	12.7	84.0
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	37.0	122.9	21.2	42.2	28.3	56.2	138.4	36.6	81.0	21.0	33.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	37.0	122.9	18.2	36.0	24.2	48.0	118.1	36.6	81.0	21.0	33.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	29.0	53.2	10.1	21.3	13.5	28.4	75.9								
-25	100/0	29.0	53.2	5.6	11.9	7.5	15.9	42.3								
-29.5	100/0	29.0	53.2	5.1	10.8	6.8	14.4	38.5								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 4-27: NEWAVE AEROCHEMICAL FCY-EGIV
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.7246 A = -0.7713	I = 2.9022 A = -0.8496 B = -0.2809	I = 2.9022 A = -0.8496 B = -0.2809	I = 2.9022 A = -0.8496 B = -0.2809	I = 2.5738 A = -0.6025	I = 2.6083 A = -0.7282	I = 2.6420 A = -0.7798	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.6090 A = -0.9888	I = 2.9022 A = -0.8496 B = -0.2809	I = 2.9022 A = -0.8496 B = -0.2809	I = 2.9022 A = -0.8496 B = -0.2809	I = 2.8537 A = -1.0325	I = 2.4852 A = -0.6098		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.4392 A = -1.2580	I = 3.8875 A = -0.9433 B = -1.0268	I = 3.8875 A = -0.9433 B = -1.0268	I = 3.8875 A = -0.9433 B = -1.0268				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.4392 A = -1.2580	I = 3.8875 A = -0.9433 B = -1.0268	I = 3.8875 A = -0.9433 B = -1.0268	I = 3.8875 A = -0.9433 B = -1.0268				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.4392 A = -1.2580	I = 3.8875 A = -0.9433 B = -1.0268	I = 3.8875 A = -0.9433 B = -1.0268	I = 3.8875 A = -0.9433 B = -1.0268				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		6	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1/-3**	100/0	153.3	310.8	24.8	53.9	33.0	71.8	199.8	79.9	142.1	38.9	62.7	11.3	11.3	15.1	125.0
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	82.8	204.8	20.3	44.3	27.1	59.1	164.4	50.5	135.5	42.9	64.0				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10/-14***	100/0	82.8	204.8	17.9	38.9	23.8	51.8	144.1	50.5	135.5	42.9	64.0				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	36.3	114.9	12.8	30.5	17.1	40.6	126.3								
-25	100/0	36.3	114.9	9.5	22.4	12.5	29.8	92.8								
-29	100/0	36.3	114.9	8.2	19.4	10.9	25.9	80.6								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-28: NEWAVE AEROCHEMICAL FCY-EGIV PLUS
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4610 A = -0.2769	I = 2.9374 A = -0.8134 B = -0.3119	I = 2.9374 A = -0.8134 B = -0.3119	I = 2.9374 A = -0.8134 B = -0.3119	I = 2.4200 A = -0.4767	I = 2.4223 A = -0.5965	I = 2.6078 A = -0.7546	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5278 A = -0.7823	I = 2.9374 A = -0.8134 B = -0.3119	I = 2.9374 A = -0.8134 B = -0.3119	I = 2.9374 A = -0.8134 B = -0.3119	I = 2.4529 A = -0.5080	I = 2.3583 A = -0.6237		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.1398 A = -0.9646	I = 3.7216 A = -0.8810 B = -0.9570	I = 3.7216 A = -0.8810 B = -0.9570	I = 3.7216 A = -0.8810 B = -0.9570				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.1398 A = -0.9646	I = 3.7216 A = -0.8810 B = -0.9570	I = 3.7216 A = -0.8810 B = -0.9570	I = 3.7216 A = -0.8810 B = -0.9570				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.1398 A = -0.9646	I = 3.7216 A = -0.8810 B = -0.9570	I = 3.7216 A = -0.8810 B = -0.9570	I = 3.7216 A = -0.8810 B = -0.9570				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	185.1	238.6	28.7	60.4	38.2	80.5	214.4	77.4	122.1	38.8	57.3	n/a	n/a	15.6	120.3
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	95.7	196.0	23.1	48.7	30.8	64.9	172.7	77.1	125.3	30.6	46.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	95.7	196.0	20.0	42.0	26.6	56.0	149.2	77.1	125.3	30.6	46.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	29.2	70.7	13.2	29.6	17.6	39.4	113.8								
-25	100/0	29.2	70.7	9.9	22.2	13.2	29.6	85.4								
-29	100/0	29.2	70.7	8.7	19.4	11.6	25.9	74.6								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-29: SHAANXI CLEANWAY CLEANSURFACE IV
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5799 A = -0.5825	I = 3.3751 A = -0.9153 B = -0.6693	I = 3.3751 A = -0.9153 B = -0.6693	I = 3.3751 A = -0.9153 B = -0.6693	I = 2.3673 A = -0.4192	I = 2.8005 A = -0.8461	I = 2.5963 A = -0.7896	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3622 A = -0.8754	I = 3.3751 A = -0.9153 B = -0.6693	I = 3.3751 A = -0.9153 B = -0.6693	I = 3.3751 A = -0.9153 B = -0.6693	I = 2.7769 A = -1.1827	I = 1.9780 A = -0.4147		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7153 A = -0.5029	I = 4.9319 A = -0.8455 B = -2.0179	I = 4.9319 A = -0.8455 B = -2.0179	I = 4.9319 A = -0.8455 B = -2.0179				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7153 A = -0.5029	I = 4.9319 A = -0.8455 B = -2.0179	I = 4.9319 A = -0.8455 B = -2.0179	I = 4.9319 A = -0.8455 B = -2.0179				
below -25 to -30 °C (below -13 to -22 °F)	100/0	I = 1.6307 A = -0.4802	I = 1.9612 A = -0.8436 B = 0.0000	I = 1.9612 A = -0.8436 B = 0.0000	I = 1.9612 A = -0.8436 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	148.9	253.8	31.8	73.7	42.4	98.2	295.5	79.5	118.7	41.5	72.1	9.8	9.8	13.1	110.8
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	56.3	125.5	20.0	46.3	26.7	61.7	185.8	28.8	89.2	25.0	32.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	56.3	125.5	14.6	33.8	19.5	45.1	135.7	28.8	89.2	25.0	32.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
	100/0	23.1	36.6	10.0	21.7	13.3	28.9	80.0								
-25	100/0	23.1	36.6	5.5	11.9	7.3	15.8	43.7								
-30	100/0	19.7	30.6	4.6	9.8	6.1	13.1	36.2								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 4-30: XINJIANG ZHONGTIAN AVIATION CLEARICE-IV
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5730 A = -0.5808	I = 2.8289 A = -0.8073 B = -0.2979	I = 2.8289 A = -0.8073 B = -0.2979	I = 2.8289 A = -0.8073 B = -0.2979	I = 2.4973 A = -0.6147	I = 2.5684 A = -0.7275	I = 2.4579 A = -0.7134	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.2665 A = -0.5145	I = 2.8289 A = -0.8073 B = -0.2979	I = 2.8289 A = -0.8073 B = -0.2979	I = 2.8289 A = -0.8073 B = -0.2979	I = 2.3766 A = -0.5674	I = 2.3770 A = -0.6003		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.0127 A = -0.8043	I = 2.8366 A = -0.7581 B = -0.3811	I = 2.8366 A = -0.7581 B = -0.3811	I = 2.8366 A = -0.7581 B = -0.3811				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.0127 A = -0.8043	I = 2.8366 A = -0.7581 B = -0.3811	I = 2.8366 A = -0.7581 B = -0.3811	I = 2.8366 A = -0.7581 B = -0.3811				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.0127 A = -0.8043	I = 2.8366 A = -0.7581 B = -0.3811	I = 2.8366 A = -0.7581 B = -0.3811	I = 2.8366 A = -0.7581 B = -0.3811				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals ¹ (g/dm ² /h)		Mixed Snow and Freezing Fog ^{****} (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ^{*****} (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	26	10	26	10	LUPR [†]	13	6	26	13	76	75	76	6
+1 / -3 **	100/0	146.9	250.1	23.3	48.8	31.1	65.1	172.0	64.9	116.9	35.6	57.3	9.9	9.9	13.2	91.0
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	80.7	129.3	19.0	39.7	25.3	52.9	139.9	55.5	95.5	34.5	51.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	80.7	129.3	16.5	34.5	22.0	46.0	121.6	55.5	95.5	34.5	51.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	28.2	59.0	14.3	28.7	19.1	38.3	95.3								
-25	100/0	28.2	59.0	12.8	25.6	17.0	34.1	85.0								
-29	100/0	28.2	59.0	12.2	24.3	16.2	32.4	80.6								

[†] Refer to Table 5 for the lowest usable precipitation rates in snow
^{**} Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
^{***} Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
^{****} Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
^{*****} Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TC HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 4-31: TYPE IV GENERIC
VERIFICATION TABLE**

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog*** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain**** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	3	13	5	25	13	75	75	75	5
+1 / -3 *	100/0	74.8	137.0	20.0	40.4	26.7	53.8	135.2	35.6	67.7	16.7	30.0	6.2	6.2	8.2	63.8
	75/25	85.7	162.3	30.1	54.7	40.1	72.9	146.8	60.5	80.3	32.3	51.4	7.1	7.1	9.4	82.0
	50/50	30.7	52.7	7.5	19.8	10.0	26.4	71.8	16.5	39.1	9.4	17.6				
-8	100/0	15.2	36.8	17.6	35.4	23.5	47.2	118.6	23.1	60.4	17.6	28.5				
	75/25	37.6	80.0	23.6	48.8	31.5	65.1	131.0	19.1	62.6	17.4	26.7				
-10 / -14 **	100/0	15.2	36.8	14.6	32.4	19.5	43.2	108.6	23.1	60.4	17.6	28.5				
	75/25	37.6	80.0	20.1	42.6	26.8	56.8	121.3	19.1	62.6	17.4	26.7				
-18	100/0	13.6	29.8	1.5	6.8	2.0	9.0	45.0								
-25	100/0	13.6	29.8	0.8	2.3	1.0	3.0	20.0								

* Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 ** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 ***Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ****Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 5: LOWEST USABLE PRECIPITATION RATES IN SNOW¹
TYPE II, TYPE III AND TYPE IV FLUIDS²

Type II De/Anti-Icing Fluids				
FLUID DILUTION	100/0		75/25	50/50
TEMPERATURE	-14°C AND ABOVE	BELOW -14°C	-14°C AND ABOVE	-3°C AND ABOVE
ABAX ECOWING AD-2	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
Aviation Xi'an High-Tech Cleanwing II	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
Clariant Safewing MP II FLIGHT	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
Cryotech Polar Guard® II	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
ESSPO CHEMICALS Nordwing PG2	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Kilfrost ABC-K Plus	3 g/dm ² /h	10 g/dm ² /h	4 g/dm ² /h	3 g/dm ² /h
Kilfrost Ice Clear II	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
MKS DeVo Chemicals COREICEPHOB Type II	3 g/dm ² /h	3 g/dm ² /h	not applicable	3 g/dm ² /h
Newave Aerochemical FCY-2	3 g/dm ² /h	10 g/dm ² /h	not applicable	not applicable
ROMCHIM ADD-PROTECT NG Type II	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
ROMCHIM ADD-PROTECT Type II	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h

Type III De/Anti-Icing Fluids				
FLUID DILUTION	100/0		75/25	50/50
TEMPERATURE	-25°C AND ABOVE	BELOW -25°C	-10°C AND ABOVE	-3°C AND ABOVE
AllClear AeroClear MAX	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable

1 The lowest precipitation rate to be used as an input to the snow regression equations is constrained by the higher of: (1) the minimum demonstrated precipitation measuring equipment rates in accordance with Appendix A of Standard 622.11 (in no case less than 2.0 g/dm²/h) or (2) the lowest usable precipitation rate (LUPR) for the fluid/dilution/temperature as defined in this table.

2 Type I fluids are limited only by the general precipitation rate limitations set out in Appendix A of Standard 622.11.

TC HOT Guidelines Regression Information

Winter 2025-2026

Table 5: Lowest Usable Precipitation Rates in Snow¹ (cont'd)
TYPE II, TYPE III AND TYPE IV FLUIDS²

Type IV De/Anti-Icing Fluids				
FLUID DILUTION	100/0		75/25	50/50
TEMPERATURE	-14°C AND ABOVE	BELOW -14°C	-14°C AND ABOVE	-3°C AND ABOVE
ABAX ECOWING AD-49	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
AFLRUS LLC Green Flo Type 4	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
ALAB International PROFLIGHT EG4	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
ALAB International PROFLIGHT PG4	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
AllClear Clear IV Flight	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
AllClear ClearWing EG	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
ASGlobal 4Flite EG	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
ASGlobal 4Flite PG	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
AVIAFLUID AVIAFlight EG	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
AVIAFLUID AVIAFlight PG	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
CHEMCO ChemR EG IV	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
CHEMCO ChemR Nordik IV	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Chongqing Joba Chemical FW-IV	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Clariant Safewing MP IV LAUNCH	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
Clariant Safewing MP IV LAUNCH PLUS	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
Cryotech Polar Guard® Advance	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
Cryotech Polar Guard® Xtend	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Dow Inc. UCAR ENDURANCE™ EG106 ADF/AAF	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Dow Inc. UCAR™ FLIGHTGUARD™ AD-49	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
ESSPO CHEMICALS Nordwing PG4	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Inland Technologies ECO-SHIELD®	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
JSC RCP Nordix Defrost ECO 4	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
JSC RCP Nordix Defrost NORTH 4	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Kilfrost ABC-S Plus	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
MKS DevO Chemicals COREICEPHOB TYPE-IV PG	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Newave Aerochemical FCY 9311	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Newave Aerochemical FCY-EGIV	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Newave Aerochemical FCY-EGIV PLUS	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Shaanxi Cleanway Cleansurface IV	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Xinjiang Zhongtian Aviation Clearice-IV	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable

1 The lowest precipitation rate to be used as an input to the snow regression equations is constrained by the higher of: (1) the minimum demonstrated precipitation measuring equipment rates in accordance with Appendix A of Standard 622.11 (in no case less than 2.0 g/dm²/h) or (2) the lowest usable precipitation rate (LUPR) for the fluid/dilution/temperature as defined in this table.

2 Type I fluids are limited only by the general precipitation rate limitations set out in Appendix A of Standard 622.11.

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 6: HIGHEST USABLE PRECIPITATION RATES IN SNOW¹
TYPE II, TYPE III AND TYPE IV FLUIDS²

Type II De/Anti-Icing Fluids				
FLUID DILUTION	100/0		75/25	50/50
TEMPERATURE	-14°C AND ABOVE	BELOW -14°C	-14°C AND ABOVE	-3°C AND ABOVE
ABAX ECOWING AD-2	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
Aviation Xi'an High-Tech Cleanwing II	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
Clariant Safewing MP II FLIGHT	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	40 g/dm ² /h
Cryotech Polar Guard® II	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
ESSPO CHEMICALS Nordwing PG2	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Kilfrost ABC-K Plus	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	25 g/dm ² /h
Kilfrost Ice Clear II	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
MKS DevO Chemicals COREICEPHOB Type II	50 g/dm ² /h	25 g/dm ² /h	not applicable	50 g/dm ² /h
Newave Aerochemical FCY-2	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
ROMCHIM ADD-PROTECT NG Type II	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
ROMCHIM ADD-PROTECT Type II	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h

Type III De/Anti-Icing Fluids				
FLUID DILUTION	100/0		75/25	50/50
TEMPERATURE	-25°C AND ABOVE	BELOW -25°C	-10°C AND ABOVE	-3°C AND ABOVE
AllClear AeroClear MAX	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable

1 The highest precipitation rate to be used as an input to the snow regression equations is constrained by the lower of: (1) the maximum allowable precipitation rate for snow specified in Appendix A of Standard 622.11 (50 g/dm²/h) or (2) the highest usable precipitation rate (HUPR) for the fluid/dilution/temperature as defined in this table.

2 Type I fluids are limited only by the general precipitation rate limitations set out in Appendix A of Standard 622.11.

TC HOT Guidelines Regression Information

Winter 2025-2026

TABLE 6: HIGHEST USABLE PRECIPITATION RATES IN SNOW¹ (cont'd)
TYPE II, TYPE III AND TYPE IV FLUIDS²

Type IV De/Anti-Icing Fluids				
FLUID DILUTION	100/0		75/25	50/50
TEMPERATURE	-14°C AND ABOVE	BELOW -14°C	-14°C AND ABOVE	-3°C AND ABOVE
ABAX ECOWING AD-49	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
AFLRUS LLC Green Flo Type 4	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
ALAB International PROFLIGHT EG4	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
ALAB International PROFLIGHT PG4	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
AllClear Clear IV Flight	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
AllClear ClearWing EG	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
ASGlobal 4Flite EG	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
ASGlobal 4Flite PG	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
AVIAFLUID AVIAFlight EG	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
AVIAFLUID AVIAFlight PG	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
CHEMCO ChemR EG IV	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
CHEMCO ChemR Nordik IV	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Chongqing Joba Chemical FW-IV	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Clariant Safewing MP IV LAUNCH	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
Clariant Safewing MP IV LAUNCH PLUS	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
Cryotech Polar Guard® Advance	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
Cryotech Polar Guard® Xtend	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Dow Inc. UCAR ENDURANCE™ EG106 ADF/AAF	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Dow Inc. UCAR™ FLIGHTGUARD™ AD-49	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
ESSPO CHEMICALS Nordwing PG4	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Inland Technologies ECO-SHIELD®	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
JSC RCP Nordix Defrost ECO 4	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
JSC RCP Nordix Defrost NORTH 4	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Kilfrost ABC-S Plus	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
MKS DevO Chemicals COREICEPHOB TYPE-IV PG	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Newave Aerochemical FCY 9311	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Newave Aerochemical FCY-EGIV	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Newave Aerochemical FCY-EGIV PLUS	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Shaanxi Cleanway Cleansurface IV	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Xinjiang Zhongtian Aviation Clearice-IV	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable

1 The highest precipitation rate to be used as an input to the snow regression equations is constrained by the lower of: (1) the maximum allowable precipitation rate for snow specified in Appendix A of Standard 622.11 (50 g/dm²/h) or (2) the highest usable precipitation rate (HUPR) for the fluid/dilution/temperature as defined in this table.

2 Type I fluids are limited only by the general precipitation rate limitations set out in Appendix A of Standard 622.11.

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APPENDIX C

**FAA HOLDOVER TIME GUIDELINES
REGRESSION INFORMATION –
WINTER 2025-2026**

FAA HOLDOVER TIME GUIDELINES REGRESSION INFORMATION



WINTER 2025-2026
ORIGINAL ISSUE: AUGUST 12, 2025

The content of this document is the official FAA winter 2025-2026 holdover time guidelines regression information.

Direct questions or comments concerning FAA aircraft ground de/anti-icing requirements and policies, technical content of the holdover time tables and allowance time tables or access issues to 9-AFS-200-Correspondence@faa.gov with HOT25/26 in the subject line.

The Holdover Times Tables and related information can be found at the FAA's [Aircraft Ground Deicing website](#). To receive notifications on updates to the Holdover Times Tables and related information, subscribe to the Aircraft Ground Deicing website by clicking on this [link](#).

This is a guidance document. Its content is not legally binding in its own right and will not be relied upon by the Department as a separate basis for affirmative enforcement action or other administrative penalty. Conformity with the guidance document is voluntary only. Nonconformity will not affect rights and obligations under existing statutes and regulations

CHANGE CONTROL RECORDS

This page indicates any changes made to individual pages within the document. Changed pages have the appropriate revision date in the footer. Sidebars are shown to assist in identifying where changes have been made on these pages.

It is the responsibility of the end user to periodically check the following website for updates: https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/deicing/.

<i>REVISION</i>	<i>DATE</i>	<i>DESCRIPTION OF CHANGES</i>	<i>AFFECTED PAGES</i>	<i>AUTHOR</i>

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE OF CONTENTS

Change Control Records..... 2
Table of Contents 3
List of Tables 4
Highlights and Changes for Winter 2025-2026 5
Guidance for Using Regression Information 6
Regression Information Tables for Winter 2025-2026 9

LIST OF TABLES

Table 1-1: Generic Type I (Aluminum Wing Surfaces) 10

Table 1-2: Generic Type I (Composite Wing Surfaces) 11

Table 2-1: ABAX ECOWING AD-2 12

Table 2-2: Aviation Xi'an High-Tech Cleanwing II 13

Table 2-3: Clariant Safewing MP II FLIGHT 14

Table 2-4: Cryotech Polar Guard® II 15

Table 2-5: ESSPO CHEMICALS Nordwing PG2 16

Table 2-6: Kilfrost ABC-K Plus 17

Table 2-7: Kilfrost Ice Clear II 18

Table 2-8: MKS DevO Chemicals COREICEPHOB Type II 19

Table 2-8 (Cont'd): MKS DevO Chemicals COREICEPHOB Type II 20

Table 2-9: Newave Aerochemical FCY-2 21

Table 2-10: ROMCHIM ADD-PROTECT NG Type II 22

Table 2-11: ROMCHIM ADD-PROTECT Type II 23

Table 2-12: Type II Generic 24

Table 3-1: AllClear AeroClear MAX, Applied Unheated on Low Speed Aircraft 25

Table 3-2: AllClear AeroClear MAX, Applied Unheated on Middle Speed Aircraft 26

Table 3-3: AllClear AeroClear MAX, Applied Unheated on High Speed Aircraft 27

Table 4-1: ABAX ECOWING AD-49 28

Table 4-2: AFLRUS LLC Green Flo Type 4 29

Table 4-3: ALAB International PROFLIGHT EG4 30

Table 4-4: ALAB International PROFLIGHT PG4 31

Table 4-5: AllClear Clear IV Flight 32

Table 4-6: AllClear ClearWing EG 33

Table 4-7: ASGlobal 4Flite EG 34

Table 4-8: ASGlobal 4Flite PG 35

Table 4-9: AVIAFLUID AVIAFlight EG 36

Table 4-10: AVIAFLUID AVIAFlight PG 37

Table 4-11: CHEMCO ChemR EG IV 38

Table 4-12: CHEMCO ChemR Nordik IV 39

Table 4-13: CHONGQING JOBA CHEMICAL FW-IV 40

Table 4-14: Clariant Safewing MP IV LAUNCH 41

Table 4-15: Clariant Safewing MP IV LAUNCH PLUS 42

Table 4-16: Cryotech Polar Guard® Advance 43

Table 4-17: Cryotech Polar Guard® Xtend 44

Table 4-18: Dow Inc. UCAR ENDURANCE™ EG106 ADF/AAF 45

Table 4-19: Dow Inc. UCAR™ FLIGHTGUARD™ AD-49 46

Table 4-20: ESSPO CHEMICALS Nordwing PG4 47

Table 4-21: Inland Technologies ECO-SHIELD® 48

Table 4-22: JSC RCP Nordix Defrost ECO 4 49

Table 4-23: JSC RCP Nordix Defrost NORTH 4 50

Table 4-24: Kilfrost ABC-S Plus 51

Table 4-25: MKS DevO Chemicals COREICEPHOB TYPE-IV PG 52

Table 4-26: Newave Aerochemical FCY 9311 53

Table 4-27: Newave Aerochemical FCY-EGIV 54

Table 4-28: Newave Aerochemical FCY-EGIV PLUS 55

Table 4-29: Shaanxi Cleanway Cleansurface IV 56

Table 4-30: Xinjiang Zhongtian Aviation Clearice-IV 57

Table 4-31: Type IV Generic 58

Table 5: Lowest Usable Precipitation Rates in Snow 59

Table 6: Highest Usable Precipitation Rates in Snow 61

HIGHLIGHTS AND CHANGES FOR WINTER 2025-2026

The principal changes for this year are briefly indicated herein.

Type I Fluid

- The regression verification tables have been updated for all Type I fluids to incorporate the new precipitation of Moderate Snow mixed with Rain.

Type II Fluid

- The regression coefficients tables and verification tables have been added for the one new Type II fluid added to the holdover time (HOT) guidelines:
 - ESSPO CHEMICALS D.O.O Nordwing PG2 (Type II)
- The regression coefficients tables and verification tables have been updated for the two existing Type II fluids:
 - MKS DevO Chemicals COREICEPHOB Type II (Type II)
 - Newave Aerochemical FCY-2 (Type II)
- The regression verification tables have been updated for all Type II fluids to incorporate the new precipitation of Moderate Snow mixed with Rain.

Type III Fluid

- The regression verification tables have been updated for all Type III fluids to incorporate the new precipitation of Moderate Snow mixed with Rain.

Type IV Fluid

- The regression coefficients tables and verification tables has been added for the five new Type IV fluids, added to the holdover time (HOT) guidelines:
 - AFLRUS LLC Green Flo Type 4 (Type IV)
 - AllClear Systems Clear IV Flight (Type IV)
 - ESSPO CHEMICALS D.O.O Nordwing PG4 (Type IV)
 - Newave Aerochemical, FCY-EGIV PLUS (Type IV)
 - Xinjiang Zhongtian Liyang Aviation Clearice-IV (Type IV)
- The regression coefficients tables and verification tables have been updated for the two existing Type IV fluids:
 - ALAB International PROFLIGHT EG4 (Type IV)
 - ALAB International PROFLIGHT PG4 (Type IV)
- The regression verification tables have been updated for all Type IV fluids to incorporate the new precipitation of Moderate Snow mixed with Rain.

GUIDANCE FOR USING REGRESSION INFORMATION

In recent years, several companies have been developing systems that measure precipitation rate in real-time. These systems, referred to as liquid water equivalent systems (LWES), can be used by check-time determination systems (CTDS) and holdover time determination systems (HOTDS) to calculate more precise holdover times than can be obtained from the holdover time guidelines. They do this using the weather data they collect and the regression information underlying the holdover time guidelines.

As a result of the development of LWES, CTDS and HOTDS, the FAA is making the regression coefficients and equations underlying the holdover time tables available to users. The purpose of this document is to provide the holdover time guidelines regression information for the 2025-2026 holdover time guidelines and to provide guidance on its usage.

The sources of the regression data, along with a history of the publication of regression information, are documented in the latest Transport Canada report, *Regression Coefficients and Equations Used to Develop the Aircraft Ground Deicing Holdover Time Tables*. This document can be referenced for further information if required.

Use of these systems is authorized through the FAA Advisory Circular (AC) 120-112 *Use of Liquid Water Equivalent System (LWES) to Determine Holdover Times or Check Times for Anti-icing Fluids* (latest version). Throughout this document, AC 120-112 is referred as the FAA LWES AC. For further information contact Flight Standards Focal Thomas Natoli, phone 847-294-7967, email thomas.natoli@faa.gov.

Interpreting Regression Coefficients Tables

Regression information is provided in this document in a series of regression coefficients tables. Each regression coefficients table shows the regression coefficients and equations that are to be used to calculate holdover times at specific outside air temperatures, under specific precipitation types, with specific fluid dilutions (as applicable for Type II/III/IV fluids).

Each regression coefficients table is presented in the format of its corresponding holdover time table. One exception is the Type II and Type IV regression coefficients tables, which have a single temperature band (below -3 to -14°C) which provides the regression coefficients for both the below -3 to -8°C and below -8 to -14°C temperature bands in the Type II and Type IV holdover time tables. A footnote is provided at the top of each column to indicate the form of the regression equation for the cells in that column. The regression coefficients required for the equation are given in the corresponding cells below.

The coefficients provided in each table cell are valid only for the conditions (temperature, precipitation type, fluid dilution) of that cell. In cells where no temperature coefficient (coefficient "B") is provided, temperature is not an input into the equation.

Applicability of Regression Coefficients Tables

The Type I generic regression coefficients tables are applicable for all Type I fluids. Fluid-specific regression coefficients tables are available and applicable for all Type II, Type III, and Type IV fluids. If the specific fluid being used is not known, the methodology for calculating Type II or Type IV generic holdover times must be followed (see next page).

To use the regression information provided in this document to obtain holdover times that are valid for operations in which flaps/slats are deployed prior to de/anti-icing: use the regression information applicable to the fluid and weather condition and multiply the result obtained by 76%.

Calculating Type II and Type IV Generic Holdover Times

Generic Type II and Type IV holdover times are used when a flight crew is unaware of the specific fluid that has been used to de/anti-ice their aircraft. The generic values represent the shortest possible holdover time of either

FAA HOT Guidelines Regression Information

Winter 2025-2026

all Type II or all Type IV fluids available. The following methodologies must be applied to CTDS/HOTDS programming to enable the systems to determine generic Type II and Type IV holdover times.

Type II: To calculate Type II generic holdover times, the CTDS/HOTDS must be programmed to calculate the holdover time for each Type II fluid on the FAA list of fluids tested for anti-icing performance and aerodynamic acceptance and return the shortest holdover time calculated. This is the generic Type II holdover time.

Type IV: To calculate Type IV generic holdover times, the CTDS/HOTDS must be programmed to calculate the holdover time for each Type IV fluid on the FAA list of fluids tested for anti-icing performance and aerodynamic acceptance and return the shortest holdover time calculated. This is the generic Type IV holdover time.

Verification Tables

Verification tables are provided for each of the regression coefficients tables and also for the generic Type II and generic Type IV holdover times. Each verification table provides verification values for select boundary conditions in the associated holdover time table. For Type II, III and IV fluids, the verification tables also include verification values for the lowest usable precipitation rate in snow.

NOTE: CTDS/HOTDS manufacturers may find it useful to use these verification tables as an aid in verifying the implementation of their software algorithms. However, CTDS/HOTDS manufacturers are cautioned that these tables are not all encompassing and that they must develop comprehensive verification and validation methods to ensure the adequacy of their software algorithms.

Lowest and Highest Usable Precipitation Rates in Snow (Table 5 and Table 6)

Snow test data for some fluids is not sufficient to support extrapolation of the regression curves to very low and/or very high rates of precipitation. The lowest usable precipitation rates (LUPRs) and highest usable precipitation rates (HUPRs) in snow have been identified and are included in Table 5 (LUPRs) and Table 6 (HUPRs) for Type II, III and IV fluids (Type I fluids are not affected). The LUPRs and HUPRs differ by fluid brand, fluid dilution and temperature.

NOTE: At this time LUPRs and HUPRs are provided for snow only; LUPRs and HUPRs are not provided for any other precipitation type. The lowest and highest precipitation rates that can be used in other precipitation types are specified in the FAA LWES AC.

Limitations of Regression Information

Users are cautioned that care must be taken in the application of the regression information. There are a number of rules, exceptions and cautions detailed in this document, the holdover time guidelines, and the FAA LWES AC that must be considered.

Several limitations on the usage of the regression information are listed below.

- The regression coefficients can only be used with liquid water equivalent information that is provided by a CTDS or HOTDS in accordance with the FAA LWES AC.
- Regression equations which include a temperature coefficient cannot be populated with temperature data greater than or equal to 2°C. This is a limitation of the form of the equation. The FAA LWES AC instructs that 0°C be input into the equation when temperature is above 0°C.
- Regression data is developed for specific fluid dilutions. The data cannot be interpolated to determine holdover times for use with dilutions other than the standard 100/0, 75/25 and 50/50 mixtures.
- The regression coefficients are based on best-fit power-law curves and the shape of these curves can result in extreme values outside the precipitation rate limits at which endurance time tests are conducted. Therefore, these values are not necessarily accurate. Caution must therefore be exercised when using

FAA HOT Guidelines Regression Information**Winter 2025-2026**

the regression equations to calculate holdover times outside of the precipitation rate limits used in the development of holdover time tables, especially at precipitation rates below the lower precipitation rate limit, where the power-law curves give much longer holdover times.

- The lowest precipitation rate to be used as an input to the snow regression equations (this does not apply to other precipitation types) is constrained by the higher of the following:
 1. Minimum demonstrated precipitation measuring equipment rates in accordance with the FAA LWES AC (which shall not be less than 2.0 g/dm²/h); and
 2. Lowest usable precipitation rate (LUPR) for each fluid/dilution/temperature as defined in Table 5 of this document. The LUPR is the lowest precipitation rate for which sufficient snow data exists to support use of the regression coefficients.
- The highest precipitation rate to be used as an input to the snow regression equations (this does not apply to other precipitation types) is constrained by the lower of the following:
 1. The highest precipitation rate for snow stated in the FAA LWES AC (50 g/dm²/h); and
 2. The highest usable precipitation rate (HUPR) for each fluid/dilution/temperature as defined in Table 6 of this document. The HUPR is the highest precipitation rate for which sufficient snow data exists to support use of the regression coefficients.
- All other lowest and highest precipitation rates to be used as inputs to the regression equations are precipitation type dependent and provided in the FAA LWES AC.
- As regression coefficients and equations are not currently used in the determination of frost holdover times, regression coefficient information is not provided for frost.
- As regression coefficients and equations are not used in the determination of the allowance times provided for ice pellets, small hail and ice pellets mixed with other types of precipitation, regression coefficient information is not provided for allowance times.

REGRESSION INFORMATION TABLES FOR WINTER 2025-2026

The regression information for winter 2025-2026 is presented in a series of tables on the following pages. The regression information tables are presented first and are followed by the tables of highest and lowest usable precipitation rates.

The regression information tables are sorted by fluid type (Type I, then Type II, then Type III, then Type IV). Within each fluid type group, the tables are arranged in alphabetical order. The tables are as follows:

- Tables 1-1 to 1-2: Type I Fluid Regression Information Tables
- Tables 2-1 to 2-12: Type II Fluid Regression Information Tables
- Tables 3-1 to 3-3: Type III Fluid Regression Information Tables
- Tables 4-1 to 4-31: Type IV Fluid Regression Information Tables

The tables of highest and lowest usable precipitation rates are presented following the regression information. The tables are as follows:

- Table 5: Lowest Usable Precipitation Rates
- Table 6: Highest Usable Precipitation Rates

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE 1-1: GENERIC TYPE I (ALUMINUM WING SURFACES)
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions					
	Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}	Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
-3 °C and above (27 °F and above)	I = 1.3735 A = -0.4751	I = 2.0072 A = -0.5752 B = -0.5585	I = 1.3829 A = -0.3848	I = 2.2598 A = -1.4012	I = 0.9355 A = -0.3384	CAUTION: No holdover time guidelines exist
below -3 to -6 °C (below 27 to 21 °F)	I = 1.2734 A = -0.5299	I = 2.0072 A = -0.5752 B = -0.5585	I = 1.3842 A = -0.6152	I = 2.2598 A = -1.4012		
below -6 to -10 °C (below 21 to 14 °F)	I = 1.1678 A = -0.5575	I = 2.0072 A = -0.5752 B = -0.5585	I = 1.2545 A = -0.5857	I = 2.2598 A = -1.4012		
below -10 °C (below 14 °F)	I = 1.1473 A = -0.6415	I = 2.0072 A = -0.5752 B = -0.5585				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)

2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)

3 Type I aluminum snow values are rounded down to the nearest one minute (e.g. 6.5 mins = 6 mins, 18.6 mins = 18 mins) to determine holdover time table values

Outside Air Temp. (°C)	HOTDS Verification Times Under Various Weather Conditions (minutes)															
	Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)				Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain*** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
	5	2	25	10	25	10	4	3	13	5	25	13	75	75	75	5
+1 / -3 *	11.0	17.0	6.5	11.0	6.5	11.0	18.6	22.0	9.0	13.0	2.0	5.0	2.0	2.0	2.0	5.0
-6	8.0	13.0	5.0	8.5	5.0	8.5	14.3	16.9	5.0	9.0	2.0	5.0				
-10	6.0	10.0	4.0	6.7	4.0	6.7	11.4	13.5	4.0	7.0	2.0	5.0				
-25	5.0	9.0	2.5	4.3	2.5	4.3	7.3	8.6								

* Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C

**Mixed snow and freezing fog calculated at the equivalent moderate snow, snow grains or snow pellets holdover times

***Mixed moderate snow and rain calculated at the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE 1-2: GENERIC TYPE I (COMPOSITE WING SURFACES)
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions					
	Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}	Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
-3 °C and above (27 °F and above)	I = 1.3931 A = -0.6279	I = 1.6656 A = -0.7424 B = -0.2094	I = 1.4691 A = -0.5081	I = 2.2598 A = -1.4012	I = 1.1144 A = -0.5943	CAUTION: No holdover time guidelines exist
below -3 to -6 °C (below 27 to 21 °F)	I = 0.9976 A = -0.3140	I = 1.6656 A = -0.7424 B = -0.2094	I = 1.3842 A = -0.6152	I = 2.2598 A = -1.4012		
below -6 to -10 °C (below 21 to 14 °F)	I = 1.1308 A = -0.7565	I = 1.6656 A = -0.7424 B = -0.2094	I = 1.2545 A = -0.5857	I = 2.2598 A = -1.4012		
below -10 °C (below 14 °F)	I = 1.0289 A = -0.6107	I = 2.0072 A = -0.5752 B = -0.5585				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 Type I composite snow values below 10 mins are rounded down to the nearest one minute (e.g. 2.5 mins = 2 mins) to determine holdover time table values

Outside Air Temp. (°C)	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients															
	Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)				Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain*** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
	5	2	25	10	25	10	4	3	13	5	25	13	75	75	75	5
+1 / -3 *	9.0	16.0	3.0	6.0	3.0	6.0	11.8	14.6	8.0	13.0	2.0	5.0	1.0	1.0	1.0	5.0
-6	6.0	8.0	2.7	5.4	2.7	5.4	10.7	13.3	5.0	9.0	2.0	5.0				
-10	4.0	8.0	2.5	5.0	2.5	5.0	9.8	12.2	4.0	7.0	2.0	5.0				
-25	4.0	7.0	2.5	4.3	2.5	4.3	7.3	8.6								

* Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 **Mixed snow and freezing fog calculated at the equivalent moderate snow, snow grains or snow pellets holdover times
 ***Mixed moderate snow and rain calculated at the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE 2-1: ABAX ECOWING AD-2
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5300 A = -0.8946	I = 2.7889 A = -0.7155 B = -0.2871	I = 2.7889 A = -0.7155 B = -0.2871	I = 2.7889 A = -0.7155 B = -0.2871	I = 2.6240 A = -0.8987	I = 2.5285 A = -0.7682	I = 2.4977 A = -0.8034	CAUTION: No holdover time guidelines exist
	75/25	I = 1.9838 A = -0.1716	I = 2.5435 A = -0.7664 B = -0.0812	I = 2.5435 A = -0.7664 B = -0.0812	I = 2.5435 A = -0.7664 B = -0.0812	I = 2.2055 A = -0.5820	I = 2.2411 A = -0.6851	I = 2.3107 A = -0.8650	
	50/50	I = 1.6478 A = -0.5976	I = 2.0999 A = -0.7867 B = -0.1524	I = 2.0999 A = -0.7867 B = -0.1524	I = 2.0999 A = -0.7867 B = -0.1524	I = 1.6770 A = -0.6366	I = 1.5734 A = -0.5302		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5699 A = -1.2862	I = 2.7889 A = -0.7155 B = -0.2871	I = 2.7889 A = -0.7155 B = -0.2871	I = 2.7889 A = -0.7155 B = -0.2871	I = 2.6096 A = -1.0768	I = 2.3302 A = -0.7561		
	75/25	I = 2.4425 A = -1.2784	I = 2.5435 A = -0.7664 B = -0.0812	I = 2.5435 A = -0.7664 B = -0.0812	I = 2.5435 A = -0.7664 B = -0.0812	I = 2.7079 A = -1.3713	I = 2.3728 A = -0.7324		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.8390 A = -0.8725	I = 2.1496 A = -1.4094 B = 0.0000	I = 1.9908 A = -1.1457 B = 0.0000	I = 2.2123 A = -1.3672 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.8390 A = -0.8725	I = 2.0233 A = -1.7757 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -27 °C (below -13 to -17 °F)	100/0	I = 1.8390 A = -0.8725	I = 1.4031 A = -1.1696 B = 0.0000	I = 1.7565 A = -1.7565 B = 0.0000	I = 5.0259 A = -5.0259 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	80.3	182.3	29.0	56.0	38.7	74.6	176.5	42.0	99.0	28.5	47.1	7.4	7.4	9.8	86.3
	75/25	73.1	86.5	19.5	39.4	26.0	52.5	132.2	36.1	62.9	19.2	30.1	3.7	3.7	4.9	50.8
	50/50	17.0	29.4	5.9	12.1	7.8	16.1	41.5	9.3	17.1	6.8	9.6				
-8	100/0	46.9	152.3	23.8	45.8	31.7	61.1	144.7	25.7	71.9	18.8	30.8				
	75/25	35.4	114.2	18.5	37.2	24.6	49.6	124.9	15.1	56.2	22.3	36.1				
-10 / -14 ***	100/0	46.9	152.3	20.8	40.1	27.7	53.4	126.4	25.7	71.9	18.8	30.8				
	75/25	35.4	114.2	17.8	35.9	23.7	47.8	120.2	15.1	56.2	22.3	36.1				
-18	100/0	16.9	37.7	1.5	5.3	2.0	7.0	30.0								
-25	100/0	16.9	37.7	0.8	2.3	1.0	3.0	15.0								
-27	100/0	16.9	37.7	0.0	0.8	0.0	1.0	7.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

**TABLE 2-2: AVIATION XI'AN HIGH-TECH CLEANWING II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.2573 A = -0.7407	I = 2.6057 A = -0.6656 B = -0.3133	I = 2.6057 A = -0.6656 B = -0.3133	I = 2.6057 A = -0.6656 B = -0.3133	I = 2.1979 A = -0.5728	I = 2.2567 A = -0.6317	I = 2.1512 A = -0.6064	CAUTION: No holdover time guidelines exist
	75/25	I = 2.0742 A = -0.5411	I = 2.3044 A = -0.6229 B = -0.0204	I = 2.3044 A = -0.6229 B = -0.0204	I = 2.3044 A = -0.6229 B = -0.0204	I = 2.1475 A = -0.5338	I = 2.2158 A = -0.6683	I = 2.1568 A = -0.6861	
	50/50	I = 1.9836 A = -0.6276	I = 2.5060 A = -0.7213 B = -0.5237	I = 2.5060 A = -0.7213 B = -0.5237	I = 2.5060 A = -0.7213 B = -0.5237	I = 2.0341 A = -0.6288	I = 2.1847 A = -0.7830		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3283 A = -0.9431	I = 2.6057 A = -0.6656 B = -0.3133	I = 2.6057 A = -0.6656 B = -0.3133	I = 2.6057 A = -0.6656 B = -0.3133	I = 2.1441 A = -0.6033	I = 1.8282 A = -0.4021		
	75/25	I = 2.3328 A = -1.0611	I = 2.3044 A = -0.6229 B = -0.0204	I = 2.3044 A = -0.6229 B = -0.0204	I = 2.3044 A = -0.6229 B = -0.0204	I = 1.6685 A = -0.1061	I = 1.7474 A = -0.3274		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9950 A = -0.9540	I = 4.0861 A = -0.7279 B = -1.5166	I = 4.0861 A = -0.7279 B = -1.5166	I = 4.0861 A = -0.7279 B = -1.5166				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9950 A = -0.9540	I = 4.0861 A = -0.7279 B = -1.5166	I = 4.0861 A = -0.7279 B = -1.5166	I = 4.0861 A = -0.7279 B = -1.5166				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	54.9	108.2	21.5	39.5	28.6	52.6	117.3	36.3	62.7	23.6	35.7	7.7	7.7	10.3	53.4
	75/25	49.7	81.5	19.7	34.9	26.3	46.5	98.4	35.7	59.5	19.1	29.6	5.6	5.6	7.4	47.6
	50/50	35.1	62.3	10.1	19.7	13.5	26.2	62.5	21.6	39.3	12.3	20.5				
-8	100/0	46.7	110.8	17.3	31.7	23.0	42.3	94.4	29.7	52.8	18.5	24.0				
	75/25	39.0	103.1	19.4	34.4	25.9	45.8	97.0	35.5	39.3	19.5	24.1				
-10 / -14 ***	100/0	46.7	110.8	14.9	27.4	19.9	36.5	81.4	29.7	52.8	18.5	24.0				
	75/25	39.0	103.1	19.2	34.1	25.6	45.4	96.1	35.5	39.3	19.5	24.1				
-18	100/0	21.3	51.0	9.4	18.2	12.5	24.3	58.3								
-25	100/0	21.3	51.0	5.9	11.6	7.9	15.4	37.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

**TABLE 2-3: CLARIANT SAFEWING MP II FLIGHT
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ³ /h	4 to <10 g/dm ³ /h	≥ 10 g/dm ³ /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4369 A = -0.1630	I = 2.7425 A = -0.5435 B = -0.3120	I = 2.7425 A = -0.5435 B = -0.3120	I = 2.7425 A = -0.5435 B = -0.3120	I = 2.6541 A = -0.6697	I = 2.9080 A = -0.8860	I = 2.4810 A = -0.7583	
	75/25	I = 2.3415 A = -0.4326	I = 3.0163 A = -0.7162 B = -0.5615	I = 3.0163 A = -0.7162 B = -0.5615	I = 3.0163 A = -0.7162 B = -0.5615	I = 2.1306 A = -0.2689	I = 2.5596 A = -0.7512	I = 2.5884 or ⁴ I = 2.2277 A = -0.9638 A = -0.7375	
	50/50	I = 2.2250 A = -0.6732	I = 2.2879 A = -0.7080 B = -0.2971	I = 2.2879 A = -0.7080 B = -0.2971	I = 2.2879 A = -0.7080 B = -0.2971	I = 1.7413 A = -0.3693	I = 1.9070 A = -0.6463		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.2233 A = -0.6827	I = 2.7425 A = -0.5435 B = -0.3120	I = 2.7425 A = -0.5435 B = -0.3120	I = 2.7425 A = -0.5435 B = -0.3120	I = 2.6220 A = -0.9557	I = 2.5701 A = -0.8095		
	75/25	I = 2.1182 A = -1.0244	I = 3.0163 A = -0.7162 B = -0.5615	I = 3.0163 A = -0.7162 B = -0.5615	I = 3.0163 A = -0.7162 B = -0.5615	I = 2.6085 or ⁴ I = 2.7141 A = -1.0800 A = -1.2023	I = 2.3076 A = -0.6932		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.8996 A = -0.6356	I = 6.2483 A = -1.1556 B = -2.8476	I = 6.2483 A = -1.1556 B = -2.8476	I = 6.2483 A = -1.1556 B = -2.8476				CAUTION: No holdover time guidelines exist
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.8996 A = -0.6356	I = 6.2483 A = -1.1556 B = -2.8476	I = 6.2483 A = -1.1556 B = -2.8476	I = 6.2483 A = -1.1556 B = -2.8476				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 1.8996 A = -0.6356	I = 6.2483 A = -1.1556 B = -2.8476	I = 6.2483 A = -1.1556 B = -2.8476	I = 6.2483 A = -1.1556 B = -2.8476				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6
 4 Calculate value using both sets of coefficients; take shortest holdover time calculated

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR ¹	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	210.4	244.2	43.7	71.8	58.2	95.7	184.1	80.9	153.5	46.7	83.4	8.6	8.6	11.5	89.3
	75/25	109.4	162.7	31.4	60.6	41.9	80.8	191.5	67.8	87.6	32.3	52.8	4.5	4.5	6.0	51.5
	50/50	56.8	105.3	9.2	17.7	12.3	23.6	55.3	21.4	30.4	10.1	15.4				
-8	100/0	55.7	104.2	35.2	57.8	46.9	77.1	148.3	36.1	89.9	27.4	46.6				
	75/25	25.2	64.5	21.3	41.1	28.4	54.8	129.7	23.7	71.4	21.8	34.3				
-10 / -14 ***	100/0	55.7	104.2	30.4	50.0	40.5	66.6	128.1	36.1	89.9	27.4	46.6				
	75/25	25.2	64.5	16.4	31.6	21.8	42.1	99.6	23.7	71.4	21.8	34.3				
-18	100/0	28.5	51.1	6.4	18.3	8.5	24.4	98.2								
-25	100/0	28.5	51.1	2.7	7.8	3.6	10.4	41.8								
-29	100/0	28.5	51.1	1.8	5.3	2.4	7.0	28.2								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 2-4: CRYOTECH POLAR GUARD® II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5794 A = -0.5025	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.2682 A = -0.2524	I = 2.2584 A = -0.2806	I = 2.6661 A = -0.7999	CAUTION: No holdover time guidelines exist
	75/25	I = 2.5776 A = -0.5705	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.2204 A = -0.1898	I = 2.8328 A = -0.8896	I = 2.6248 A = -0.8807	
	50/50	I = 2.1254 A = -0.6271	I = 2.8810 A = -1.0631 B = -0.5673	I = 2.8810 A = -1.0631 B = -0.5673	I = 2.8810 A = -1.0631 B = -0.5673	I = 2.2943 A = -0.9086	I = 2.3695 A = -0.9996		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5101 A = -1.1145	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.7077 A = -1.0390	I = 2.0801 A = -0.3886		
	75/25	I = 2.2594 A = -0.9785	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.4495 A = -0.9076	I = 2.0483 A = -0.3597		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9253 A = -0.6979	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9253 A = -0.6979	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134				
below -25 to -30.5 °C (below -13 to -23 °F)	100/0	I = 1.9253 A = -0.6979	I = 2.0544 A = -1.1592 B = 0.0000	I = 2.0544 A = -1.1592 B = 0.0000	I = 2.0544 A = -1.1592 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		Freezing Fog, Freezing Mist, or Ice Crystals ¹ (g/dm ² /h)		Mixed Snow and Freezing Fog ^{****} (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ^{*****} (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR [*]	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	169.1	268.0	49.2	85.2	65.6	113.6	233.5	97.1	123.5	73.5	88.3	11.0	11.0	14.7	127.9
	75/25	151.0	254.6	30.1	63.7	40.1	84.9	227.7	102.1	122.4	38.8	69.5	7.1	7.1	9.4	102.1
	50/50	48.6	86.4	7.5	19.8	10.0	26.4	94.9	19.2	45.6	9.4	18.0				
-8	100/0	53.8	149.5	36.3	62.9	48.4	83.8	172.4	35.5	95.8	34.4	44.4				
	75/25	37.6	92.2	23.6	50.1	31.5	66.8	179.1	27.4	65.3	35.1	44.4				
-10 / -14 ***	100/0	53.8	149.5	29.6	51.2	39.4	68.2	140.3	35.5	95.8	34.4	44.4				
	75/25	37.6	92.2	20.1	42.6	26.8	56.8	152.2	27.4	65.3	35.1	44.4				
-18	100/0	27.4	51.9	8.6	24.9	11.5	33.2	134.2								
-25	100/0	27.4	51.9	3.8	10.4	4.8	13.8	56.0								
-30.5	100/0	27.4	51.9	2.0	5.9	2.7	7.9	31.7								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

**TABLE 2-5: ESSPO CHEMICALS NORDWING PG2
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4914 A = -0.7105	I = 2.8949 A = -0.7581 B = -0.3527	I = 2.8949 A = -0.7581 B = -0.3527	I = 2.8949 A = -0.7581 B = -0.3527	I = 2.4158 A = -0.5492	I = 2.1981 A = -0.3494	I = 2.4454 A = -0.6143	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3833 A = -0.7941	I = 2.8949 A = -0.7581 B = -0.3527	I = 2.8949 A = -0.7581 B = -0.3527	I = 2.8949 A = -0.7581 B = -0.3527	I = 2.3727 A = -0.6066	I = 2.7322 A = -0.9280		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7518 A = -0.6827	I = 4.3464 A = -0.9392 B = -1.4611	I = 4.3464 A = -0.9392 B = -1.4611	I = 4.3464 A = -0.9392 B = -1.4611				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7518 A = -0.6827	I = 4.3464 A = -0.9392 B = -1.4611	I = 4.3464 A = -0.9392 B = -1.4611	I = 4.3464 A = -0.9392 B = -1.4611				
below -25 to -30 °C (below -13 to -22 °F)	100/0	I = 1.5558 A = -0.3434	I = 1.9177 A = -0.9366 B = 0.0000	I = 1.9177 A = -0.9366 B = 0.0000	I = 1.9177 A = -0.9366 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	98.8	189.5	29.1	58.3	38.8	77.7	193.5	63.7	107.6	51.2	64.4	14.8	14.8	19.7	103.8
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	67.3	139.4	22.8	45.6	30.4	60.8	151.5	49.8	88.9	27.2	49.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	67.3	139.4	19.3	38.6	25.7	51.5	128.4	49.8	88.9	27.2	49.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	18.8	35.2	10.2	24.1	13.6	32.1	99.4								
-25	100/0	18.8	35.2	6.6	15.5	8.8	20.7	64.1								
-30	100/0	20.7	28.3	3.1	7.2	4.1	9.6	29.6								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 2-6: KILFROST ABC-K PLUS
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions					
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}	Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
-3 °C and above (27 °F and above)	100/0	I = 2.5148 A = -0.5532	I = 2.6804 A = -0.5771 B = -0.1414	I = 2.2527 A = -0.1978	I = 2.5473 A = -0.5588	I = 2.6523 A = -0.7393	CAUTION: No holdover time guidelines exist
	75/25	I = 2.3020 A = -0.4342	I = 2.5273 A = -0.6849 B = -0.0149	I = 2.3200 A = -0.3522	I = 2.4709 A = -0.5601	I = 2.5956 A = -0.7470	
	50/50	I = 1.9950 A = -0.6463	I = 2.3972 A = -0.8261 B = -0.5288	I = 1.7256 A = -0.3910	I = 2.0364 A = -0.7354		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.0780 A = -0.8928	I = 2.6804 A = -0.5771 B = -0.1414	I = 2.4865 A = -0.9979	I = 3.2510 A = -1.5260		
	75/25	I = 2.3405 A = -1.3357	I = 2.5273 A = -0.6849 B = -0.0149	I = 2.4921 A = -1.0863	I = 3.6906 A = -1.9574		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9498 A = -0.6590	I = 2.2123 A = -1.3672 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9498 A = -0.6590	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 1.9498 A = -0.6590	I = 5.0259 A = -5.0259 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	134.3	223.0	44.6	75.8	59.5	101.0	202.4	107.7	130.1	58.4	84.1	13.9	13.9	18.5	136.6
	75/25	99.7	148.4	27.2	50.9	36.3	67.9	127.2	84.7	118.5	48.7	70.3	11.8	11.8	15.7	118.4
	50/50	34.9	63.2	5.6	11.9	7.5	15.9	43.0	19.5	28.3	10.2	16.5				
-8	100/0	28.4	64.5	40.5	68.7	54.0	91.6	183.5	23.7	61.5	13.1	35.6				
	75/25	25.5	86.8	26.9	50.4	35.9	67.2	125.9	19.1	54.1	9.0	32.4				
	50/50	28.4	64.5	37.9	64.3	50.5	85.7	171.7	23.7	61.5	13.1	35.6				
-10 / -14 ***	100/0	25.5	86.8	26.7	50.1	35.6	66.8	125.0	19.1	54.1	9.0	32.4				
	75/25	25.5	86.8	26.7	50.1	35.6	66.8	125.0	19.1	54.1	9.0	32.4				
	50/50	25.5	86.8	26.7	50.1	35.6	66.8	125.0	19.1	54.1	9.0	32.4				
-18	100/0	30.8	56.4	1.5	5.3	2.0	7.0	7.0								
-25	100/0	30.8	56.4	0.8	2.3	1.0	3.0	3.0								
-29	100/0	30.8	56.4	0.0	0.8	0.0	1.0	1.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE 2-7: KILFROST ICE CLEAR II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.3507 A = -0.6180	I = 2.6644 A = -0.6692 B = -0.1515	I = 2.6644 A = -0.6692 B = -0.1515	I = 2.6644 A = -0.6692 B = -0.1515	I = 2.3449 A = -0.5100	I = 2.6586 A = -0.7656	I = 2.6138 A = -0.7538	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4722 A = -0.9547	I = 2.6644 A = -0.6830 B = -0.1515	I = 2.6644 A = -0.6692 B = -0.1515	I = 2.6644 A = -0.6692 B = -0.1515	I = 2.5827 A = -1.0030	I = 2.3138 A = -0.5303		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7916 A = -0.3979	I = 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7916 A = -0.3979	I = 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987				
below -25 to -28 °C (below -13 to -18 °F)	100/0	I = 1.7916 A = -0.3979	I = 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR ¹	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	82.9	146.1	31.5	58.1	42.0	77.5	173.5	59.8	97.4	38.8	63.9	11.9	11.9	15.9	122.2
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	63.8	153.0	28.4	52.4	37.8	69.8	156.2	29.2	76.1	37.4	52.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	63.8	153.0	26.4	48.8	35.2	65.0	145.4	29.2	76.1	37.4	52.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	32.6	47.0	11.6	21.7	15.5	28.9	65.8								
-25	100/0	32.6	47.0	6.2	11.6	8.2	15.4	35.1								
-28	100/0	32.6	47.0	5.0	9.2	6.6	12.3	28.1								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

**TABLE 2-8: MKS DEVO CHEMICALS COREICEPHOB TYPE II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

USE OF THE REGRESSION COEFFICIENTS TABLE

This fluid was retested with a Lowest On-Wing Viscosity (LOWV) below that of the original fluid sample tested. As per ARP 5718, the holdover times should be determined using the following protocol:

1. Generate outputs using regression coefficients from both the original and retested fluid samples.
2. Use the lowest value in each cell to establish the fluid holdover times.
3. Validate the calculated holdover times against the verification table provided on the subsequent page to ensure accuracy.

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
ORIGINAL FLUID SAMPLE									
-3 °C and above (27 °F and above)	100/0	I = 2.3217 A = -0.3631	I = 2.9268 A = -0.6775 B = -0.4716	I = 2.9268 A = -0.6775 B = -0.4716	I = 2.9268 A = -0.6775 B = -0.4716	I = 2.4040 A = -0.4677	I = 2.5645 A = -0.6443	I = 2.4656 A = -0.7099	CAUTION: No holdover time guidelines exist
	50/50	I = 2.1717 A = -0.5171	I = 2.4249 A = -0.6155 B = -0.0410	I = 2.4249 A = -0.6155 B = -0.0410	I = 2.4249 A = -0.6155 B = -0.0410	I = 2.2073 A = -0.4575	I = 2.3968 A = -0.6952		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3168 A = -0.8411	I = 2.9268 A = -0.6775 B = -0.4716	I = 2.9268 A = -0.6775 B = -0.4716	I = 2.9268 A = -0.6775 B = -0.4716	I = 2.4949 A = -0.9099	I = 2.3371 A = -0.7041		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.6667 A = -0.5734	I = 6.1052 A = -0.6203 B = -3.2300	I = 6.1052 A = -0.6203 B = -3.2300	I = 6.1052 A = -0.6203 B = -3.2300				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.6667 A = -0.5734	I = 6.1052 A = -0.6203 B = -3.2300	I = 6.1052 A = -0.6203 B = -3.2300	I = 6.1052 A = -0.6203 B = -3.2300				
below -25 to -27 °C (below -13 to -17 °F)	100/0	I = 1.6667 A = -0.5734	I = 6.1052 A = -0.6203 B = -3.2300	I = 6.1052 A = -0.6203 B = -3.2300	I = 6.1052 A = -0.6203 B = -3.2300				
RETESTED FLUID SAMPLE									
-3 °C and above (27 °F and above)	100/0	I = 2.4653 A = -0.5604	I = 3.1650 A = -0.8867 B = -0.4453	I = 3.1650 A = -0.8867 B = -0.4453	I = 3.1650 A = -0.8867 B = -0.4453	I = 2.4599 A = -0.5479	I = 2.3590 A = -0.5101	I = 2.5381 A = -0.7680	CAUTION: No holdover time guidelines exist
	50/50	I = 2.2046 A = -0.4409	I = 2.6577 A = -0.7712 B = -0.3219	I = 2.6577 A = -0.7712 B = -0.3219	I = 2.6577 A = -0.7712 B = -0.3219	I = 2.1779 A = -0.3968	I = 1.9533 A = -0.4099		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.1088 A = -0.6248	I = 3.1650 A = -0.8867 B = -0.4453	I = 3.1650 A = -0.8867 B = -0.4453	I = 3.1650 A = -0.8867 B = -0.4453	I = 2.7357 A = -1.1104	I = 2.1346 A = -0.4951		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.4812 A = -0.4205	I = 4.8603 A = -0.7571 B = -2.1166	I = 4.8603 A = -0.7571 B = -2.1166	I = 4.8603 A = -0.7571 B = -2.1166				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.4812 A = -0.4205	I = 4.8603 A = -0.7571 B = -2.1166	I = 4.8603 A = -0.7571 B = -2.1166	I = 4.8603 A = -0.7571 B = -2.1166				
below -25 to -27 °C (below -13 to -17 °F)	100/0	I = 1.4812 A = -0.4205	I = 4.8603 A = -0.7571 B = -2.1166	I = 4.8603 A = -0.7571 B = -2.1166	I = 4.8603 A = -0.7571 B = -2.1166				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

FAA HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 2-8 (CONT'D): MKS DEVO CHEMICALS COREICEPHOB TYPE II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	116.9	163.1	30.8	62.3	41.1	83.1	187.9	70.5	119.9	44.2	61.8	9.4	9.4	12.5	93.2
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	64.6	103.8	17.0	34.4	22.6	45.9	116.1	49.9	77.2	24.0	31.4				
-8	100/0	47.0	83.3	22.7	44.9	30.2	59.9	135.5	30.3	72.3	22.5	35.7				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	47.0	83.3	18.4	36.0	24.5	48.0	108.6	30.3	72.3	22.5	35.7				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	15.4	22.6	8.2	14.4	10.9	19.2	40.4								
	-25	100/0	15.4	22.6	3.1	5.5	4.1	7.3	15.3							
-27	100/0	15.4	22.6	2.5	4.4	3.3	5.8	12.2								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 ****Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 *****Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 2-9: NEWAVE AEROCHEMICAL FCY-2
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions					
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}	Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
-3 °C and above (27 °F and above)	100/0	I = 2.3831 A = -0.7394	I = 2.7862 A = -0.6652 B = -0.5351	I = 2.3424 A = -0.7349	I = 2.1756 A = -0.5685	I = 2.0886 A = -0.6241	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.1844 A = -0.7552	I = 2.7862 A = -0.6652 B = -0.5351	I = 2.2637 A = -0.8968	I = 1.6935 A = -0.3738		
	75/25	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7388 A = -0.5485	I = 2.2123 A = -1.3672 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7388 A = -0.5485	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -28 °C (below -13 to -18 °F)	100/0	I = 1.7388 A = -0.5485	I = 5.0259 A = -5.0259 B = 0.0000				

1 Regression Equation: $t = 10^t R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^t R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	73.5	144.7	22.8	41.9	30.4	55.8	124.4	33.4	67.4	24.0	34.9	6.2	6.2	8.3	44.9
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	45.3	90.6	15.8	28.9	21.0	38.5	85.8	18.4	43.3	14.8	18.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	45.3	90.6	12.2	22.5	16.3	30.0	66.8	18.4	43.3	14.8	18.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	22.7	37.5	1.5	5.3	2.0	7.0	7.0								
-25	100/0	22.7	37.5	0.8	2.3	1.0	3.0	3.0								
-28	100/0	22.7	37.5	0.0	0.8	0.0	1.0	1.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

**TABLE 2-10: ROMCHIM ADD-PROTECT NG TYPE II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.3974 A = -0.7794	I = 3.0299 A = -0.8381 B = -0.4851	I = 3.0299 A = -0.8381 B = -0.4851	I = 3.0299 A = -0.8381 B = -0.4851	I = 2.3113 A = -0.5668	I = 2.2728 A = -0.5113	I = 2.4042 A = -0.8164	CAUTION: No holdover time guidelines exist
	75/25	I = 2.2548 A = -0.6819	I = 2.8970 A = -0.8514 B = -0.4622	I = 2.8970 A = -0.8514 B = -0.4622	I = 2.8970 A = -0.8514 B = -0.4622	I = 2.3252 A = -0.6462	I = 2.3988 A = -0.7047	I = 2.2378 A = -0.7242	
	50/50	I = 2.0350 A = -0.9539	I = 2.3515 A = -0.7025 B = -0.2827	I = 2.3515 A = -0.7025 B = -0.2827	I = 2.3515 A = -0.7025 B = -0.2827	I = 1.9619 A = -0.6157	I = 2.0649 A = -0.7375		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.1684 A = -0.6263	I = 3.0299 A = -0.8381 B = -0.4851	I = 3.0299 A = -0.8381 B = -0.4851	I = 3.0299 A = -0.8381 B = -0.4851	I = 2.3829 A = -0.7538	I = 2.1520 A = -0.5404		
	75/25	I = 2.1020 A = -0.5437	I = 2.8970 A = -0.8514 B = -0.4622	I = 2.8970 A = -0.8514 B = -0.4622	I = 2.8970 A = -0.8514 B = -0.4622	I = 2.4793 A = -0.9714	I = 2.3197 A = -0.7496		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.4934 A = -0.5224	I = 2.1496 A = -1.4094 B = 0.0000	I = 1.9908 A = -1.1457 B = 0.0000	I = 2.2123 A = -1.3672 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.4934 A = -0.5224	I = 2.0233 A = -1.7757 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -28 °C (below -13 to -18 °F)	100/0	I = 1.4934 A = -0.5224	I = 1.4031 A = -1.1696 B = 0.0000	I = 1.7565 A = -1.7565 B = 0.0000	I = 5.0259 A = -5.0259 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	71.2	145.5	24.8	53.4	33.1	71.2	195.4	47.9	82.2	36.1	50.5	5.6	5.6	7.5	68.2
	75/25	60.0	112.1	18.2	39.6	24.2	52.8	147.1	40.3	74.7	25.9	41.1	5.7	5.7	7.6	53.9
	50/50	23.3	56.0	11.2	21.2	14.9	28.3	65.9	18.9	34.0	10.8	17.5				
-8	100/0	53.8	95.5	17.7	38.2	23.6	50.9	139.6	34.9	71.8	24.9	35.5				
	75/25	52.7	86.8	13.2	26.7	17.6	38.3	106.8	25.0	63.1	18.7	30.5				
-10 / -14 ***	100/0	53.8	95.5	14.1	30.4	18.8	40.5	111.1	34.9	71.8	24.9	35.5				
	75/25	52.7	86.8	10.6	23.1	14.1	30.8	85.9	25.0	63.1	18.7	30.5				
-18	100/0	13.4	21.7	1.5	5.3	2.0	7.0	30.0								
-25	100/0	13.4	21.7	0.8	2.3	1.0	3.0	15.0								
-28	100/0	13.4	21.7	0.0	0.8	0.0	1.0	7.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 2-11: ROMCHIM ADD-PROTECT TYPE II
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5740 A = -0.8251	I = 2.8637 A = -0.7431 B = -0.5033	I = 2.8637 A = -0.7431 B = -0.5033	I = 2.8637 A = -0.7431 B = -0.5033	I = 2.6191 A = -0.9213	I = 2.4792 A = -0.7630	I = 2.1185 A = -0.6149	CAUTION: No holdover time guidelines exist
	75/25	I = 2.0354 A = -0.6203	I = 2.5210 A = -0.6815 B = -0.4862	I = 2.5210 A = -0.6815 B = -0.4862	I = 2.5210 A = -0.6815 B = -0.4862	I = 2.0120 A = -0.5901	I = 2.1011 A = -0.6689	I = 1.7686 A = -0.5325	
	50/50	I = 1.7404 A = -0.6221	I = 1.9864 A = -0.5840 B = -0.2529	I = 1.9864 A = -0.5840 B = -0.2529	I = 1.9864 A = -0.5840 B = -0.2529	I = 2.0897 A = -0.9018	I = 1.7429 A = -0.6010		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 1.8401 A = -0.5735	I = 2.8637 A = -0.7431 B = -0.5033	I = 2.8637 A = -0.7431 B = -0.5033	I = 2.8637 A = -0.7431 B = -0.5033	I = 2.2574 A = -0.7754	I = 2.0901 A = -0.5723		
	75/25	I = 1.9219 A = -0.6509	I = 2.5210 A = -0.6815 B = -0.4862	I = 2.5210 A = -0.6815 B = -0.4862	I = 2.5210 A = -0.6815 B = -0.4862	I = 1.8894 A = -0.5596	I = 1.8836 A = -0.5597		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.5810 A = -0.5714	I = 2.1496 A = -1.4094 B = 0.0000	I = 1.9908 A = -1.1457 B = 0.0000	I = 2.2123 A = -1.3672 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.5810 A = -0.5714	I = 2.0233 A = -1.7757 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -28 °C (below -13 to -18 °F)	100/0	I = 1.5810 A = -0.5714	I = 1.4031 A = -1.1696 B = 0.0000	I = 1.7565 A = -1.7565 B = 0.0000	I = 5.0259 A = -5.0259 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	99.4	211.7	22.3	44.0	29.7	58.7	143.7	39.2	94.4	25.9	42.6	6.9	6.9	9.2	48.8
	75/25	40.0	70.6	12.7	23.7	16.9	31.6	71.8	22.6	39.8	14.7	22.7	4.4	4.4	5.9	24.9
	50/50	20.2	35.7	7.4	12.6	9.8	16.8	34.0	12.2	28.8	8.0	11.8				
-8	100/0	27.5	46.5	15.8	31.1	21.0	41.4	101.4	24.8	51.9	19.5	28.4				
	75/25	29.3	53.2	9.1	17.0	12.1	22.6	51.2	18.5	31.5	12.6	18.2				
-10 / -14 ***	100/0	27.5	46.5	12.5	24.5	16.6	32.7	80.0	24.8	51.9	19.5	28.4				
	75/25	29.3	53.2	7.2	13.4	9.6	17.9	40.8	18.5	31.5	12.6	18.2				
-18	100/0	15.2	25.6	1.5	5.3	2.0	7.0	30.0								
-25	100/0	15.2	25.6	0.8	2.3	1.0	3.0	15.0								
-28	100/0	15.2	25.6	0.0	0.8	0.0	1.0	7.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

**TABLE 2-12: TYPE II GENERIC
VERIFICATION TABLE**

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>													
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog*** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)		Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain**** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	13	5	25	13	75	5	75	5
+1 / -3 *	100/0	54.9	108.2	21.5	39.5	28.6	52.6	33.4	62.7	23.6	34.9	5.6	5.6	7.5	44.9
	75/25	40.0	70.6	12.7	23.7	16.9	31.6	22.6	39.8	14.7	22.7	3.7	3.7	4.9	24.9
	50/50	17.0	29.4	5.6	11.9	7.5	15.9	9.3	17.1	6.8	9.6				
-8	100/0	27.5	46.5	15.8	28.9	21.0	38.5	18.4	43.3	13.1	18.9				
	75/25	25.2	53.2	9.1	17.0	12.1	22.6	15.1	31.5	9.0	18.2				
-10 / -14 **	100/0	27.5	46.5	12.2	22.5	16.3	30.0	18.4	43.3	13.1	18.9				
	75/25	25.2	53.2	7.2	13.4	9.6	17.9	15.1	31.5	9.0	18.2				
-18	100/0	13.4	21.7	1.5	5.3	2.0	7.0								
	100/0	13.4	21.7	0.8	2.3	1.0	3.0								

*Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 **Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 ***Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ****Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE 3-1: ALLCLEAR AEROCLEAR MAX, APPLIED UNHEATED ON LOW SPEED AIRCRAFT
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions ¹					
		Freezing Fog, Freezing Mist, or Ice Crystals ²	Snow, Snow Grains or Snow Pellets ^{2*}	Freezing Drizzle ²	Light Freezing Rain ²	Rain on Cold Soaked Wing ²	Other
-3 °C and above (27 °F and above)	100/0	I = 2.3532 A = -0.9867	I = 2.4111 A = -0.8236 B = 0.0000	I = 2.2733 A = -0.8172	I = 2.4359 A = -0.9105	I = 2.1350 A = -0.7258	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	
below -3 to -10°C (below 27 to 14 °F)	100/0	I = 2.2318 A = -0.7815	I = 2.4111 A = -0.8236 B = 0.0000	I = 2.1031 A = -0.6645	I = 2.2245 A = -0.7407		
	75/25	n/a	n/a	n/a	n/a		
below -10 to -16 °C (below 14 to 3 °F)	100/0	I = 2.3342 A = -1.0165	I = 2.4111 A = -0.8236 B = 0.0000				

1 CAUTION: Fluid must be applied unheated on aircraft conforming to the SAE AS5900 low speed aerodynamic test criterion to use these regression coefficients
 2 Regression Equation: $t = 10^4 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 3 Regression Equation: $t = 10^4 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 4 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog ^{***} (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ^{****} (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR [*]	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	46.1	113.8	13.7	29.0	18.2	38.7	104.3	23.1	50.4	14.6	26.4	4.4	4.4	5.9	42.4
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10	100/0	48.5	99.2	13.7	29.0	18.2	38.7	104.3	23.1	43.5	15.5	25.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-16	100/0	42.0	106.7	13.7	29.0	18.2	38.7	104.3								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 ***Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ****Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 3-2: ALLCLEAR AEROCLEAR MAX, APPLIED UNHEATED ON MIDDLE SPEED AIRCRAFT
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions ¹					
		Freezing Fog, Freezing Mist, or Ice Crystals ²	Snow, Snow Grains or Snow Pellets ^{3,4}	Freezing Drizzle ²	Light Freezing Rain ²	Rain on Cold Soaked Wing ²	Other
-3 °C and above (27 °F and above)	100/0	I = 2.3532 A = -0.9867	I = 2.4111 A = -0.8236 B = 0.0000	I = 2.2733 A = -0.8172	I = 2.4359 A = -0.9105	I = 2.1350 A = -0.7258	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	
below -3 to -10°C (below 27 to 14 °F)	100/0	I = 2.2318 A = -0.7815	I = 2.4111 A = -0.8236 B = 0.0000	I = 2.1031 A = -0.6645	I = 2.2245 A = -0.7407		
	75/25	n/a	n/a	n/a	n/a		
below -10 to -20.5 °C (below 14 to -5 °F)	100/0	I = 2.3342 A = -1.0165	I = 2.4111 A = -0.8236 B = 0.0000				

1 CAUTION: Fluid must be applied unheated on aircraft conforming to the SAE AS5900 low speed aerodynamic test criterion to use these regression coefficients
 2 Regression Equation: $t = 10^t R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 3 Regression Equation: $t = 10^t R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 4 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog ^{***} (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ^{****} (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	46.1	113.8	13.7	29.0	18.2	38.7	104.3	23.1	50.4	14.6	26.4	4.4	4.4	5.9	42.4
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10	100/0	48.5	99.2	13.7	29.0	18.2	38.7	104.3	23.1	43.5	15.5	25.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-20.5	100/0	42.0	106.7	13.7	29.0	18.2	38.7	104.3								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 ***Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ****Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE 3-3: ALLCLEAR AEROCLEAR MAX, APPLIED UNHEATED ON HIGH SPEED AIRCRAFT
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions ¹					
		Freezing Fog, Freezing Mist, or Ice Crystals ²	Snow, Snow Grains or Snow Pellets ^{2,4}	Freezing Drizzle ²	Light Freezing Rain ²	Rain on Cold Soaked Wing ²	Other
-3 °C and above (27 °F and above)	100/0	I = 2.3532 A = -0.9867	I = 2.4111 A = -0.8236 B = 0.0000	I = 2.2733 A = -0.8172	I = 2.4359 A = -0.9105	I = 2.1350 A = -0.7258	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	
below -3 to -10°C (below 27 to 14 °F)	100/0	I = 2.2318 A = -0.7815	I = 2.4111 A = -0.8236 B = 0.0000	I = 2.1031 A = -0.6645	I = 2.2245 A = -0.7407		
	75/25	n/a	n/a	n/a	n/a		
below -10 to -25 °C (below 14 to -13 °F)	100/0	I = 2.3342 A = -1.0165	I = 2.4111 A = -0.8236 B = 0.0000				
below -25 to -35 °C (below -13 to -31 °F)	100/0	I = 2.1252 A = -1.0990	I = 2.1551 A = -0.8234 B = 0.0000				

1 CAUTION: Fluid must be applied unheated on aircraft conforming to the SAE AS5900 high speed aerodynamic test criterion to use these regression coefficients
 2 Regression Equation: $t = 10^4 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 3 Regression Equation: $t = 10^4 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 4 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog*** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain**** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	46.1	113.8	13.7	29.0	18.2	38.7	104.3	23.1	50.4	14.6	26.4	4.4	4.4	5.9	42.4
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10	100/0	48.5	99.2	13.7	29.0	18.2	38.7	104.3	23.1	43.5	15.5	25.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-25	100/0	42.0	106.7	13.7	29.0	18.2	38.7	104.3								
-35	100/0	22.8	62.3	7.6	16.1	10.1	21.5	57.8								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 **** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-1: ABAX ECOWING AD-49
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4713 A = -0.2370	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 2.3729 A = -0.3927	I = 2.4943 A = -0.5000	I = 2.6531 A = -0.8558	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5177 A = -1.7715	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 2.8172 A = -1.2681	I = 1.9828 A = -0.5016		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7838 A = -0.5976	I = 2.3257 A = -1.4094 B = 0.0000	I = 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7838 A = -0.5976	I = 2.4506 A = -2.4094 B = 0.0000	I = 1.7911 A = -1.3140 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -26 °C (below -13 to -15 °F)	100/0	I = 1.7838 A = -0.5976	I = 1.5915 A = -1.2398 B = 0.0000	I = 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog*** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderates Snow and Rain**** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	202.1	251.2	44.1	85.0	58.8	113.3	267.9	86.2	125.4	62.4	86.6	8.4	8.4	11.2	113.5
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	19.0	96.5	35.0	67.2	46.6	89.6	211.9	25.4	85.3	19.1	26.5				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	19.0	96.5	29.8	57.4	39.7	76.5	180.8	25.4	85.3	19.1	26.5				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	23.2	40.2	1.5	6.8	2.0	9.0	45.0								
-25	100/0	23.2	40.2	0.8	2.3	1.0	3.0	20.0								
-26	100/0	23.2	40.2	0.0	1.5	0.0	2.0	10.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 4-2: AFLRUS LLC GREEN FLO TYPE 4
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4128 A = -0.7639	I = 2.6272 A = -0.7645 B = -0.1883	I = 2.6272 A = -0.7645 B = -0.1883	I = 2.6272 A = -0.7645 B = -0.1883	I = 2.3004 A = -0.6719	I = 2.4777 A = -0.8985	I = 2.3769 A = -0.7605	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5388 A = -1.1787	I = 2.6272 A = -0.7645 B = -0.1883	I = 2.6272 A = -0.7645 B = -0.1883	I = 2.6272 A = -0.7645 B = -0.1883	I = 2.1389 A = -0.5122	I = 2.5160 A = -0.9044		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.0935 A = -0.7922	I = 3.0656 A = -0.8834 B = -0.4781	I = 3.0656 A = -0.8834 B = -0.4781	I = 3.0656 A = -0.8834 B = -0.4781				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.0935 A = -0.7922	I = 3.0656 A = -0.8834 B = -0.4781	I = 3.0656 A = -0.8834 B = -0.4781	I = 3.0656 A = -0.8834 B = -0.4781				
below -25 to -30 °C (below -13 to -22 °F)	100/0	I = 2.0430 A = -0.8798	I = 2.0465 A = -0.8837 B = 0.0000	I = 2.0465 A = -0.8837 B = 0.0000	I = 2.0465 A = -0.8837 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR ¹	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	75.7	152.4	20.0	40.4	26.7	53.8	135.2	35.6	67.7	16.7	30.0	6.7	6.7	8.9	70.0
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	51.9	152.7	17.6	35.4	23.5	47.2	118.6	37.0	60.4	17.9	32.3				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	51.9	152.7	16.1	32.4	21.5	43.2	108.6	37.0	60.4	17.9	32.3				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	34.7	71.6	12.2	27.2	16.2	36.3	105.2								
-25	100/0	34.7	71.6	10.5	23.6	14.0	31.5	91.2								
-30	100/0	26.8	60.0	4.9	10.9	6.5	14.5	42.2								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

**TABLE 4-3: ALAB INTERNATIONAL PROFLIGHT EG4
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4706 A = -0.2841	I = 2.7580 A = -0.7077 B = 0.0000	I = 2.7580 A = -0.7077 B = 0.0000	I = 2.7580 A = -0.7077 B = 0.0000	I = 2.3592 A = -0.3847	I = 2.3221 A = -0.4973	I = 2.7211 A = -0.8970	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5208 A = -0.4856	I = 2.7580 A = -0.7077 B = 0.0000	I = 2.7580 A = -0.7077 B = 0.0000	I = 2.7580 A = -0.7077 B = 0.0000	I = 2.4912 A = -0.5979	I = 3.0504 A = -0.9541		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.3177 A = -1.1409	I = 5.3305 A = -0.7671 B = -2.0348	I = 5.3305 A = -0.7671 B = -2.0348	I = 5.3305 A = -0.7671 B = -2.0348				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.3177 A = -1.1409	I = 5.3305 A = -0.7671 B = -2.0348	I = 5.3305 A = -0.7671 B = -2.0348	I = 5.3305 A = -0.7671 B = -2.0348				
below -25 to -26 °C (below -13 to -15 °F)	100/0	I = 2.3177 A = -1.1409	I = 5.3305 A = -0.7671 B = -2.0348	I = 5.3305 A = -0.7671 B = -2.0348	I = 5.3305 A = -0.7671 B = -2.0348				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients															
		Freezing Fog, Freezing Mist, or Ice Crystals ¹ (g/dm ² /h)		Mixed Snow and Freezing Fog ² (g/dm ² /h)			Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ³ (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	26	10	26	10	LUPR ⁴	13	6	26	13	76	76	76	6	
+1 / -3 **	100/0	187.1	242.7	44.0	84.2	58.7	112.3	263.2	85.2	123.1	42.4	58.6	8.2	8.2	10.9	124.2	
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
-8	100/0	151.8	236.9	44.0	84.2	58.7	112.3	263.2	66.9	118.4	52.1	97.2					
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a					
-10 / -14 ***	100/0	151.8	236.9	44.0	84.2	58.7	112.3	263.2	66.9	118.4	52.1	97.2					
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a					
-18	100/0	33.1	94.2	30.6	61.8	40.8	82.4	207.6									
-25	100/0	33.1	94.2	16.7	33.6	22.2	44.8	112.7									
-26	100/0	33.1	94.2	15.5	31.2	20.6	41.6	104.7									

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 4-4: ALAB INTERNATIONAL PROFLIGHT PG4
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.3021 A = -0.5493	I = 2.8229 A = -0.7812 B = -0.2123	I = 2.8229 A = -0.7812 B = -0.2123	I = 2.8229 A = -0.7812 B = -0.2123	I = 2.1502 A = -0.3163	I = 2.1311 A = -0.3835	I = 2.3363 A = -0.6318	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3983 A = -0.8146	I = 2.8229 A = -0.7812 B = -0.2123	I = 2.8229 A = -0.7812 B = -0.2123	I = 2.8229 A = -0.7812 B = -0.2123	I = 2.1974 A = -0.4881	I = 2.1345 A = -0.4140		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.8402 A = -0.4430	I = 4.4810 A = -0.8615 B = -1.5954	I = 4.4810 A = -0.8615 B = -1.5954	I = 4.4810 A = -0.8615 B = -1.5954				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.8402 A = -0.4430	I = 4.4810 A = -0.8615 B = -1.5954	I = 4.4810 A = -0.8615 B = -1.5954	I = 4.4810 A = -0.8615 B = -1.5954				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 1.8402 A = -0.4430	I = 4.4810 A = -0.8615 B = -1.5954	I = 4.4810 A = -0.8615 B = -1.5954	I = 4.4810 A = -0.8615 B = -1.5954				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals ¹		Mixed Snow and Freezing Fog ^{****}		Snow, Snow Grains or Snow Pellets ²			Freezing Drizzle ¹		Light Freezing Rain ¹		Mixed Moderate Snow and Rain ^{*****}		Rain on Cold Soaked Wing ¹	
		5	2	26	10	26	10	LUPR ³	13	6	26	13	76	75	76	6
+1 / -3 **	100/0	82.8	137.0	28.7	58.7	38.2	78.2	200.3	62.8	84.9	39.4	50.6	10.7	10.7	14.2	78.5
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	67.4	142.3	24.8	50.6	33.0	67.5	172.9	45.0	71.8	36.0	47.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	67.4	142.3	22.4	45.8	29.9	61.1	156.5	45.0	71.8	36.0	47.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	33.9	50.9	11.9	26.3	15.9	35.0	98.7								
-25	100/0	33.9	50.9	7.4	16.3	9.8	21.7	61.1								
-29	100/0	33.9	50.9	5.9	13.1	7.9	17.4	49.1								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-5: ALLCLEAR CLEAR IV FLIGHT
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4187 A = -0.6251	I = 2.8809 A = -0.7265 B = -0.3761	I = 2.8809 A = -0.7265 B = -0.3761	I = 2.8809 A = -0.7265 B = -0.3761	I = 2.3220 A = -0.4456	I = 2.4277 A = -0.5350	I = 2.2397 A = -0.5102	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3291 A = -0.8799	I = 2.8809 A = -0.7265 B = -0.3761	I = 2.8809 A = -0.7265 B = -0.3761	I = 2.8809 A = -0.7265 B = -0.3761	I = 2.3473 A = -0.5912	I = 2.1188 A = -0.3788		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7949 A = -0.5150	I = 4.1571 A = -0.7309 B = -1.5046	I = 4.1571 A = -0.7309 B = -1.5046	I = 4.1571 A = -0.7309 B = -1.5046				
below -18 to -23 °C (below 0 to -9 °F)	100/0	I = 1.7949 A = -0.5150	I = 4.1571 A = -0.7309 B = -1.5046	I = 4.1571 A = -0.7309 B = -1.5046	I = 4.1571 A = -0.7309 B = -1.5046				

- 1 Regression Equation: $t = 10^3 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
- 2 Regression Equation: $t = 10^3 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
- 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5		
+1 / -3 **	100/0	95.9	170.0	30.0	58.4	40.0	77.9	186.8	66.9	102.5	47.8	67.9	14.4	14.4	19.2	76.4
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	51.8	115.9	23.1	45.0	30.8	60.0	143.9	48.8	85.9	38.8	49.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	51.8	115.9	19.4	37.7	25.8	50.3	120.6	48.8	85.9	38.8	49.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	27.2	43.6	11.3	22.1	15.1	29.4	70.9								
	23	100/0	27.2	43.6	8.1	15.8	10.8	21.0	50.7							

- * Refer to Table 5 for the lowest usable precipitation rates in snow
- ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
- *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
- **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
- ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-6: ALLCLEAR CLEARWING EG
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4808 A = -0.6236	I = 2.7895 A = -0.7766 B = -0.1648	I = 2.7895 A = -0.7766 B = -0.1648	I = 2.7895 A = -0.7766 B = -0.1648	I = 2.2517 A = -0.3764	I = 3.1105 A = -1.1890	I = 2.4690 A = -0.7435	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.6368 A = -0.9489	I = 2.7895 A = -0.7766 B = -0.1648	I = 2.7895 A = -0.7766 B = -0.1648	I = 2.7895 A = -0.7766 B = -0.1648	I = 2.1945 A = -0.3445	I = 2.8711 A = -0.9900		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.3601 A = -0.9134	I = 4.7809 A = -0.8032 B = -1.7747	I = 4.7809 A = -0.8032 B = -1.7747	I = 4.7809 A = -0.8032 B = -1.7747				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.3601 A = -0.9134	I = 4.7809 A = -0.8032 B = -1.7747	I = 4.7809 A = -0.8032 B = -1.7747	I = 4.7809 A = -0.8032 B = -1.7747				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.3601 A = -0.9134	I = 4.7809 A = -0.8032 B = -1.7747	I = 4.7809 A = -0.8032 B = -1.7747	I = 4.7809 A = -0.8032 B = -1.7747				

1 Regression Equation: $t = 10^4 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^4 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	110.9	196.4	29.1	59.3	38.8	79.0	201.3	68.0	97.4	28.1	61.1	8.9	8.9	11.9	89.0
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	94.1	224.5	26.0	52.9	34.6	70.5	179.5	64.7	89.9	30.7	58.7				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	94.1	224.5	24.0	48.9	32.0	65.2	166.2	64.7	89.9	30.7	58.7				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	52.7	121.7	16.7	35.0	22.3	46.6	122.7								
-25	100/0	52.7	121.7	9.8	20.6	13.1	27.4	72.0								
-29	100/0	52.7	121.7	7.7	16.1	10.3	21.4	56.4								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-7: ASGLOBAL 4FLITE EG
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5283 A = -0.7924	I = 2.7028 A = -0.7583 B = -0.2145	I = 2.7028 A = -0.7583 B = -0.2145	I = 2.7028 A = -0.7583 B = -0.2145	I = 2.2777 A = -0.6136	I = 2.5046 A = -0.8767	I = 2.3356 A = -0.7595	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4381 A = -0.7329	I = 2.7028 A = -0.7583 B = -0.2145	I = 2.7028 A = -0.7583 B = -0.2145	I = 2.7028 A = -0.7583 B = -0.2145	I = 2.2338 A = -0.5642	I = 2.4121 A = -0.7932		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.0968 A = -0.5619	I = 3.3322 A = -0.7962 B = -0.6729	I = 3.3322 A = -0.7962 B = -0.6729	I = 3.3322 A = -0.7962 B = -0.6729				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.0968 A = -0.5619	I = 3.3322 A = -0.7962 B = -0.6729	I = 3.3322 A = -0.7962 B = -0.6729	I = 3.3322 A = -0.7962 B = -0.6729				
below -25 to -30 °C (below -13 to -22 °F)	100/0	I = 2.1030 A = -0.9200	I = 2.2062 A = -0.7962 B = 0.0000	I = 2.2062 A = -0.7962 B = 0.0000	I = 2.2062 A = -0.7962 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
6	2	26	10	26	10	LUPR*	13	6	26	13	76	76	76	6		
+1 / -3**	100/0	94.3	194.9	23.3	46.7	31.1	62.3	155.3	39.3	70.6	19.0	33.7	6.2	6.2	8.2	63.8
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	84.3	165.0	20.1	40.3	26.8	53.7	133.8	40.3	69.1	20.1	33.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14***	100/0	84.3	165.0	18.2	36.5	24.2	48.6	121.0	40.3	69.1	20.1	33.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	50.6	84.7	16.6	34.4	22.1	45.8	119.4								
-25	100/0	50.6	84.7	13.5	28.1	18.0	37.4	97.5								
-30	100/0	28.8	67.0	9.3	19.3	12.4	25.7	67.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-8: ASGLOBAL 4FLITE PG
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4855 A = -0.6410	I = 2.9661 A = -0.6490 B = -0.4864	I = 2.9661 A = -0.6490 B = -0.4864	I = 2.9661 A = -0.6490 B = -0.4864	I = 2.1915 A = -0.3146	I = 2.5200 A = -0.6341	I = 2.2831 A = -0.5569	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.2316 A = -0.5964	I = 2.9661 A = -0.6490 B = -0.4864	I = 2.9661 A = -0.6490 B = -0.4864	I = 2.9661 A = -0.6490 B = -0.4864	I = 2.0710 A = -0.3106	I = 2.4941 A = -0.6796		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.8152 A = -0.5003	I = 4.7113 A = -0.7433 B = -1.8834	I = 4.7113 A = -0.7433 B = -1.8834	I = 4.7113 A = -0.7433 B = -1.8834				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.8152 A = -0.5003	I = 4.7113 A = -0.7433 B = -1.8834	I = 4.7113 A = -0.7433 B = -1.8834	I = 4.7113 A = -0.7433 B = -1.8834				
below -25 to -26 °C (below -13 to -15 °F)	100/0	I = 1.8152 A = -0.5003	I = 4.7113 A = -0.7433 B = -1.8834	I = 4.7113 A = -0.7433 B = -1.8834	I = 4.7113 A = -0.7433 B = -1.8834				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals ¹ (g/dm ² /h)		Mixed Snow and Freezing Fog ² (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ³ (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR ⁴	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	109.0	196.1	39.2	71.2	52.3	94.9	207.2	69.4	93.7	43.0	65.1	13.0	13.0	17.3	78.3
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	65.3	112.7	28.1	50.8	37.4	67.7	147.9	53.1	71.4	35.0	54.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ****	100/0	65.3	112.7	22.3	40.4	29.7	53.9	117.7	53.1	71.4	35.0	54.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	29.2	46.2	12.5	24.7	16.7	32.9	80.6								
-25	100/0	29.2	46.2	7.1	14.0	9.5	18.7	45.8								
-26	100/0	29.2	46.2	6.6	13.1	8.8	17.5	42.8								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-9: AVIAFLUID AVIAFLIGHT EG
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4936 A = -0.7662	I = 2.5416 A = -0.5966 B = -0.1650	I = 2.5416 A = -0.5966 B = -0.1650	I = 2.5416 A = -0.5966 B = -0.1650	I = 2.5110 A = -0.6263	I = 2.6126 A = -0.8113	I = 2.6633 A = -0.8384	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5170 A = -0.8812	I = 2.5416 A = -0.5966 B = -0.1650	I = 2.5416 A = -0.7022 B = -0.1650	I = 2.5416 A = -0.5966 B = -0.1650	I = 2.2536 A = -0.4445	I = 2.4418 A = -0.6514		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.3805 A = -1.1620	I = 3.4362 A = -0.7022 B = -0.7851	I = 3.4362 A = -0.7022 B = -0.7851	I = 3.4362 A = -0.7022 B = -0.7851				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.3805 A = -1.1620	I = 3.4362 A = -0.7022 B = -0.7851	I = 3.4362 A = -0.7022 B = -0.7851	I = 3.4362 A = -0.7022 B = -0.7851				
below -25 to -31 °C (below -13 to -24 °F)	100/0	I = 2.0469 A = -0.7482	I = 1.9668 A = -0.7022 B = 0.0000	I = 1.9668 A = -0.7022 B = 0.0000	I = 1.9668 A = -0.7022 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5		
+1 / -3 **	100/0	90.8	183.2	29.3	50.7	39.1	67.6	138.6	65.1	118.4	30.1	51.2	9.2	9.2	12.3	119.5
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	79.6	178.5	26.2	45.2	34.9	60.3	123.6	57.3	87.7	34.0	52.0				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	79.6	178.5	24.2	41.9	32.3	55.8	114.4	57.3	87.7	34.0	52.0				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	37.0	107.3	20.3	38.7	27.1	51.6	120.2								
-25	100/0	37.0	107.3	16.1	30.6	21.4	40.8	94.9								
-31	100/0	33.4	66.3	7.3	13.8	9.7	18.4	42.8								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

**TABLE 4-10: AVIAFLUID AVIAFLIGHT PG
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.7578 A = -0.8947	I = 3.0863 A = -0.6642 B = -0.6086	I = 3.0863 A = -0.6642 B = -0.6086	I = 3.0863 A = -0.6642 B = -0.6086	I = 2.0792 A = 0.0000	I = 2.8829 A = -0.7432	I = 2.5971 A = -0.6957	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3529 A = -0.7865	I = 3.0863 A = -0.6642 B = -0.6086	I = 3.0863 A = -0.6642 B = -0.6086	I = 3.0863 A = -0.6642 B = -0.6086	I = 2.9286 A = -1.2431	I = 2.4317 A = -0.5672		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7548 A = -0.7332	I = 5.2600 A = -0.6724 B = -2.4320	I = 5.2600 A = -0.6724 B = -2.4320	I = 5.2600 A = -0.6724 B = -2.4320				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7548 A = -0.7332	I = 5.2600 A = -0.6724 B = -2.4320	I = 5.2600 A = -0.6724 B = -2.4320	I = 5.2600 A = -0.6724 B = -2.4320				
below -25 to -25.5 °C (below -13 to -14 °F)	100/0	I = 1.7548 A = -0.7332	I = 5.2600 A = -0.6724 B = -2.4320	I = 5.2600 A = -0.6724 B = -2.4320	I = 5.2600 A = -0.6724 B = -2.4320				

1 Regression Equation: $t = 10^t R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^t R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients															
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)		
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5	
+1 / -3**	100/0	135.7	307.9	40.5	74.4	54.0	99.2	220.8	120.0	120.0	69.8	113.5	14.7	14.7	19.6	129.1	
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
-8	100/0	63.6	130.7	26.6	48.8	35.4	65.1	144.8	35.0	114.7	43.5	63.1					
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14***	100/0	63.6	130.7	20.0	36.7	26.6	48.9	108.8	35.0	114.7	43.5	63.1					
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a					
-18	100/0	17.5	34.2	10.7	19.9	14.3	26.5	59.6									
-25	100/0	17.5	34.2	5.2	9.6	6.9	12.8	28.7									
-25.5	100/0	17.5	34.2	5.0	9.2	6.6	12.2	27.5									

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-11: CHEMCO CHEMR EG IV
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5221 A = -0.6191	I = 2.8018 A = -0.9158 B = 0.0000	I = 2.8018 A = -0.9158 B = 0.0000	I = 2.8018 A = -0.9158 B = 0.0000	I = 2.5776 A = -0.8305	I = 2.3603 A = -0.6816	I = 2.6437 A = -0.8858	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.6566 A = -1.0376	I = 2.8018 A = -0.9158 B = 0.0000	I = 2.8018 A = -0.9158 B = 0.0000	I = 2.8018 A = -0.9158 B = 0.0000	I = 2.3439 A = -0.5194	I = 2.3463 A = -0.5867		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.1693 A = -0.8359	I = 2.3992 A = -0.7726 B = 0.0000	I = 2.3992 A = -0.7726 B = 0.0000	I = 2.3992 A = -0.7726 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.1693 A = -0.8359	I = 2.3992 A = -0.7726 B = 0.0000	I = 2.3992 A = -0.7726 B = 0.0000	I = 2.3992 A = -0.7726 B = 0.0000				
below -25 to -27 °C (below -13 to -17 °F)	100/0	I = 2.1693 A = -0.8359	I = 2.3992 A = -0.7726 B = 0.0000	I = 2.3992 A = -0.7726 B = 0.0000	I = 2.3992 A = -0.7726 B = 0.0000				

1 Regression Equation: $t = 10^4 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^4 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	122.8	216.6	24.9	57.7	33.2	76.9	231.7	44.9	99.3	25.6	39.9	7.2	7.2	9.6	105.8
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	85.4	220.9	24.9	57.7	33.2	76.9	231.7	58.3	95.7	33.6	49.3				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
-10 / -14 ***	100/0	85.4	220.9	24.9	57.7	33.2	76.9	231.7	58.3	95.7	33.6	49.3				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
-18	100/0	38.5	82.7	15.7	31.7	20.9	42.3	107.3								
-25	100/0	38.5	82.7	15.7	31.7	20.9	42.3	107.3								
-27	100/0	38.5	82.7	15.7	31.7	20.9	42.3	107.3								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-12: CHEMCO CHEMR NORDIK IV
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.6325 A = -0.7158	I = 2.7042 A = -0.6856 B = 0.0000	I = 2.7042 A = -0.6856 B = 0.0000	I = 2.7042 A = -0.6856 B = 0.0000	I = 2.6092 A = -0.6398	I = 2.4979 A = -0.5367	I = 2.5308 A = -0.6285	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.6790 A = -0.9206	I = 2.7042 A = -0.6856 B = 0.0000	I = 2.7042 A = -0.6856 B = 0.0000	I = 2.7042 A = -0.6856 B = 0.0000	I = 2.5682 A = -0.6212	I = 2.7893 A = -0.7992		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.2331 A = -0.9189	I = 4.2171 A = -0.7360 B = -1.1607	I = 4.2171 A = -0.7360 B = -1.1607	I = 4.2171 A = -0.7360 B = -1.1607				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.2331 A = -0.9189	I = 4.2171 A = -0.7360 B = -1.1607	I = 4.2171 A = -0.7360 B = -1.1607	I = 4.2171 A = -0.7360 B = -1.1607				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.2331 A = -0.9189	I = 4.2171 A = -0.7360 B = -1.1607	I = 4.2171 A = -0.7360 B = -1.1607	I = 4.2171 A = -0.7360 B = -1.1607				

1 Regression Equation: $t = 10^4 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^4 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	135.6	261.2	41.8	78.3	55.7	104.4	238.3	78.8	145.2	55.9	79.4	16.9	16.9	22.5	123.5
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	106.5	252.3	41.8	78.3	55.7	104.4	238.3	75.2	136.1	47.0	79.3				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	106.5	252.3	41.8	78.3	55.7	104.4	238.3	75.2	136.1	47.0	79.3				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	39.0	90.5	35.8	70.1	47.7	93.5	226.9								
-25	100/0	39.0	90.5	25.2	49.5	33.6	66.0	160.2								
-29	100/0	39.0	90.5	21.5	42.2	28.7	56.2	136.4								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-13: CHONGQING JOBA CHEMICAL FW-IV
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4476 A = -0.2252	I = 2.9200 A = -0.7491 B = -0.2538	I = 2.9200 A = -0.7491 B = -0.2538	I = 2.9200 A = -0.7491 B = -0.2538	I = 2.2934 A = -0.3029	I = 2.3766 A = -0.5092	I = 2.6472 A = -0.7934	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5397 A = -0.5125	I = 2.9200 A = -0.7491 B = -0.2538	I = 2.9200 A = -0.7491 B = -0.2538	I = 2.9200 A = -0.7491 B = -0.2538	I = 2.7129 A = -0.9102	I = 3.0052 A = -1.0519		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.3347 A = -1.1477	I = 4.2404 A = -0.8555 B = -1.2663	I = 4.2404 A = -0.8555 B = -1.2663	I = 4.2404 A = -0.8555 B = -1.2663				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.3347 A = -1.1477	I = 4.2404 A = -0.8555 B = -1.2663	I = 4.2404 A = -0.8555 B = -1.2663	I = 4.2404 A = -0.8555 B = -1.2663				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.3347 A = -1.1477	I = 4.2404 A = -0.8555 B = -1.2663	I = 4.2404 A = -0.8555 B = -1.2663	I = 4.2404 A = -0.8555 B = -1.2663				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals ¹ (g/dm ² /h)		Mixed Snow and Freezing Fog ^{***} (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ^{****} (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
5	2	25	10	25	10	LUPR [*]	13	5	25	13	75	75	75	5		
+1 / -3 **	100/0	195.1	239.8	37.2	73.9	49.6	98.5	242.8	90.4	120.7	46.2	64.5	10.8	10.8	14.4	123.8
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	151.9	242.9	31.2	62.0	41.6	82.6	203.6	50.0	119.3	34.3	68.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	151.9	242.9	27.7	55.0	36.9	73.3	180.7	50.0	119.3	34.3	68.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	34.1	97.5	18.7	41.0	24.9	54.6	153.0								
-25	100/0	34.1	97.5	12.8	28.1	17.1	37.4	104.6								
-29	100/0	34.1	97.5	10.7	23.6	14.3	31.4	87.8								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-14: CLARIANT SAFEWING MP IV LAUNCH
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.3942 A = 0.0152	I = 2.7218 A = -0.5330 B = -0.2408	I = 2.7218 A = -0.5330 B = -0.2408	I = 2.7218 A = -0.5330 B = -0.2408	I = 2.7789 A = -0.7426	I = 2.9492 A = -0.8489	I = 2.5170 A = -0.7291	CAUTION: No holdover time guidelines exist
	75/25	I = 2.4388 A = -0.1431	I = 2.7841 A = -0.6180 B = -0.2044	I = 2.7841 A = -0.6180 B = -0.2044	I = 2.7841 A = -0.6180 B = -0.2044	I = 2.7945 A = -0.7101	I = 2.7548 A = -0.7917	I = 2.6192 A = -0.8499	
	50/50	I = 2.4323 A = -0.7333	I = 2.3978 A = -0.6703 B = -0.1021	I = 2.3978 A = -0.6703 B = -0.1021	I = 2.3978 A = -0.6703 B = -0.1021	I = 2.0818 A = -0.5727	I = 1.7686 A = -0.3607		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.2823 A = -0.7333	I = 2.7218 A = -0.5330 B = -0.2408	I = 2.7218 A = -0.5330 B = -0.2408	I = 2.7218 A = -0.5330 B = -0.2408	I = 2.7424 A = -1.0767	I = 2.6379 A = -0.8846		
	75/25	I = 2.1203 A = -0.7220	I = 2.7841 A = -0.6180 B = -0.2044	I = 2.7841 A = -0.6180 B = -0.2044	I = 2.7841 A = -0.6180 B = -0.2044	I = 2.6204 A = -1.0940	I = 2.4901 A = -0.7708		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.8894 A = -0.6349	I = 6.5565 A = -1.3090 B = -2.9993	I = 6.5565 A = -1.3090 B = -2.9993	I = 6.5565 A = -1.3090 B = -2.9993				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.8894 A = -0.6349	I = 6.5565 A = -1.3090 B = -2.9993	I = 6.5565 A = -1.3090 B = -2.9993	I = 6.5565 A = -1.3090 B = -2.9993				
below -25 to -28.5 °C (below -13 to -19 °F)	100/0	I = 1.8894 A = -0.6349	I = 6.5565 A = -1.3090 B = -2.9993	I = 6.5565 A = -1.3090 B = -2.9993	I = 6.5565 A = -1.3090 B = -2.9993				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5		
+1 / -3 **	100/0	254.0	250.5	48.2	78.6	64.3	104.8	199.2	89.5	181.9	57.9	100.8	10.6	10.6	14.1	101.7
	75/25	218.2	248.7	44.9	79.1	59.9	105.5	222.0	100.8	198.7	44.5	74.6	8.0	8.0	10.6	106.0
	50/50	83.1	162.8	18.4	34.0	24.5	45.3	101.5	27.8	48.0	18.4	23.3				
-8	100/0	58.8	115.2	40.8	66.5	54.4	88.7	168.5	34.9	97.7	25.2	44.9				
	75/25	41.3	80.0	39.0	68.7	52.0	91.6	192.7	25.2	71.7	25.9	42.8				
-10 / -14 ***	100/0	58.8	115.2	36.5	59.4	48.6	79.2	150.5	34.9	97.7	25.2	44.9				
	75/25	41.3	80.0	35.4	62.4	47.2	83.2	175.0	25.2	71.7	25.9	42.8				
-18	100/0	27.9	49.9	5.0	16.6	6.7	22.1	107.1								
-25	100/0	27.9	49.9	2.0	6.8	2.7	9.0	43.5								
-28.5	100/0	27.9	49.9	1.4	4.7	1.9	6.2	30.2								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-15: CLARIANT SAFEWING MP IV LAUNCH PLUS
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.3920 A = -0.0283	I = 3.2161 A = -0.8902 B = -0.3284	I = 3.2161 A = -0.8902 B = -0.3284	I = 3.2161 A = -0.8902 B = -0.3284	I = 2.1074 A = -0.0294	I = 3.1822 A = -0.9927	I = 2.5435 A = -0.6674	CAUTION: No holdover time guidelines exist
	75/25	I = 2.3948 A = -0.0330	I = 3.2776 A = -0.9501 B = -0.3856	I = 3.2776 A = -0.9501 B = -0.3856	I = 3.2776 A = -0.9501 B = -0.3856	I = 2.0839 A = -0.0124	I = 2.0297 A = -0.0872	I = 2.4962 A = -0.6485	
	50/50	I = 2.1682 A = -0.4153	I = 2.6868 A = -0.8488 B = -0.2819	I = 2.6868 A = -0.8488 B = -0.2819	I = 2.6868 A = -0.8488 B = -0.2819	I = 2.4651 A = -0.9953	I = 1.8233 A = -0.4948		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4166 A = -0.9721	I = 3.2161 A = -0.8902 B = -0.3284	I = 3.2161 A = -0.8902 B = -0.3284	I = 3.2161 A = -0.8902 B = -0.3284	I = 2.8810 A = -1.3058	I = 2.2126 A = -0.5630		
	75/25	I = 2.4251 A = -1.1486	I = 3.2776 A = -0.9501 B = -0.3856	I = 3.2776 A = -0.9501 B = -0.3856	I = 3.2776 A = -0.9501 B = -0.3856	I = 2.5583 A = -1.0902	I = 2.1385 A = -0.5738		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9339 A = -0.8158	I = 6.5722 A = -1.2696 B = -3.0196	I = 6.5722 A = -1.2696 B = -3.0196	I = 6.5722 A = -1.2696 B = -3.0196				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9339 A = -0.8158	I = 6.5722 A = -1.2696 B = -3.0196	I = 6.5722 A = -1.2696 B = -3.0196	I = 6.5722 A = -1.2696 B = -3.0196				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 1.9339 A = -0.8158	I = 6.5722 A = -1.2696 B = -3.0196	I = 6.5722 A = -1.2696 B = -3.0196	I = 6.5722 A = -1.2696 B = -3.0196				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	235.6	241.8	41.4	93.6	55.2	124.8	364.6	118.8	122.1	62.3	119.2	14.7	14.7	19.6	119.4
	75/25	235.4	242.6	35.9	85.7	47.9	114.3	358.7	117.5	118.9	80.9	85.6	14.3	14.3	19.1	110.4
	50/50	75.5	110.5	15.1	32.8	20.1	43.7	121.6	22.7	58.8	13.5	18.7				
-8	100/0	54.6	133.0	33.0	74.6	44.0	99.4	290.4	26.7	93.0	26.6	38.5				
	75/25	41.9	120.0	27.5	65.6	36.6	87.5	274.6	22.1	62.6	21.7	31.6				
-10 / -14 ***	100/0	54.6	133.0	28.3	63.9	37.7	85.2	248.8	26.7	93.0	26.6	38.5				
	75/25	41.9	120.0	23.0	54.8	30.6	73.0	229.1	22.1	62.6	21.7	31.6				
-18	100/0	23.1	48.8	5.6	17.8	7.4	23.7	109.1								
-25	100/0	23.1	48.8	2.3	7.2	3.0	9.6	44.1								
-29	100/0	23.1	48.8	1.5	4.7	2.0	6.3	29.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-16: CRYOTECH POLAR GUARD® ADVANCE
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5794 A = -0.5025	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.2682 A = -0.2524	I = 2.2584 A = -0.2806	I = 2.6661 A = -0.7999	CAUTION: No holdover time guidelines exist
	75/25	I = 2.5776 A = -0.5705	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.2204 A = -0.1898	I = 2.8328 A = -0.8896	I = 2.6248 A = -0.8807	
	50/50	I = 2.1254 A = -0.6271	I = 2.8810 A = -1.0631 B = -0.5673	I = 2.8810 A = -1.0631 B = -0.5673	I = 2.8810 A = -1.0631 B = -0.5673	I = 2.2943 A = -0.9086	I = 2.3695 A = -0.9996		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5101 A = -1.1145	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.9600 A = -0.5988 B = -0.4378	I = 2.7077 A = -1.0390	I = 2.0801 A = -0.3886		
	75/25	I = 2.2594 A = -0.9785	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.9905 A = -0.8191 B = -0.3466	I = 2.4495 A = -0.9076	I = 2.0483 A = -0.3597		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9253 A = -0.6979	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9253 A = -0.6979	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134	I = 6.4718 A = -1.1603 B = -2.9134				
below -25 to -30.5 °C (below -13 to -23 °F)	100/0	I = 1.9253 A = -0.6979	I = 2.0544 A = -1.1592 B = 0.0000	I = 2.0544 A = -1.1592 B = 0.0000	I = 2.0544 A = -1.1592 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	169.1	288.0	49.2	85.2	65.6	113.6	233.5	97.1	123.5	73.5	88.3	11.0	11.0	14.7	127.9
	75/25	151.0	254.6	30.1	63.7	40.1	84.9	227.7	102.1	122.4	38.8	69.5	7.1	7.1	9.4	102.1
	50/50	48.6	86.4	7.5	19.8	10.0	26.4	94.9	19.2	45.6	9.4	18.0				
-8	100/0	53.8	149.5	36.3	62.9	48.4	83.8	172.4	35.5	95.8	34.4	44.4				
	75/25	37.6	92.2	23.6	50.1	31.5	66.8	179.1	27.4	65.3	35.1	44.4				
-10 / -14 ***	100/0	53.8	149.5	29.6	51.2	39.4	68.2	140.3	35.5	95.8	34.4	44.4				
	75/25	37.6	92.2	20.1	42.6	26.8	56.8	152.2	27.4	65.3	35.1	44.4				
-18	100/0	27.4	51.9	8.6	24.9	11.5	33.2	134.2								
-25	100/0	27.4	51.9	3.6	10.4	4.8	13.8	56.0								
-30.5	100/0	27.4	51.9	2.0	5.9	2.7	7.9	31.7								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-17: CRYOTECH POLAR GUARD® XTEND
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5325 A = -0.5036	I = 2.9681 A = -0.6559 B = -0.3399	I = 2.9681 A = -0.6559 B = -0.3399	I = 2.9681 A = -0.6559 B = -0.3399	I = 2.0792 A = 0.0000	I = 3.0299 A = -0.8932	I = 2.4479 A = -0.6234	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.2661 A = -0.7204	I = 2.9681 A = -0.6559 B = -0.3399	I = 2.9681 A = -0.6559 B = -0.3399	I = 2.9681 A = -0.6559 B = -0.3399	I = 2.7919 A = -1.1481	I = 1.9558 A = -0.1963		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7603 A = -0.5578	I = 6.6792 A = -0.8166 B = -3.2905	I = 6.6792 A = -0.8166 B = -3.2905	I = 6.6792 A = -0.8166 B = -3.2905				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7603 A = -0.5578	I = 6.6792 A = -0.8166 B = -3.2905	I = 6.6792 A = -0.8166 B = -3.2905	I = 6.6792 A = -0.8166 B = -3.2905				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 1.7603 A = -0.5578	I = 6.6792 A = -0.8166 B = -3.2905	I = 6.6792 A = -0.8166 B = -3.2905	I = 6.6792 A = -0.8166 B = -3.2905				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	151.5	240.4	48.8	89.0	65.1	118.7	261.6	120.0	120.0	60.4	108.4	14.3	14.3	19.0	102.8
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	57.9	112.0	38.6	70.4	51.4	93.8	206.7	32.6	97.6	48.0	54.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
-10 / -14 ***	100/0	57.9	112.0	32.9	60.0	43.8	80.0	176.1	32.6	97.6	48.0	54.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
-18	100/0	23.5	39.1	13.6	28.7	18.1	38.2	102.0								
-25	100/0	23.5	39.1	5.0	10.7	6.7	14.2	38.0								
-29	100/0	23.5	39.1	3.2	6.8	4.3	9.0	24.1								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-18: DOW INC. UCAR ENDURANCE™ EG106 ADF/AAF
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4198 A = -0.4664	I = 2.8358 A = -0.7951 B = -0.1996	I = 2.8358 A = -0.7951 B = -0.1996	I = 2.8358 A = -0.7951 B = -0.1996	I = 2.4460 A = -0.5295	I = 2.5011 A = -0.5672	I = 2.5903 A = -0.7102	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4942 A = -0.6588	I = 2.8358 A = -0.7951 B = -0.1996	I = 2.8358 A = -0.7951 B = -0.1996	I = 2.8358 A = -0.7951 B = -0.1996	I = 2.5065 A = -0.6779	I = 2.6525 A = -0.7145		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.0589 A = -0.7941	I = 3.3185 A = -0.8385 B = -0.6048	I = 3.3185 A = -0.8385 B = -0.6048	I = 3.3185 A = -0.8385 B = -0.6048				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.0589 A = -0.7941	I = 3.3185 A = -0.8385 B = -0.6048	I = 3.3185 A = -0.8385 B = -0.6048	I = 3.3185 A = -0.8385 B = -0.6048				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.0589 A = -0.7941	I = 3.3185 A = -0.8385 B = -0.6048	I = 3.3185 A = -0.8385 B = -0.6048	I = 3.3185 A = -0.8385 B = -0.6048				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	124.1	190.3	28.8	59.7	38.4	79.6	207.5	71.8	119.1	51.1	74.0	13.6	13.6	18.1	124.1
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	106.1	197.6	25.1	52.1	33.5	69.4	180.7	56.4	107.8	45.0	71.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	108.1	197.6	22.9	47.3	30.5	63.1	164.5	56.4	107.8	45.0	71.9				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	31.9	66.0	17.2	37.0	22.9	49.3	135.4								
-25	100/0	31.9	66.0	14.3	30.8	19.1	41.1	112.9								
-29	100/0	31.9	66.0	13.2	28.4	17.6	37.8	103.9								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

**TABLE 4-19: DOW INC. UCAR™ FLIGHTGUARD™ AD-49
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4713 A = -0.2370	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 2.3729 A = -0.3927	I = 2.4943 A = -0.5000	I = 2.6531 A = -0.8558	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5177 A = -1.7715	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 3.0052 A = -0.7148 B = -0.3380	I = 2.8172 A = -1.2681	I = 1.9828 A = -0.5016		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7838 A = -0.5976	I = 2.3257 A = -1.4094 B = 0.0000	I = 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7838 A = -0.5976	I = 2.4506 A = -2.4094 B = 0.0000	I = 1.7911 A = -1.3140 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -26 °C (below -13 to -15 °F)	100/0	I = 1.7838 A = -0.5976	I = 1.5915 A = -1.2398 B = 0.0000	I = 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	26	10	26	10	LUPR [†]	13	5	26	13	76	75	76	5
+1 / -3 **	100/0	202.1	251.2	44.1	85.0	58.8	113.3	267.9	86.2	125.4	62.4	86.6	8.4	8.4	11.2	113.5
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	19.0	96.5	35.0	67.2	46.6	89.6	211.9	25.4	85.3	19.1	26.5				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	19.0	96.5	29.8	57.4	39.7	76.5	180.8	25.4	85.3	19.1	26.5				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	23.2	40.2	1.5	6.8	2.0	9.0	45.0								
-25	100/0	23.2	40.2	0.8	2.3	1.0	3.0	20.0								
-26	100/0	23.2	40.2	0.0	1.5	0.0	2.0	10.0								

[†] Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

**TABLE 4-20: ESSPO CHEMICALS NORDWING PG4
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5045 A = -0.7647	I = 2.8170 A = -0.7760 B = -0.2363	I = 2.8170 A = -0.7760 B = -0.2363	I = 2.8170 A = -0.7760 B = -0.2363	I = 2.3693 A = -0.4879	I = 2.1857 A = -0.3528	I = 2.4613 A = -0.6221	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4892 A = -1.0743	I = 2.8170 A = -0.7760 B = -0.2363	I = 2.8170 A = -0.7760 B = -0.2363	I = 2.8170 A = -0.7760 B = -0.2363	I = 2.3076 A = -0.5179	I = 2.3108 A = -0.5481		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7856 A = -0.4965	I = 4.2823 A = -0.9467 B = -1.3959	I = 4.2823 A = -0.9467 B = -1.3959	I = 4.2823 A = -0.9467 B = -1.3959				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7856 A = -0.4965	I = 4.2823 A = -0.9467 B = -1.3959	I = 4.2823 A = -0.9467 B = -1.3959	I = 4.2823 A = -0.9467 B = -1.3959				
below -25 to -30 °C (below -13 to -22 °F)	100/0	I = 1.6593 A = -0.4469	I = 2.0608 A = -0.9483 B = 0.0000	I = 2.0608 A = -0.9483 B = 0.0000	I = 2.0608 A = -0.9483 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	93.3	188.1	27.7	56.3	36.9	75.1	191.2	67.0	106.7	49.3	62.0	14.8	14.8	19.7	106.3
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	54.7	146.5	23.5	47.9	31.3	63.8	162.4	53.8	88.2	35.0	50.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	54.7	146.5	21.0	42.8	28.0	57.1	145.3	53.8	88.2	35.0	50.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	27.5	43.3	10.4	24.8	13.9	33.1	103.4								
-25	100/0	27.5	43.3	6.8	16.4	9.1	21.8	68.0								
-30	100/0	22.2	33.5	4.1	9.8	5.4	13.0	40.6								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-21: INLAND TECHNOLOGIES ECO-SHIELD®
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4628 A = -0.8425	I = 2.6693 A = -0.6224 B = -0.2015	I = 2.6693 A = -0.6224 B = -0.2015	I = 2.6693 A = -0.6224 B = -0.2015	I = 2.5329 A = -0.8434	I = 1.8305 A = -0.1843	I = 2.4740 A = -0.7236	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4493 A = -0.8541	I = 2.6693 A = -0.6224 B = -0.2015	I = 2.6693 A = -0.6224 B = -0.2015	I = 2.6693 A = -0.6224 B = -0.2015	I = 2.3150 A = -0.5411	I = 1.9809 A = -0.3441		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9894 A = -0.6913	I = 2.3257 A = -1.4094 B = 0.0000	I = 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9894 A = -0.6913	I = 2.4506 A = -2.4094 B = 0.0000	I = 1.7911 A = -1.3140 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -25.5 °C (below -13 to -14 °F)	100/0	I = 1.9894 A = -0.6913	I = 1.5915 A = -1.2398 B = 0.0000	I = 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	74.8	161.9	34.1	60.4	45.5	80.5	170.4	39.2	87.8	37.4	42.2	9.8	9.8	13.1	92.9
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	71.2	155.7	29.7	52.5	39.6	70.0	148.2	51.6	86.5	31.6	39.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	71.2	155.7	27.0	47.8	36.0	63.7	134.8	51.6	86.5	31.6	39.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	32.1	60.4	1.5	6.8	2.0	9.0	45.0								
-25	100/0	32.1	60.4	0.8	2.3	1.0	3.0	20.0								
-25.5	100/0	32.1	60.4	0.0	1.5	0.0	2.0	10.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

**TABLE 4-22: JSC RCP NORDIX DEFROST ECO 4
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4080 A = -0.6597	I = 2.7595 A = -0.7621 B = -0.1757	I = 2.7595 A = -0.7621 B = -0.1757	I = 2.7595 A = -0.7621 B = -0.1757	I = 2.1497 A = -0.2970	I = 2.5972 A = -0.7187	I = 2.2932 A = -0.6241	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5248 A = -1.1145	I = 2.7595 A = -0.7621 B = -0.1757	I = 2.7595 A = -0.7621 B = -0.1757	I = 2.7595 A = -0.7621 B = -0.1757	I = 2.2310 A = -0.4646	I = 2.2288 A = -0.4780		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.8711 A = -0.5814	I = 2.3257 A = -1.4094 B = 0.0000	I = 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.8711 A = -0.5814	I = 2.4506 A = -2.4094 B = 0.0000	I = 1.7911 A = -1.3140 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -25.5 °C (below -13 to -14 °F)	100/0	I = 1.8711 A = -0.5814	I = 1.5915 A = -1.2398 B = 0.0000	I = 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	88.5	162.0	28.0	56.2	37.3	74.9	187.5	65.9	87.5	39.1	62.6	10.0	10.0	13.3	71.9
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	55.7	154.6	24.8	49.7	33.0	66.3	166.0	51.7	80.6	36.4	49.7				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	55.7	154.6	22.8	45.8	30.4	61.1	152.9	51.7	80.6	36.4	49.7				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	29.2	49.7	1.5	6.8	2.0	9.0	45.0								
-25	100/0	29.2	49.7	0.8	2.3	1.0	3.0	20.0								
-25.5	100/0	29.2	49.7	0.0	1.5	0.0	2.0	10.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-23: JSC RCP NORDIX DEFROST NORTH 4
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.6515 A = -0.7575	I = 2.7447 A = -0.8267 B = 0.0000	I = 2.7447 A = -0.8267 B = 0.0000	I = 2.7447 A = -0.8267 B = 0.0000	I = 2.6377 A = -0.7492	I = 2.4403 A = -0.6778	I = 2.7110 A = -0.9348	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.6157 A = -0.5906	I = 2.7447 A = -0.8267 B = 0.0000	I = 2.7447 A = -0.8267 B = 0.0000	I = 2.7447 A = -0.8267 B = 0.0000	I = 2.6041 A = -0.7058	I = 2.5954 A = -0.7285		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.3727 A = -1.0450	I = 2.2480 A = -0.9120 B = 0.0000	I = 2.1544 A = -0.7565 B = 0.0000	I = 2.3979 A = -1.0000 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.3727 A = -1.0450	I = 2.2685 A = -1.1070 B = 0.0000	I = 2.2465 A = -1.0704 B = 0.0000	I = 2.3751 A = -1.1990 B = 0.0000				
below -25 to -26 °C (below -13 to -15 °F)	100/0	I = 2.3727 A = -1.0450	I = 2.1021 A = -1.1696 B = 0.0000	I = 2.1466 A = -1.2435 B = 0.0000	I = 2.4160 A = -1.5129 B = 0.0000				

1 Regression Equation: $t = 10^4 R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^4 R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	132.4	265.1	29.1	62.1	38.8	82.8	224.0	63.6	130.0	31.1	48.4	6.8	6.8	9.1	114.2
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	159.5	274.1	29.1	62.1	38.8	82.8	224.0	65.7	129.1	37.8	60.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	159.5	274.1	29.1	62.1	38.8	82.8	224.0	65.7	129.1	37.8	60.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	43.9	114.3	7.5	18.8	10.0	25.0	65.0								
-25	100/0	43.9	114.3	3.8	11.3	5.0	15.0	55.0								
-26	100/0	43.9	114.3	1.5	6.0	2.0	8.0	35.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-24: KILFROST ABC-S PLUS
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5882 A = -0.6773	I = 2.7997 A = -0.5886 B = -0.1639	I = 2.7997 A = -0.5886 B = -0.1639	I = 2.7997 A = -0.5886 B = -0.1639	I = 2.1349 A = -0.0810	I = 3.2080 A = -1.0102	I = 2.5437 A = -0.6337	CAUTION: No holdover time guidelines exist
	75/25	I = 2.4204 A = -0.6975	I = 2.5586 A = -0.5815 B = -0.1638	I = 2.5586 A = -0.5815 B = -0.1638	I = 2.5586 A = -0.5815 B = -0.1638	I = 2.1108 A = -0.2951	I = 2.5019 A = -0.7097	I = 2.4230 A = -0.7288	
	50/50	I = 1.8988 A = -0.5888	I = 2.1742 A = -0.6668 B = 0.0000	I = 2.1742 A = -0.6668 B = 0.0000	I = 2.1742 A = -0.6668 B = 0.0000	I = 2.2203 A = -0.8993	I = 1.7490 A = -0.4516		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.7468 A = -1.4224	I = 2.7997 A = -0.5886 B = -0.1639	I = 2.7997 A = -0.5886 B = -0.1639	I = 2.7997 A = -0.5886 B = -0.1639	I = 2.9992 A = -1.4676	I = 2.3542 A = -0.7931		
	75/25	I = 2.3554 A = -1.0359	I = 2.5586 A = -0.5815 B = -0.1638	I = 2.5586 A = -0.5815 B = -0.1638	I = 2.5586 A = -0.5815 B = -0.1638	I = 2.8273 A = -1.3891	I = 2.1553 A = -0.6538		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9370 A = -0.5185	I = 2.3257 A = -1.4094 B = 0.0000	I = 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9370 A = -0.5185	I = 2.4506 A = -2.4094 B = 0.0000	I = 1.7911 A = -1.3140 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -28 °C (below -13 to -18 °F)	100/0	I = 1.9370 A = -0.5185	I = 1.5915 A = -1.2398 B = 0.0000	I = 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	130.3	242.3	54.6	93.7	72.8	124.9	253.7	110.8	119.8	62.5	121.0	17.0	17.0	22.7	126.1
	75/25	85.7	162.3	32.1	54.7	42.8	72.9	146.8	60.5	80.3	32.3	51.4	8.6	8.6	11.4	82.0
	50/50	30.7	52.7	13.1	24.2	17.5	32.2	71.8	16.5	39.1	13.1	17.6				
-8	100/0	56.6	208.3	48.8	83.6	65.0	111.5	226.4	23.1	94.1	17.6	29.6				
	75/25	42.8	110.6	28.7	48.8	38.2	65.1	131.0	19.1	71.8	17.4	26.7				
-10 / -14 ***	100/0	56.6	208.3	45.2	77.4	60.2	103.2	209.7	23.1	94.1	17.6	29.6				
	75/25	42.8	110.6	26.6	45.2	35.4	60.2	121.3	19.1	71.8	17.4	26.7				
-18	100/0	37.5	60.4	1.5	6.8	2.0	9.0	45.0								
-25	100/0	37.5	60.4	0.8	2.3	1.0	3.0	20.0								
-28	100/0	37.5	60.4	0.0	1.5	0.0	2.0	10.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-25: MKS DEVO CHEMICALS COREICEPHOB TYPE-IV PG
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5147 A = -0.5177	I = 3.1944 A = -0.8559 B = -0.4836	I = 3.1944 A = -0.8559 B = -0.4836	I = 3.1944 A = -0.8559 B = -0.4836	I = 2.3070 A = -0.3347	I = 2.6455 A = -0.6713	I = 2.5469 A = -0.7833	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 1.8551 A = -0.9628	I = 3.1944 A = -0.8559 B = -0.4836	I = 3.1944 A = -0.8559 B = -0.4836	I = 3.1944 A = -0.8559 B = -0.4836	I = 2.5656 A = -0.8764	I = 2.6477 A = -0.9684		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7334 A = -0.8596	I = 2.3257 A = -1.4094 B = 0.0000	I = 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7334 A = -0.8596	I = 2.4506 A = -2.4094 B = 0.0000	I = 1.7911 A = -1.3140 B = 0.0000	I = 1.6761 A = -1.1990 B = 0.0000				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 1.7334 A = -0.8596	I = 1.5915 A = -1.2398 B = 0.0000	I = 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog ^{***} (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ^{****} (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
5	2	25	10	25	10	LUPR [*]	13	5	25	13	75	75	75	5		
+1 / -3 **	100/0	142.2	228.5	34.3	75.1	45.7	100.1	280.5	85.9	118.3	50.9	79.0	9.0	9.0	12.0	99.9
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	15.2	36.8	24.5	53.7	32.7	71.6	200.6	38.8	89.7	19.7	37.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	15.2	36.8	19.5	42.8	26.0	57.0	159.9	38.8	89.7	19.7	37.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	13.6	29.8	1.5	6.8	2.0	9.0	45.0								
-25	100/0	13.6	29.8	0.8	2.3	1.0	3.0	20.0								
-29	100/0	13.6	29.8	0.0	1.5	0.0	2.0	10.0								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-26: NEWAVE AEROCHEMICAL FCY 9311
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.6186 A = -0.7874	I = 2.8340 A = -0.7480 B = -0.3361	I = 2.8340 A = -0.7480 B = -0.3361	I = 2.8340 A = -0.7480 B = -0.3361	I = 2.5218 A = -0.6026	I = 2.7035 A = -0.8019	I = 2.4128 A = -0.6988	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.4840 A = -1.3099	I = 2.8340 A = -0.7480 B = -0.3361	I = 2.8340 A = -0.7480 B = -0.3361	I = 2.8340 A = -0.7480 B = -0.3361	I = 2.4894 A = -0.8313	I = 2.3272 A = -0.7195		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.9261 A = -0.6637	I = 4.8041 A = -0.8155 B = -1.9481	I = 4.8041 A = -0.8155 B = -1.9481	I = 4.8041 A = -0.8155 B = -1.9481				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.9261 A = -0.6637	I = 4.8041 A = -0.8155 B = -1.9481	I = 4.8041 A = -0.8155 B = -1.9481	I = 4.8041 A = -0.8155 B = -1.9481				
below -25 to -29.5 °C (below -13 to -21 °F)	100/0	I = 1.9261 A = -0.6637	I = 1.9749 A = -0.8155 B = 0.0000	I = 1.9749 A = -0.8155 B = 0.0000	I = 1.9749 A = -0.8155 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	117.0	240.8	26.9	53.3	35.8	71.0	174.7	70.9	126.1	38.2	64.6	9.5	9.5	12.7	84.0
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	37.0	122.9	21.2	42.2	28.3	56.2	138.4	36.6	81.0	21.0	33.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	37.0	122.9	18.2	36.0	24.2	48.0	118.1	36.6	81.0	21.0	33.6				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	29.0	53.2	10.1	21.3	13.5	28.4	75.9								
-25	100/0	29.0	53.2	5.6	11.9	7.5	15.9	42.3								
-29.5	100/0	29.0	53.2	5.1	10.8	6.8	14.4	38.5								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

**TABLE 4-27: NEWAVE AEROCHEMICAL FCY-EGIV
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE**

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.7246 A = -0.7713	I = 2.9022 A = -0.8496 B = -0.2809	I = 2.9022 A = -0.8496 B = -0.2809	I = 2.9022 A = -0.8496 B = -0.2809	I = 2.5738 A = -0.6025	I = 2.6083 A = -0.7282	I = 2.6420 A = -0.7798	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.6090 A = -0.9888	I = 2.9022 A = -0.8496 B = -0.2809	I = 2.9022 A = -0.8496 B = -0.2809	I = 2.9022 A = -0.8496 B = -0.2809	I = 2.8537 A = -1.0325	I = 2.4852 A = -0.6098		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.4392 A = -1.2580	I = 3.8875 A = -0.9433 B = -1.0268	I = 3.8875 A = -0.9433 B = -1.0268	I = 3.8875 A = -0.9433 B = -1.0268				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.4392 A = -1.2580	I = 3.8875 A = -0.9433 B = -1.0268	I = 3.8875 A = -0.9433 B = -1.0268	I = 3.8875 A = -0.9433 B = -1.0268				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.4392 A = -1.2580	I = 3.8875 A = -0.9433 B = -1.0268	I = 3.8875 A = -0.9433 B = -1.0268	I = 3.8875 A = -0.9433 B = -1.0268				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	153.3	310.8	24.8	53.9	33.0	71.8	199.8	79.9	142.1	38.9	62.7	11.3	11.3	15.1	125.0
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	82.8	204.8	20.3	44.3	27.1	59.1	164.4	50.5	135.5	42.9	64.0				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
-10 / -14 ***	100/0	82.8	204.8	17.9	38.9	23.8	51.8	144.1	50.5	135.5	42.9	64.0				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	36.3	114.9	12.8	30.5	17.1	40.6	126.3								
-25	100/0	36.3	114.9	9.5	22.4	12.6	29.8	92.8								
-29	100/0	36.3	114.9	8.2	19.4	10.9	25.9	80.6								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-28: NEWAVE AEROCHEMICAL FCY-EGIV PLUS
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.4610 A = -0.2769	I = 2.9374 A = -0.8134 B = -0.3119	I = 2.9374 A = -0.8134 B = -0.3119	I = 2.9374 A = -0.8134 B = -0.3119	I = 2.4200 A = -0.4767	I = 2.4223 A = -0.5965	I = 2.6078 A = -0.7546	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.5278 A = -0.7823	I = 2.9374 A = -0.8810 B = -0.3119	I = 2.9374 A = -0.8810 B = -0.3119	I = 2.9374 A = -0.8810 B = -0.3119	I = 2.4529 A = -0.5080	I = 2.3583 A = -0.6237		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.1398 A = -0.9646	I = 3.7216 A = -0.8810 B = -0.9570	I = 3.7216 A = -0.8810 B = -0.9570	I = 3.7216 A = -0.8810 B = -0.9570				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.1398 A = -0.9646	I = 3.7216 A = -0.8810 B = -0.9570	I = 3.7216 A = -0.8810 B = -0.9570	I = 3.7216 A = -0.8810 B = -0.9570				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.1398 A = -0.9646	I = 3.7216 A = -0.8810 B = -0.9570	I = 3.7216 A = -0.8810 B = -0.9570	I = 3.7216 A = -0.8810 B = -0.9570				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog**** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain***** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	185.1	238.6	28.7	60.4	38.2	80.5	214.4	77.4	122.1	38.8	57.3	11.7	11.7	15.6	120.3
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	95.7	196.0	23.1	48.7	30.8	64.9	172.7	77.1	125.3	30.6	46.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	95.7	196.0	20.0	42.0	26.6	56.0	149.2	77.1	125.3	30.6	46.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	29.2	70.7	13.2	29.6	17.6	39.4	113.8								
-25	100/0	29.2	70.7	9.9	22.2	13.2	29.6	85.4								
-29	100/0	29.2	70.7	8.7	19.4	11.6	25.9	74.8								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 4-29: SHAANXI CLEANWAY CLEANSURFACE IV
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5799 A = -0.5825	I = 3.3751 A = -0.9153 B = -0.6693	I = 3.3751 A = -0.9153 B = -0.6693	I = 3.3751 A = -0.9153 B = -0.6693	I = 2.3673 A = -0.4192	I = 2.8005 A = -0.8461	I = 2.5963 A = -0.7896	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.3622 A = -0.8754	I = 3.3751 A = -0.9153 B = -0.6693	I = 3.3751 A = -0.9153 B = -0.6693	I = 3.3751 A = -0.9153 B = -0.6693	I = 2.7769 A = -1.1827	I = 1.9780 A = -0.4147		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7153 A = -0.5029	I = 4.9319 A = -0.8455 B = -2.0179	I = 4.9319 A = -0.8455 B = -2.0179	I = 4.9319 A = -0.8455 B = -2.0179				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7153 A = -0.5029	I = 4.9319 A = -0.8455 B = -2.0179	I = 4.9319 A = -0.8455 B = -2.0179	I = 4.9319 A = -0.8455 B = -2.0179				
below -25 to -30 °C (below -13 to -22 °F)	100/0	I = 1.6307 A = -0.4802	I = 1.9612 A = -0.8436 B = 0.0000	I = 1.9612 A = -0.8436 B = 0.0000	I = 1.9612 A = -0.8436 B = 0.0000				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes)														
		Freezing Fog, Freezing Mist, or Ice Crystals		Mixed Snow and Freezing Fog***		Snow, Snow Grains or Snow Pellets			Freezing Drizzle		Light Freezing Rain		Mixed Moderate Snow and Rain****		Rain on Cold Soaked Wing	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	75	75	5
+1 / -3 **	100/0	148.9	253.8	31.8	73.7	42.4	98.2	295.5	79.5	118.7	41.5	72.1	9.8	9.8	13.1	110.8
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	56.3	125.5	20.0	46.3	26.7	61.7	185.8	28.8	89.2	25.0	32.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-10 / -14 ***	100/0	56.3	125.5	14.6	33.8	19.5	45.1	135.7	28.8	89.2	25.0	32.8				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
-18	100/0	23.1	36.6	10.0	21.7	13.3	28.9	80.0								
-25	100/0	23.1	36.6	5.5	11.9	7.3	15.8	43.7								
-30	100/0	19.7	30.6	4.6	9.8	6.1	13.1	36.2								

* Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

TABLE 4-30: XINJIANG ZHONGTIAN AVIATION CLEARICE-IV
REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

Outside Air Temperature	Fluid Dilution	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions							
		Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}			Freezing Drizzle ¹	Light Freezing Rain ¹	Rain on Cold Soaked Wing ¹	Other
			< 4 g/dm ² /h	4 to <10 g/dm ² /h	≥ 10 g/dm ² /h				
-3 °C and above (27 °F and above)	100/0	I = 2.5730 A = -0.5808	I = 2.8289 A = -0.8073 B = -0.2979	I = 2.8289 A = -0.8073 B = -0.2979	I = 2.8289 A = -0.8073 B = -0.2979	I = 2.4973 A = -0.6147	I = 2.5684 A = -0.7275	I = 2.4579 A = -0.7134	CAUTION: No holdover time guidelines exist
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
below -3 to -14 °C (below 27 to 7 °F)	100/0	I = 2.2665 A = -0.5145	I = 2.8289 A = -0.8073 B = -0.2979	I = 2.8289 A = -0.8073 B = -0.2979	I = 2.8289 A = -0.8073 B = -0.2979	I = 2.3766 A = -0.5674	I = 2.3770 A = -0.6003		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 2.0127 A = -0.8043	I = 2.8366 A = -0.7581 B = -0.3811	I = 2.8366 A = -0.7581 B = -0.3811	I = 2.8366 A = -0.7581 B = -0.3811				
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 2.0127 A = -0.8043	I = 2.8366 A = -0.7581 B = -0.3811	I = 2.8366 A = -0.7581 B = -0.3811	I = 2.8366 A = -0.7581 B = -0.3811				
below -25 to -29 °C (below -13 to -20 °F)	100/0	I = 2.0127 A = -0.8043	I = 2.8366 A = -0.7581 B = -0.3811	I = 2.8366 A = -0.7581 B = -0.3811	I = 2.8366 A = -0.7581 B = -0.3811				

1 Regression Equation: $t = 10^I R^A$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)
 2 Regression Equation: $t = 10^I R^A (2-T)^B$, where t = holdover time (minutes), R = precipitation rate (g/dm²/h) and T = temperature (°C)
 3 CAUTION: Use of these coefficients is limited by the lowest usable precipitation rates provided in Table 5 and the highest usable precipitation rates provided in Table 6

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients														
		Freezing Fog, Freezing Mist, or Ice Crystals ¹ (g/dm ² /h)		Mixed Snow and Freezing Fog ^{****} (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain ^{*****} (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	26	10	26	10	LUPR [†]	13	6	26	13	76	75	76	6
+1 / -3 **	100/0	146.9	250.1	23.3	48.8	31.1	65.1	172.0	64.9	116.9	35.6	57.3	9.9	9.9	13.2	91.0
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-8	100/0	80.7	129.3	19.0	39.7	25.3	52.9	139.9	55.5	95.5	34.5	51.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-10 / -14 ***	100/0	80.7	129.3	16.5	34.5	22.0	46.0	121.6	55.5	95.5	34.5	51.1				
	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
-18	100/0	28.2	59.0	14.3	28.7	19.1	38.3	95.3								
-25	100/0	28.2	59.0	12.8	25.6	17.0	34.1	85.0								
-29	100/0	28.2	59.0	12.2	24.3	16.2	32.4	80.6								

[†] Refer to Table 5 for the lowest usable precipitation rates in snow
 ** Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 *** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 **** Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ***** Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

FAA HOT Guidelines Regression Information

Winter 2025-2026

**TABLE 4-31: TYPE IV GENERIC
VERIFICATION TABLE**

Outside Air Temp. (°C)	Fluid Dilution	HOTDS Verification Times Under Various Weather Conditions (minutes) <i>As Calculated from Regression Coefficients</i>														
		Freezing Fog, Freezing Mist, or Ice Crystals (g/dm ² /h)		Mixed Snow and Freezing Fog*** (g/dm ² /h)		Snow, Snow Grains or Snow Pellets (g/dm ² /h)			Freezing Drizzle (g/dm ² /h)		Light Freezing Rain (g/dm ² /h)		Mixed Moderate Snow and Rain**** (g/dm ² /h)		Rain on Cold Soaked Wing (g/dm ² /h)	
		5	2	25	10	25	10	3	13	5	25	13	75	75	75	5
+1 / -3 *	100/0	74.8	137.0	20.0	40.4	26.7	53.8	135.2	35.6	67.7	16.7	30.0	6.2	6.2	8.2	63.8
	75/25	85.7	162.3	30.1	54.7	40.1	72.9	146.8	60.5	80.3	32.3	51.4	7.1	7.1	9.4	82.0
	50/50	30.7	52.7	7.5	19.8	10.0	26.4	71.8	16.5	39.1	9.4	17.6				
-8	100/0	15.2	36.8	17.6	35.4	23.5	47.2	118.6	23.1	60.4	17.6	28.5				
	75/25	37.6	80.0	23.6	48.8	31.5	65.1	131.0	19.1	62.6	17.4	26.7				
-10 / -14 **	100/0	15.2	36.8	14.6	32.4	19.5	43.2	108.6	23.1	60.4	17.6	28.5				
	75/25	37.6	80.0	20.1	42.6	26.8	56.8	121.3	19.1	62.6	17.4	26.7				
-18	100/0	13.6	29.8	1.5	6.8	2.0	9.0	45.0								
-25	100/0	13.6	29.8	0.8	2.3	1.0	3.0	20.0								

* Rain on cold soaked wing calculated at +1°C; all other conditions calculated at -3°C
 ** Freezing fog and snow calculated at -14°C; freezing drizzle and light freezing rain calculated at -10°C
 ***Mixed snow and freezing fog calculated at a 75% ratio of the equivalent snow, snow grains or snow pellets holdover times
 ****Mixed moderate snow and rain calculated at a 75% ratio of the equivalent rain on cold soaked wing holdover times

TABLE 5: LOWEST USABLE PRECIPITATION RATES IN SNOW¹
TYPE II, TYPE III AND TYPE IV FLUIDS²

Type II De/Anti-Icing Fluids				
FLUID DILUTION	100/0		75/25	50/50
TEMPERATURE	-14°C AND ABOVE	BELOW -14°C	-14°C AND ABOVE	-3°C AND ABOVE
ABAX ECOWING AD-2	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
Aviation Xi'an High-Tech Cleanwing II	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
Clariant Safewing MP II FLIGHT	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
Cryotech Polar Guard® II	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
ESSPO CHEMICALS Nordwing PG2	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Kilfrost ABC-K Plus	3 g/dm ² /h	10 g/dm ² /h	4 g/dm ² /h	3 g/dm ² /h
Kilfrost Ice Clear II	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
MKS DevO Chemicals COREICEPHOB Type II	3 g/dm ² /h	3 g/dm ² /h	not applicable	3 g/dm ² /h
Newave Aerochemical FCY-2	3 g/dm ² /h	10 g/dm ² /h	not applicable	not applicable
ROMCHIM ADD-PROTECT NG Type II	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
ROMCHIM ADD-PROTECT Type II	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h

Type III De/Anti-Icing Fluids				
FLUID DILUTION	100/0		75/25	50/50
TEMPERATURE	-25°C AND ABOVE	BELOW -25°C	-10°C AND ABOVE	-3°C AND ABOVE
AllClear AeroClear MAX	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable

1 The lowest precipitation rate to be used as an input to the snow regression equations is constrained by the higher of: (1) the minimum demonstrated precipitation measuring equipment rates in accordance with the FAA LWES AC (in no case less than 2.0 g/dm²/h) or (2) the lowest usable precipitation rate (LUPR) for the fluid/dilution/temperature as defined in this table.

2 Type I fluids are limited only by the general precipitation rate limitations set out in the FAA LWES AC.

TABLE 5: LOWEST USABLE PRECIPITATION RATES IN SNOW¹ (cont'd)
TYPE II, TYPE III AND TYPE IV FLUIDS²

Type IV De/Anti-Icing Fluids				
FLUID DILUTION	100/0		75/25	50/50
TEMPERATURE	-14°C AND ABOVE	BELOW -14°C	-14°C AND ABOVE	-3°C AND ABOVE
ABAX ECOWING AD-49	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
AFLRUS LLC Green Flo Type 4	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
ALAB International PROFLIGHT EG4	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
ALAB International PROFLIGHT PG4	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
AllClear Clear IV Flight	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
AllClear ClearWing EG	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
ASGlobal 4F-lite EG	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
ASGlobal 4F-lite PG	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
AVIAFLUID AVIAFlight EG	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
AVIAFLUID AVIAFlight PG	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
CHEMCO ChemR EG IV	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
CHEMCO ChemR Nordik IV	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Chongqing Joba Chemical FW-IV	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Clariant Safewing MP IV LAUNCH	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
Clariant Safewing MP IV LAUNCH PLUS	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
Cryotech Polar Guard® Advance	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
Cryotech Polar Guard® Xtend	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Dow Inc. UCAR ENDURANCE™ EG106 ADF/AAF	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Dow Inc. UCAR™ FLIGHTGUARD™ AD-49	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
ESSPO CHEMICALS Nordwing PG4	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Inland Technologies ECO-SHIELD®	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
JSC RCP Nordix Defrost ECO 4	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
JSC RCP Nordix Defrost NORTH 4	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Kilfroast ABC-S Plus	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h	3 g/dm ² /h
MKS DevO Chemicals COREICEPHOB TYPE-IV PG	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Newave Aerochemical FCY 9311	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Newave Aerochemical FCY-EGIV	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Newave Aerochemical FCY-EGIV PLUS	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Shaanxi Cleanway Cleansurface IV	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable
Xinjiang Zhongtian Aviation Clearice-IV	3 g/dm ² /h	3 g/dm ² /h	not applicable	not applicable

1 The lowest precipitation rate to be used as an input to the snow regression equations is constrained by the higher of: (1) the minimum demonstrated precipitation measuring equipment rates in accordance with the FAA LWES AC (in no case less than 2.0 g/dm²/h) or (2) the lowest usable precipitation rate (LUPR) for the fluid/dilution/temperature as defined in this table.

2 Type I fluids are limited only by the general precipitation rate limitations set out in the FAA LWES AC.

TABLE 6: HIGHEST USABLE PRECIPITATION RATES IN SNOW¹
TYPE II, TYPE III AND TYPE IV FLUIDS²

Type II De/Anti-Icing Fluids				
FLUID DILUTION	100/0		75/25	50/50
TEMPERATURE	-14°C AND ABOVE	BELOW -14°C	-14°C AND ABOVE	-3°C AND ABOVE
ABAX ECOWING AD-2	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
Aviation Xi'an High-Tech Cleanwing II	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
Clariant Safewing MP II FLIGHT	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	40 g/dm ² /h
Cryotech Polar Guard® II	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
ESSPO CHEMICALS Nordwing PG2	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Kilfrost ABC-K Plus	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	25 g/dm ² /h
Kilfrost Ice Clear II	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
MKS DevO Chemicals COREICEPHOB Type II	50 g/dm ² /h	25 g/dm ² /h	not applicable	50 g/dm ² /h
Newave Aerochemical FCY-2	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
ROMCHIM ADD-PROTECT NG Type II	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
ROMCHIM ADD-PROTECT Type II	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h

Type III De/Anti-Icing Fluids				
FLUID DILUTION	100/0		75/25	50/50
TEMPERATURE	-25°C AND ABOVE	BELOW -25°C	-10°C AND ABOVE	-3°C AND ABOVE
AllClear AeroClear MAX	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable

1 The highest precipitation rate to be used as an input to the snow regression equations is constrained by the lower of: (1) the maximum allowable precipitation rate for snow specified in the FAA LWES AC (50 g/dm²/h) or (2) the highest usable precipitation rate (HUPR) for the fluid/dilution/temperature as defined in this table.

2 Type I fluids are limited only by the general precipitation rate limitations set out in the FAA LWES AC.

TABLE 6: HIGHEST USABLE PRECIPITATION RATES IN SNOW¹ (cont'd)
TYPE II, TYPE III AND TYPE IV FLUIDS²

Type IV De/Anti-Icing Fluids				
FLUID DILUTION	100/0		75/25	50/50
TEMPERATURE	-14°C AND ABOVE	BELOW -14°C	-14°C AND ABOVE	-3°C AND ABOVE
ABAX ECOWING AD-49	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
AFLRUS LLC Green Flo Type 4	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
ALAB International PROFLIGHT EG4	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
ALAB International PROFLIGHT PG4	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
AllClear Clear IV Flight	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
AllClear ClearWing EG	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
ASGlobal 4F-lite EG	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
ASGlobal 4F-lite PG	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
AVIAFLUID AVIAFlight EG	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
AVIAFLUID AVIAFlight PG	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
CHEMCO ChemR EG IV	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
CHEMCO ChemR Nordik IV	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Chongqing Joba Chemical FW-IV	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Clariant Safewing MP IV LAUNCH	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
Clariant Safewing MP IV LAUNCH PLUS	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
Cryotech Polar Guard® Advance	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
Cryotech Polar Guard® Xtend	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Dow Inc. UCAR ENDURANCE™ EG106 ADF/AAF	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Dow Inc. UCAR™ FLIGHTGUARD™ AD-49	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
ESSPO CHEMICALS Nordwing PG4	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Inland Technologies ECO-SHIELD®	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
JSC RCP Nordix Defrost ECO 4	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
JSC RCP Nordix Defrost NORTH 4	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Kilfrosts ABC-S Plus	50 g/dm ² /h	25 g/dm ² /h	50 g/dm ² /h	50 g/dm ² /h
MKS DevO Chemicals COREICEPHOB TYPE-IV PG	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Newave Aerochemical FCY 9311	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Newave Aerochemical FCY-EGIV	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Newave Aerochemical FCY-EGIV PLUS	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Shaanxi Cleanway Cleansurface IV	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable
Xinjiang Zhongtian Aviation Clearice-IV	50 g/dm ² /h	25 g/dm ² /h	not applicable	not applicable

1 The highest precipitation rate to be used as an input to the snow regression equations is constrained by the lower of: (1) the maximum allowable precipitation rate for snow specified in the FAA LWES AC (50 g/dm²/h) or (2) the highest usable precipitation rate (HUPR) for the fluid/dilution/temperature as defined in this table.

2 Type I fluids are limited only by the general precipitation rate limitations set out in the FAA LWES AC.