FAA HOLDOVER TIME GUIDELINES REGRESSION INFORMATION



WINTER 2024-2025 ORIGINAL ISSUE: AUGUST 6, 2024

<u>The content of this document is the official FAA winter 2024-2025 holdover</u> time guidelines regression information.

Questions concerning FAA aircraft ground de/anti-icing requirements or Flight Standards policies should be addressed to timothy.mcclain@faa.gov or 703-999-6648.

Questions on the technical content of the holdover time tables, allowance time tables, or regression information should be addressed to warren.underwood@faa.gov or 404-305-7267.

Questions regarding editorial content or web access issues should be addressed to sung.shin@faa.gov or 202-267-8086.

The Holdover Times Tables and related information can be found at the FAA's <u>Aircraft Ground Deicing website</u>. To receive notifications on updates to the Holdover Times Tables and related information, subscribe to the <u>Aircraft Ground Deicing website by clicking on this link</u>.

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: <u>https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/deicing/.</u>

REVISION	DATE	DESCRIPTION OF CHANGES	AFFECTED PAGES	AUTHOR

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HIGHLIGHTS AND CHANGES FOR WINTER 2024-2025

The principal changes from the previous 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 mixed snow and freezing fog.

Type II Fluid

- The regression verification table has been updated for one existing Type II fluid: MKS DevO Chemicals COREICEPHOB TYPE II.
- The regression coefficients tables and verification tables for JSC RCP Nordix Defrost PG 2, and Clariant MP II FLIGHT PLUS have been removed.
- The regression verification tables have been updated for all Type II fluids to incorporate the new precipitation of mixed snow and freezing fog.
- A change was made to the Type II generic holdover times for winter 2023-2024. The Type II generic verification table has been updated accordingly.

Type III Fluid

• The regression verification tables have been updated for all Type III fluids to incorporate the new precipitation of mixed snow and freezing fog.

Type IV Fluid

- The Regression coefficients tables and verification tables have been updated for the one existing Type IV fluid: ALAB International, PROFLIGHT EG4.
- The regression coefficients tables and verification tables have been added for the four new Type IV fluids, added to the holdover time (HOT) guidelines for winter 2024-2025: ALAB International PROFLIGHT PG4, Chongqing Joba Chemical Co. FW-IV, MKS DevO Chemicals COREICEPHOB TYPE-IV PG, and Shaanxi Cleanway Cleansurface IV.
- The regression coefficient tables and verification tables for AllClear ClearWing ECO, Clariant Max Flight AVIA, Clariant Max Flight SNEG, and Clariant Safewing EG IV NORTH have been removed.
- The regression verification tables have been updated for all Type IV fluids to incorporate the new precipitation of mixed snow and freezing fog.
- Several changes were made to the Type IV generic holdover times for winter 2023-2024. The Type IV generic verification table has been updated accordingly.

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 2024-2025 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 Transport Canada report, *Regression Coefficients and Equations Used to Develop the Winter 2021-22 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 Timothy McClain, phone 703-999-6648, email timothy.mcclain@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

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.

- <u>Type II</u>: 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.
- <u>Type IV</u>: 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.

<u>NOTE</u>: 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.

<u>NOTE</u>: 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

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 2024-2025

The regression information for winter 2024-2025 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 2-11: Type II Fluid Regression Information Tables
- Tables 3-1 to 3-3: Type III Fluid Regression Information Tables
- Tables 4-1 to 4-26: 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

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

	Regress	ion Coefficients for	Calculating Holdov	ver Times Under Va	rious Weather Con	ditions
Outside Air Temperature	Freezing Fog, Freezing Mist, or Ice Crystals¹	Snow, Snow Grains or Snow Pellets ²³	Freezing Drizzle¹	Light Freezing Rain¹	Rain on Cold Soaked Wing¹	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	= 2.2598 A = -1.4012	I = 0.9355 A = -0.3384	
below -3 to -6 °C (below 27 to 21 °F)	I = 1.2734 A = -0.5299	l = 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	CAUT No hol time guid exi	ION: dover delines st
below -10 °C (below 14 °F)	I = 1.1473 A = -0.6415	I = 2.0072 A = -0.5752 B = -0.5585			-	

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

			Н	OTDS Ve	e rificatio As	n Times Calculate	Under Va ed from Re	rious We	eather Co Coefficie	onditions ents	(minute	s)		
Outside Air Temp. (°C)	Freezing Fog, Freezing Mist, or Ice Crystals (g/dm²/h)		Mixed Snow and Freezing Fog** (g/dm²/h)		Snow, Snow Grains or Snow Pellets (g/dm²/h)				Freezing Drizzle (g/dm²/h)		Light Freezing Rain (g/dm²/h)		Rain on Cold Soaked Wing (g/dm²/h)	
	5	2	25	10	25	10	4	3	13	5	25	13	75	5
+1 / -3 *	11.0	17.0	5.2	8.8	6.5	11.0	18.6	22.0	9.0	13.0	2.0	5.0	2.0	5.0
-6	8.0	13.0	4.0	6.8	5.0	8.5	14.3	16.9	5.0	9.0	2.0	5.0		
-10	6.0	10.0	3.2	5.4	4.0	6.7	11.4	13.5	4.0	7.0	2.0	5.0		
-25	5.0	9.0	2.0	3.4	2.5	4.3	7.3	8.6						

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

TABLE 1-2: GENERIC TYPE I (COMPOSITE WING SURFACES)

	Regress	ion Coefficients for	Calculating Holdov	ver Times Under Va	rious Weather Con	ditions
Outside Air Temperature	Freezing Fog, Freezing Mist, or Ice Crystals¹	Snow, Snow Grains or Snow Pellets ²³	Freezing Drizzle¹	Light Freezing Rain¹	Rain on Cold Soaked Wing¹	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	
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	= 1.6656 A= -0.7424 B= -0.2094	I = 1.2545 A = -0.5857	I = 2.2598 A = -1.4012	CAUT No hol time guid exi	ION: dover delines st
below -10 °C (below 14 °F)	I = 1.0289 A = -0.6107	I = 2.0072 A = -0.5752 B = -0.5585			-	

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

			Н	OTDS Ve	erificatio As	n Times Calculate	Under Va ed from Re	rious We	eather Co Coefficie	onditions ents	(minute	s)		
Outside Air Temp. (°C)	Freezing Fog, Freezing Mist, or Ice Crystals (g/dm²/h)		Mixed Snow and Freezing Fog** (g/dm²/h)		S	now, Sn or Snov (g/di	ow Grair v Pellets m²/h)	ıs	Freezing Drizzle (g/dm²/h)		Light Freezing Rain (g/dm²/h)		Rain on Cold Soaked Wing (g/dm²/h)	
	5	2	25	10	25	10	4	3	13	5	25	13	75	5
+1 / -3 *	9.0	16.0	2.4	4.8	3.0	6.0	11.8	14.6	8.0	13.0	2.0	5.0	1.0	5.0
-6	6.0	8.0	2.2	4.3	2.7	5.4	10.7	13.3	5.0	9.0	2.0	5.0		
-10	4.0	8.0	2.0	4.0	2.5	5.0	9.8	12.2	4.0	7.0	2.0	5.0		
-25	4.0	7.0	2.0	3.4	2.5	4.3	7.3	8.6						

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

TABLE 2-1: ABAX ECOWING AD-2

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

	Fluid	Regres	sion Coefficie	ents for Calcula	ating Holdove	r Times Unde	r Various Wea	ther Condition	ns
Outside Air	Fluid Dilution	Freezing	Snow, Snov	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
romporataro	Bildion	Fog, Freezing Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		= 2.5300	= 2.7889	= 2.7889	= 2.7889	I = 2.6240	= 2.5285	= 2.4977	
	100/0	A = -0.8946	A = -0.7155	A = -0.7155	A = -0.7155	A = -0.8987	A = -0.7682	A = -0.8034	
			B = -0.2871	B = -0.2871	B = -0.2871				
		= 1.9838	= 2.5435	= 2.5435	= 2.5435	= 2.2055	= 2.2411	= 2.3107	
-3 °C and above (27 °F and above)	75/25	A = -0.1716	A = -0.7664	A = -0.7664	A = -0.7664	A = -0.5820	A = -0.6851	A = -0.8650	
(B = -0.0812	B = -0.0812	B = -0.0812				
		= 1.6478	= 2.0999	= 2.0999	= 2.0999	= 1.6770	= 1.5734		_
	50/50	A = -0.5976	A = -0.7867	A = -0.7867	A = -0.7867	A = -0.6366	A = -0.5302		
			B = -0.1524	B = -0.1524	B = -0.1524				
		= 2.5699	= 2.7889	= 2.7889	= 2.7889	= 2.6096	= 2.3302		
	100/0	A = -1.2862	A = -0.7155	A = -0.7155	A = -0.7155	A = -1.0768	A = -0.7561		
below -3 to -14 °C			B = -0.2871	B = -0.2871	B = -0.2871				
(below 27 to 7 °F)		= 2.4425	= 2.5435	= 2.5435	= 2.5435	= 2.7079	= 2.3728		
	75/25	A = -1.2784	A = -0.7664	A = -0.7664	A = -0.7664	A = -1.3713	A = -0.7324	CAUTIC	NI:
			B = -0.0812	B = -0.0812	B = -0.0812			No holdo	over
		= 1.8390	= 2.1496	= 1.9908	= 2.2123			time guide	lines
below -14 to -18 °C	100/0	A = -0.8725	A = -1.4094	A = -1.1457	A = -1.3672			exist	
			B = 0.0000	B = 0.0000	B = 0.0000				
		= 1.8390	= 2.0233	= 1.6761	= 1.6761				
below -18 to -25 °C (below 0 to -13 °E)	100/0	A = -0.8725	A = -1.7757	A = -1.1990	A = -1.1990				
			B = 0.0000	B = 0.0000	B = 0.0000				
		= 1.8390	= 1.4031	= 1.7565	= 5.0259				
below -25 to -27 °C	100/0	A = -0.8725	A = -1.1696	A = -1.7565	A = -5.0259				
			B = 0.0000	B = 0.0000	B = 0.0000				

1 Regression Equation: $t = 10^{1} R^{A}$, 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

					HOTDS V	erification As C	Times Und Calculated fr	ler Various	Weather (Conditions ients	(minutes)	HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients													
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezin or Ice ((g/dr	ng Fog, ng Mist, Crystals m²/h)	Mixed Snow and Freezing Fog**** (g/dm²/h)		Snow, Snow Grains or Snow Pellets (g/dm²/h)			Freezing Drizzle (g/dm²/h)		Light Freezing Rain (g/dm²/h)		Rain on Cold Soaked Wing (g/dm²/h)												
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5											
	100/0	80.3	182.3	29.0	56.0	38.7	74.6	176.5	42.0	99.0	28.5	47.1	9.8	86.3											
+1 / -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	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													
	100/0	46.9	152.3	23.8	45.8	31.7	61.1	144.7	25.7	71.9	18.8	30.8													
-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													
40 / 44 ***	100/0	46.9	152.3	20.8	40.1	27.7	53.4	126.4	25.7	71.9	18.8	30.8													
-10 / -14	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			-		1												
-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

TABLE 2-2: AVIATION XI'AN HIGH-TECH CLEANWING II

	Fluid	Regres	Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions									
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on				
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other			
		= 2.2573	I = 2.6057	= 2.6057	I = 2.6057	I = 2.1979	= 2.2567	= 2.1512				
	100/0	A = -0.7407	A = -0.6656	A = -0.6656	A = -0.6656	A = -0.5728	A = -0.6317	A = -0.6064				
			B = -0.3133	B = -0.3133	B = -0.3133							
2°C and above		= 2.0742	= 2.3044	= 2.3044	I = 2.3044	= 2.1475	= 2.2158	= 2.1568				
(27 °F and above)	75/25	A = -0.5411	A = -0.6229	A = -0.6229	A = -0.6229	A = -0.5338	A = -0.6683	A = -0.6861				
(,			B = -0.0204	B = -0.0204	B = -0.0204							
		= 1.9836	= 2.5060	= 2.5060	= 2.5060	I = 2.0341	= 2.1847					
	50/50	A = -0.6276	A = -0.7213	A = -0.7213	A = -0.7213	A = -0.6288	A = -0.7830					
			B = -0.5237	B = -0.5237	B = -0.5237							
		I = 2.3283	I = 2.6057	I = 2.6057	I = 2.6057	I = 2.1441	I = 1.8282					
	100/0	A = -0.9431	A = -0.6656	A = -0.6656	A = -0.6656	A = -0.6033	A = -0.4021					
below -3 to -14 °C			B = -0.3133	B = -0.3133	B = -0.3133							
(below 27 to 7 °F)		I = 2.3328	I = 2.3044	I = 2.3044	I = 2.3044	I = 1.6685	I = 1.7474	CAUTIO	N:			
	75/25	A = -1.0611	A = -0.6229	A = -0.6229	A = -0.6229	A = -0.1061	A = -0.3274	time quide	lines			
			B = -0.0204	B = -0.0204	B = -0.0204			exist				
below 11 to 18 °C		I = 1.9950	I = 4.0861	= 4.0861	I = 4.0861							
below -14 to -18 °C (below 7 to 0 °F)	100/0	A = -0.9540	A = -0.7279	A = -0.7279	A = -0.7279							
· /			B = -1.5166	B = -1.5166	B = -1.5166							
below 18 to 25 °C		I = 1.9950	I = 4.0861	= 4.0861	I = 4.0861							
below -18 to -25 °C (below 0 to -13 °F)	100/0	A = -0.9540	A = -0.7279	A = -0.7279	A = -0.7279							
(below 0 to -13 °F)			B = -1.5166	B = -1.5166	B = -1.5166							

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS V	erification As C	Times Und Calculated fr	ler Various	Weather	Conditions ients	(minutes)	·	·	
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezin or Ice ((g/dr	Freezing Fog, Freezing Mist, or Ice Crystals (g/dm²/h)		Mixed Snow and Freezing Fog**** (g/dm²/h)		Snow, Snow Grains or Snow Pellets (g/dm²/h)			Freezing Drizzle (g/dm²/h)		Light Freezing Rain (g/dm²/h)		n Cold d Wing n²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	54.9	108.2	21.5	39.5	28.6	52.6	117.3	36.3	62.7	23.6	35.7	10.3	53.4
+1 / -3 **	75/25	49.7	81.5	19.7	34.9	26.3	46.5	98.4	35.7	59.5	19.1	29.6	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		
0	100/0	46.7	110.8	17.3	31.7	23.0	42.3	94.4	29.7	52.8	18.5	24.0		
-8	75/25	39.0	103.1	19.4	34.4	25.9	45.8	97.0	35.5	39.3	19.5	24.1		
40 / 44 ***	100/0	46.7	110.8	14.9	27.4	19.9	36.5	81.4	29.7	52.8	18.5	24.0		
-10 / -14 ****	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

TABLE 2-3: CLARIANT SAFEWING MP II FLIGHT

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

			Regression Coefficients for Calculating Holdover Times Under Various Weather Conditions											
Outside Air Temperature	Fluid Dilution	Freezing Fog, Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light Freezing	Rain on Cold Soaked	Other					
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Rain ¹	Wing ¹	••					
	100/0	= 2.4369 A = -0.1630	= 2.7425 A = -0.5435 B = -0.3120	= 2.7425 A = -0.5435 B = -0.3120	= 2.7425 A = -0.5435 B = -0.3120	l = 2.6541 A = -0.6697	= 2.9080 A = -0.8860	I = 2.4810 A = -0.7583						
-3 °C and above (27 °F and above)	75/25	I = 2.3415 A = -0.4326	= 3.0163 A = -0.7162 B = -0.5615	= 3.0163 A = -0.7162 B = -0.5615	= 3.0163 A = -0.7162 B = -0.5615	I = 2.1306 A = -0.2689	= 2.5596 A = -0.7512	I = 2.5884 A = -0.9638 I = 2.2277 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	= 2.2879 A = -0.7080 B = -0.2971	l = 1.7413 A = -0.3693	I = 1.9070 A = -0.6463							
below -3 to -14 °C	100/0	= 2.2233 A = -0.6827	= 2.7425 A = -0.5435 B = -0.3120	= 2.7425 A = -0.5435 B = -0.3120	= 2.7425 A = -0.5435 B = -0.3120	l = 2.6220 A = -0.9557	= 2.5701 A = -0.8095							
(below 27 to 7 °F)	75/25	I = 2.1182 A = -1.0244	I = 3.0163 A = -0.7162 B = -0.5615	= 3.0163 A = -0.7162 B = -0.5615	= 3.0163 A = -0.7162 B = -0.5615	I = 2.6085 or ⁴ I = 2.7141 A = -1.0800 A = -1.2023	= 2.3076 A = -0.6932	CAUTION: No holdover						
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	= 6.2483 A = -1.1556 B = -2.8476	= 6.2483 A = -1.1556 B = -2.8476			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	= 6.2483 A = -1.1556 B = -2.8476	= 6.2483 A = -1.1556 B = -2.8476	= 6.2483 A = -1.1556 B = -2.8476									

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

2 Regression Equation: t = 10¹ R^A (2-T)⁸, 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

HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients Outside Freezing Fog, Fluid Mixed Snow and Snow, Snow Grains Freezing Light Rain on Cold Air Temp. Freezing Mist, Freezing Rain Dilution or Snow Pellets Soaked Wing Freezing Fog*** Drizzle or Ice Crystals (°C) (g/dm²/h) (g/dm²/h) (g/dm²/h) (g/dm²/h) (g/dm²/h) (g/dm²/h) LUPR* 5 2 25 10 25 10 13 5 25 13 75 5 100/0 210.4 244 2 43.7 71.8 58.2 95.7 184 1 80.9 153 5 46.7 83.4 11.5 89.3 +1/-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 6.0 51.5 50/50 56.8 105.3 9.2 23.6 21.4 30.4 15.4 17.7 12.3 55.3 10.1 100/0 55.7 35.2 89.9 104.2 57.8 46.9 77.1 148.3 36.1 27.4 46.6 -8 25.2 64.5 21.3 41.1 28.4 54.8 129.7 23.7 71.4 21.8 34.3 75/25 100/0 55.7 104.2 30.4 50.0 40.5 66.6 128.1 36.1 89.9 27.4 46.6 -10 / -14 ** 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 51.1 6.4 18.3 98.2 28.5 8.5 24.4 -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

TABLE 2-4: CRYOTECH POLAR GUARD® II

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcul	ating Holdove	r Times Unde	r Various Wea	ther Condition	ns
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
romporataro	Bildion	Fog, Freezing Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		= 2.5794	I = 2.9600	I = 2.9600	I = 2.9600	= 2.2682	= 2.2584	I = 2.6661	
	100/0	A = -0.5025	A = -0.5988	A = -0.5988	A = -0.5988	A = -0.2524	A = -0.2806	A = -0.7999	
			B = -0.4378	B = -0.4378	B = -0.4378				
3 °C and above		= 2.5776	= 2.9905	= 2.9905	= 2.9905	= 2.2204	= 2.8328	= 2.6248	
(27 °F and above)	75/25	A = -0.5705	A = -0.8191	A = -0.8191	A = -0.8191	A = -0.1898	A = -0.8896	A = -0.8807	
, ,			B = -0.3466	B = -0.3466	B = -0.3466				
		= 2.1254	= 2.8810	= 2.8810	= 2.8810	= 2.2943	= 2.3695		
	50/50	A = -0.6271	A = -1.0631	A = -1.0631	A = -1.0631	A = -0.9086	A = -0.9996		
			B = -0.5673	B = -0.5673	B = -0.5673				
		= 2.5101	= 2.9600	= 2.9600	= 2.9600	= 2.7077	= 2.0801		
	100/0	A = -1.1145	A = -0.5988	A = -0.5988	A = -0.5988	A = -1.0390	A = -0.3886		
below -3 to -14 °C			B = -0.4378	B = -0.4378	B = -0.4378				
(below 27 to 7 °F)		I = 2.2594	I = 2.9905	I = 2.9905	= 2.9905	I = 2.4495	I = 2.0483		
	75/25	A = -0.9785	A = -0.8191	A = -0.8191	A = -0.8191	A = -0.9076	A = -0.3597	CAUTIC	N:
			B = -0.3466	B = -0.3466	B = -0.3466			No holdo	over
bolow 14 to 19 °C		I = 1.9253	I = 6.4718	I = 6.4718	I = 6.4718			time guide	lines
(below 7 to 0 °F)	100/0	A = -0.6979	A = -1.1603	A = -1.1603	A = -1.1603			exist	
			B = -2.9134	B = -2.9134	B = -2.9134				
below 18 to 25 °C		I = 1.9253	I = 6.4718	I = 6.4718	I = 6.4718				
(below 0 to -13 °F)	100/0	A = -0.6979	A = -1.1603	A = -1.1603	A = -1.1603				
, ,			B = -2.9134	B = -2.9134	B = -2.9134				
below 25 to 30 5 °C		= 1.9253	= 2.0544	= 2.0544	= 2.0544				
(below -13 to -23 °F)	100/0	A = -0.6979	A = -1.1592	A = -1.1592	A = -1.1592				
(B = 0.0000	B = 0.0000	B = 0.0000				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS V	e rification As C	Times Und	er Various	Weather (Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezin or Ice C (g/dr	ng Fog, ng Mist, Crystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** m²/h)	Snov or	w, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	zing zzle n²/h)	Lit Freezin (g/dı	ght ng Rain n²/h)	Rain o Soakeo (g/dr	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	169.1	268.0	49.2	85.2	65.6	113.6	233.5	97.1	123.5	73.5	88.3	14.7	127.9
+1 / -3 **	75/25	151.0	254.6	30.1	63.7	40.1	84.9	227.7	102.1	122.4	38.8	69.5	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		
0	100/0	53.8	149.5	36.3	62.9	48.4	83.8	172.4	35.5	95.8	34.4	44.4		
-8	75/25	37.6	92.2	23.6	50.1	31.5	66.8	179.1	27.4	65.3	35.1	44.4		
40 / 44 ***	100/0	53.8	149.5	29.6	51.2	39.4	68.2	140.3	35.5	95.8	34.4	44.4		
-10/-14	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

TABLE 2-5: KILFROST ABC-K PLUS

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regression	Coefficients for C	alculating Hold	over Times Unde	r Various Weath	er Conditions
Outside Air Temperature	Fluid Dilution	Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}	Freezing Drizzle ¹	Light Freezing Rain¹	Rain on Cold Soaked Wing¹	Other
	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	
-3 °C and above (27 °F and above)	75/25	= 2.3020 A = -0.4342	= 2.5273 A = -0.6849 B = -0.0149	I = 2.3200 A = -0.3522	I = 2.4709 A = -0.5601	= 2.5956 A = -0.7470	
	50/50	= 1.9950 A= -0.6463	= 2.3972 A = -0.8261 B = -0.5288	I = 1.7256 A = -0.3910	= 2.0364 A = -0.7354		
below -3 to -14 °C	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		
(below 27 to 7 °F)	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	CAL No ho	ITION: bldover
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			time gu ex	uidelines kist
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: $t = 10^{1} R^{A}$, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS V	erification As C	Times Und Calculated fi	ler Various	Weather (Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezin or Ice ((g/dr	ng Fog, ng Mist, Crystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** m²/h)	Snov or	w, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	z zing zzle m²/h)	Lig Freezir (g/dr	ght 1g Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	134.3	223.0	44.6	75.8	59.5	101.0	202.4	107.7	130.1	58.4	84.1	18.5	136.6
+1 / -3 **	75/25	99.7	148.4	27.2	50.9	36.3	67.9	127.2	84.7	118.5	48.7	70.3	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		
0	100/0	28.4	64.5	40.5	68.7	54.0	91.6	183.5	23.7	61.5	13.1	35.6		
-0	75/25	25.5	86.8	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		
-10 / -14	75/25	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

TABLE 2-6: KILFROST ICE CLEAR II

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficier	nts for Calculat	ing Holdover	Times Under V	arious Weath	er Conditions	
Outside Air Temperature	Fluid	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
lonporataro	Dirucion	Fog, Freezing Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain ¹	Cold Soaked Wing ¹	Other
	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	
-3 °C and above (27 °F and above)	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		
below -3 to -14 °C	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	= 2.5827 A = -1.0030	I = 2.3138 A = -0.5303		
(below 27 to 7 °F)	75/25	n/a	n/a	n/a	n/a	n/a	n/a	CAUTIC No holdo)N: over
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7916 A = -0.3979	= 4.8747 A = -0.6830 B = -2.0987	= 4.8747 A = -0.6830 B = -2.0987	= 4.8747 A = -0.6830 B = -2.0987			time guide exist	lines
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7916 A = -0.3979	= 4.8747 A = -0.6830 B = -2.0987	= 4.8747 A = -0.6830 B = -2.0987	= 4.8747 A = -0.6830 B = -2.0987				
below -25 to -28 °C (below -13 to -18 °F)	100/0	= 1.7916 A = -0.3979	= 4.8747 A = -0.6830 B = -2.0987	I = 4.8747 A = -0.6830 B = -2.0987	= 4.8747 A = -0.6830 B = -2.0987				

1 Regression Equation: t = 10¹ 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

					HOTDS V	erification As C	Times Und alculated fr	er Various	Weather (Conditions ients	(minutes)	·		
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezin or Ice ((g/dr	ng Fog, ng Mist, Crystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** n²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/di	z ing zzle m²/h)	Liş Freezin (g/dı	ght n g Rain n²/h)	Rain o Soakee (g/dr	n Cold d Wing n²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	82.9	146.1	31.5	58.1	42.0	77.5	173.5	59.8	97.4	38.8	63.9	15.9	122.2
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	63.8	153.0	28.4	52.4	37.8	69.8	156.2	29.2	76.1	37.4	52.9		
-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	63.8	153.0	26.4	48.8	35.2	65.0	145.4	29.2	76.1	37.4	52.9		
-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		
-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

TABLE 2-7: 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.

		Regress	sion Coefficien	nts for Calculat	ing Holdover 1	limes Under V	arious Weath	er Conditions	
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	w Grains or Sn	ow Pellets ^{2,3}	Fronzing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain ¹	Cold Soaked Wing ¹	Other
			ORIGI	NAL FLUID SA	MPLE				
		I = 2.3217	I = 2.9268	I = 2.9268	I = 2.9268	I = 2.4040	I = 2.5645	I = 2.4656	
	100/0	A = -0.3631	A = -0.6775	A = -0.6775	A = -0.6775	A = -0.4677	A = -0.6443	A = -0.7099	
-3 °C and above			B = -0.4716	B = -0.4716	B = -0.4716				
(27 °F and above)		I = 2.1717	I = 2.4249	I = 2.4249	I = 2.4249	= 2.2073	I = 2.3968		
	50/50	A = -0.5171	A = -0.6155	A = -0.6155	A = -0.6155	A = -0.4575	A = -0.6952		
			B = -0.0410	B = -0.0410	B = -0.0410				
bolow 2 to 11 °C		I = 2.3168	I = 2.9268	I = 2.9268	I = 2.9268	I = 2.4949	I = 2.3371		
(below 27 to 7 °F)	100/0	A = -0.8411	A = -0.6775	A = -0.6775	A = -0.6775	A = -0.9099	A = -0.7041		
(201011 21 10 1 1 1)			B = -0.4716	B = -0.4716	B = -0.4716				
below 14 to 18 °C		I = 1.6667	I = 6.1052	I = 6.1052	I = 6.1052			CAUTIC No holds)N: Wor
(below 7 to 0 °F)	100/0	A = -0.5734	A = -0.6203	A = -0.6203	A = -0.6203			time quide	lines
			B = -3.2300	B = -3.2300	B = -3.2300			exist	
helew 10 to 05 °C		I = 1.6667	I = 6.1052	I = 6.1052	I = 6.1052				
(below - 18 to -23 C)	100/0	A = -0.5734	A = -0.6203	A = -0.6203	A = -0.6203				
			B = -3.2300	B = -3.2300	B = -3.2300				
bolow 25 to 27 °C		I = 1.6667	I = 6.1052	I = 6.1052	I = 6.1052				
(below -13 to -17 °F)	100/0	A = -0.5734	A = -0.6203	A = -0.6203	A = -0.6203				
			B = -3.2300	B = -3.2300	B = -3.2300				
			RETES	STED FLUID SA	AMPLE				
		I = 2.4653	I = 3.1650	I = 3.1650	I = 3.1650	I = 2.4599	I = 2.3590	I = 2.5381	
	100/0	A = -0.5604	A = -0.8867	A = -0.8867	A = -0.8867	A = -0.5479	A = -0.5101	A = -0.7680	
-3 °C and above			B = -0.4453	B = -0.4453	B = -0.4453				
(27 °F and above)		I = 2.2046	I = 2.6577	I = 2.6577	I = 2.6577	I = 2.1779	I = 1.9533		
	50/50	A = -0.4409	A = -0.7712	A = -0.7712	A = -0.7712	A = -0.3968	A = -0.4099		
			B = -0.3219	B = -0.3219	B = -0.3219			4	
below -3 to -14 °C		I = 2.1088	I = 3.1650	I = 3.1650	I = 3.1650	= 2.7357	I = 2.1346		
(below 27 to 7 °F)	100/0	A = -0.6248	A = -0.8867	A = -0.8867	A = -0.8867	A = -1.1104	A = -0.4951		
			B = -0.4453	B = -0.4453	B = -0.4453			САНТИС	N.I.
below -14 to -18 °C		I = 1.4812	I = 2.1496	I = 1.9908	I = 2.2123			No holdo	over
(below 7 to 0 °F)	100/0	A = -0.4205	A = -1.4094	A = -1.1457	A = -1.3672			time guide	lines
			B = 0.0000	B = 0.0000	B = 0.0000			exist	
below -18 to -25 °C		I = 1.4812	I = 2.0233	I = 1.6761	I = 1.6761				
(below 0 to -13 °F)	100/0	A = -0.4205	A = -1.7757	A = -1.1990	A = -1.1990				
, ,			B = 0.0000	B = 0.0000	B = 0.0000				
below -25 to -27 °C		I = 1.4812	I = 1.4031	I = 1.7565	= 5.0259				
(below -13 to -17 °F)	100/0	A = -0.4205	A = -1.1696	A = -1.7565	A = -5.0259				
· · · · · · · · · · · · · · · · · · ·	1		B = 0.0000	B = 0.0000	B = 0.0000				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

TABLE 2-7 (CONT'D): MKS DEVO CHEMICALS COREICEPHOB TYPE II

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

					HOTDS V	erification As C	Times Und Calculated fi	ler Various	Weather	Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezi Freezi or Ice (g/d	ng Fog, ng Mist, Crystals m²/h)	Mixed S Freezin (g/d	now and g Fog**** m²/h)	Snov or	w, Snow G Snow Pell (g/dm²/h)	irains lets	Free Dri: (g/di	z zing zzle m²/h)	Lit Freezin (g/dı	ght ng Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing ^{n²/h})
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	116.9	163.1	30.8	62.3	41.1	83.1	187.9	70.5	119.9	44.2	61.8	12.5	93.2
+1 / -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
	50/50	64.6	103.8	17.0	34.4	22.6	45.9	116.1	49.9	77.2	24.0	31.4		
0	100/0	47.0	83.3	22.7	44.9	30.2	59.9	135.5	30.3	72.3	22.5	35.7		
-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	47.0	83.3	18.4	36.0	24.5	48.0	108.6	30.3	72.3	22.5	35.7		
-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		
-18	100/0	15.4	22.6	1.5	5.3	2.0	7.0	30.0						
-25	100/0	15.4	22.6	0.8	2.3	1.0	3.0	15.0						
-27	100/0	15.4	22.6	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

TABLE 2-8: NEWAVE AEROCHEMICAL FCY-2

REGRESSION COEFFICIENTS TABLE AN	ND VERIFICATION TABLE
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		Regression	Coefficients for C	alculating Holdo	over Times Unde	r Various Weath	er Conditions
Outside Air Temperature	Fluid Dilution	Freezing Fog, Freezing Mist, or Ice Crystals ¹	Snow, Snow Grains or Snow Pellets ^{2,3}	Freezing Drizzle ¹	Light Freezing Rain¹	Rain on Cold Soaked Wing¹	Other
	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	
-3 °C and above (27 °F and above)	75/25	I = 2.1617 A = -0.6765	= 2.6255 A = -0.6413 B = -0.5531	I = 2.1241 A = -0.6856	I = 2.6154 A = -1.0787	= 1.8312 A = -0.6039	
	50/50	I = 1.6808 A = -0.3883	= 2.1561 A = -0.7445 B = 0.0000	I = 1.7656 A = -0.6698	I = 1.6020 A = -0.5128		
below -3 to -14 °C	100/0	I = 2.1844 A = -0.7552	= 2.7862 A = -0.6652 B = -0.5351	I = 2.2637 A = -0.8968	= 1.6935 A = -0.3738		
(below 27 to 7 °F)	75/25	I = 2.0300 A = -0.7545	I = 2.6255 A = -0.6413 B = -0.5531	I = 2.0031 A = -0.7745	I = 2.0994 A = -0.8524	CAL No he	ITION: bldover
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			time gu ex	uidelines kist
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	= 1.7388 A = -0.5485	= 5.0259 A = -5.0259 B = 0.0000				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

			<u>.</u>		HOTDS Ve	erification As C	Times Und Calculated fr	ler Various	Weather (Conditions ients	(minutes)	<u> </u>		
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezin or Ice ((g/di	ng Fog, ng Mist, Crystals m²/h)	Mixed Si Freezing (g/dr	now and g Fog**** m²/h)	Snov or	w, Snow G Snow Pell (g/dm²/h)	rains iets	Free Driz (g/dr	z zing zzle m²/h)	Li(Freezin (g/dı	ght 1g Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	73.5	144.7	22.8	41.9	30.4	55.8	124.4	33.4	67.4	24.0	34.9	8.3	44.9
+1 / -3 **	75/25	48.8	90.8	16.5	29.7	22.0	39.6	85.7	22.9	44.1	12.8	25.9	5.0	25.7
	50/50	25.7	36.6	9.8	19.4	13.0	25.8	63.2	10.5	19.8	7.7	10.7		
0	100/0	45.3	90.6	15.8	28.9	21.0	38.5	85.8	18.4	43.3	14.8	18.9		
-0	75/25	31.8	63.5	11.3	20.3	15.0	27.0	58.4	13.8	29.0	8.1	14.1		
40 / 44 ***	100/0	45.3	90.6	12.2	22.5	16.3	30.0	66.8	18.4	43.3	14.8	18.9		
-10 / -14 ****	75/25	31.8	63.5	8.7	15.6	11.6	20.8	45.0	13.8	29.0	8.1	14.1		
-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

TABLE 2-9: ROMCHIM ADD-PROTECT NG TYPE II

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcula	ating Holdove	r Times Under	r Various Wea	ther Condition	ns
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snov	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
Tomporataro	Bildion	Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing¹	Other
		= 2.3974	= 3.0299	= 3.0299	I = 3.0299	= 2.3113	= 2.2728	I = 2.4042	
	100/0	A = -0.7794	A = -0.8381	A = -0.8381	A = -0.8381	A = -0.5668	A = -0.5113	A = -0.8164	
			B = -0.4851	B = -0.4851	B = -0.4851				
2°C and above		= 2.2548	= 2.8970	= 2.8970	= 2.8970	= 2.3252	= 2.3988	= 2.2378	
(27 °F and above)	75/25	A = -0.6819	A = -0.8514	A = -0.8514	A = -0.8514	A = -0.6462	A = -0.7047	A = -0.7242	
(2) (and abort)			B = -0.4622	B = -0.4622	B = -0.4622				
		= 2.0350	= 2.3515	= 2.3515	= 2.3515	= 1.9619	= 2.0649		
	50/50	A = -0.9539	A = -0.7025	A = -0.7025	A = -0.7025	A = -0.6157	A = -0.7375		
			B = -0.2827	B = -0.2827	B = -0.2827				
		= 2.1684	= 3.0299	= 3.0299	= 3.0299	= 2.3829	= 2.1520		
	100/0	A = -0.6263	A = -0.8381	A = -0.8381	A = -0.8381	A = -0.7538	A = -0.5404		
below -3 to -14 °C			B = -0.4851	B = -0.4851	B = -0.4851				
(below 27 to 7 °F)		I = 2.1020	= 2.8970	I = 2.8970	= 2.8970	= 2.4793	= 2.3197		
	75/25	A = -0.5437	A = -0.8514	A = -0.8514	A = -0.8514	A = -0.9714	A = -0.7496	CAUTIC	N.∙
			B = -0.4622	B = -0.4622	B = -0.4622			No holdo	over
		= 1.4934	I = 2.1496	I = 1.9908	= 2.2123			time guide	lines
(below 7 to 0 °F)	100/0	A = -0.5224	A = -1.4094	A = -1.1457	A = -1.3672			exist	
			B = 0.0000	B = 0.0000	B = 0.0000				
4 4 4 9 5 9 9		I = 1.4934	= 2.0233	I = 1.6761	I = 1.6761				
below -18 to -25 °C (below 0 to -13 °E)	100/0	A = -0.5224	A = -1.7757	A = -1.1990	A = -1.1990				
			B = 0.0000	B = 0.0000	B = 0.0000				
halam 05 ta 00 %0		= 1.4934	I = 1.4031	= 1.7565	= 5.0259				
Delow -25 to -28 °C (below -13 to -18 °F)	100/0	A = -0.5224	A = -1.1696	A = -1.7565	A = -5.0259				
			B = 0.0000	B = 0.0000	B = 0.0000				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

Qutsido					HOTDS V	erification As C	Times Und Calculated fi	der Various	Weather	Conditions cients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezin or Ice ((g/di	ng Fog, ng Mist, Crystals m²/h)	Mixed S Freezing (g/di	now and g Fog**** m²/h)	Snov or	w, Snow G Snow Pel (g/dm²/h)	irains lets	Free Dri: (g/di	ezing zzle m²/h)	Li Freezii (g/d	ght ng Rain m²/h)	Rain o Soake (g/di	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	71.2	145.5	24.8	53.4	33.1	71.2	195.4	47.9	82.2	36.1	50.5	7.5	68.2
+1 / -3 **	75/25	60.0	112.1	18.2	39.6	24.2	52.8	147.1	40.3	74.7	25.9	41.1	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		
0	100/0	53.8	95.5	17.7	38.2	23.6	50.9	139.6	34.9	71.8	24.9	35.5		
-8	75/25	52.7	86.8	13.2	28.7	17.6	38.3	106.8	25.0	63.1	18.7	30.5		
40 / 44 ***	100/0	53.8	95.5	14.1	30.4	18.8	40.5	111.1	34.9	71.8	24.9	35.5		
-10 / -14 ***	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

TABLE 2-10: ROMCHIM ADD-PROTECT TYPE II

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcul	ating Holdove	r Times Under	r Various Wea	ther Condition	ns
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
romporataro	Bildion	Fog, Freezing Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		= 2.5740	= 2.8637	= 2.8637	= 2.8637	= 2.6191	= 2.4792	I = 2.1185	
	100/0	A = -0.8251	A = -0.7431	A = -0.7431	A = -0.7431	A = -0.9213	A = -0.7630	A = -0.6149	
			B = -0.5033	B = -0.5033	B = -0.5033				
3 °C and above		= 2.0354	= 2.5210	= 2.5210	= 2.5210	= 2.0120	= 2.1011	= 1.7686	
(27 °F and above)	75/25	A = -0.6203	A = -0.6815	A = -0.6815	A = -0.6815	A = -0.5901	A = -0.6689	A = -0.5325	
,			B = -0.4862	B = -0.4862	B = -0.4862				
		= 1.7404	= 1.9864	= 1.9864	= 1.9864	= 2.0897	= 1.7429		
	50/50	A = -0.6221	A = -0.5840	A = -0.5840	A = -0.5840	A = -0.9018	A = -0.6010		
			B = -0.2529	B = -0.2529	B = -0.2529				
		= 1.8401	= 2.8637	= 2.8637	= 2.8637	= 2.2574	= 2.0901		
	100/0	A = -0.5735	A = -0.7431	A = -0.7431	A = -0.7431	A = -0.7754	A = -0.5723		
below -3 to -14 °C			B = -0.5033	B = -0.5033	B = -0.5033				
(below 27 to 7 °F)		= 1.9219	= 2.5210	I = 2.5210	I = 2.5210	I = 1.8894	I = 1.8836		
	75/25	A = -0.6509	A = -0.6815	A = -0.6815	A = -0.6815	A = -0.5596	A = -0.5597	CAUTIC	DN:
			B = -0.4862	B = -0.4862	B = -0.4862			No holdo	over
bolow 11 to 19 °C		= 1.5810	I = 2.1496	I = 1.9908	= 2.2123			time guide	lines
(below 7 to 0 °F)	100/0	A = -0.5714	A = -1.4094	A = -1.1457	A = -1.3672			exist	
(B = 0.0000	B = 0.0000	B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)		I = 1.5810	= 2.0233	I = 1.6761	= 1.6761				
	100/0	A = -0.5714	A = -1.7757	A = -1.1990	A = -1.1990				
			B = 0.0000	B = 0.0000	B = 0.0000				
bolow 25 to 28 °C		= 1.5810	= 1.4031	= 1.7565	= 5.0259				
below -25 to -28 °C (below -13 to -18 °F)	100/0	A = -0.5714	A = -1.1696	A = -1.7565	A = -5.0259				
			B = 0.0000	B = 0.0000	B = 0.0000				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS V	erification As C	Times Und Calculated fr	ler Various	Weather (Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezin or Ice ((g/di	ng Fog, ng Mist, Crystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** m²/h)	Snov or	w, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/di	z ing zzle m²/h)	Liş Freezin (g/dı	ght ng Rain n²/h)	Rain o Soakeo (g/dr	n Cold d Wing m²/h)
l		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	99.4	211.7	22.3	44.0	29.7	58.7	143.7	39.2	94.4	25.9	42.6	9.2	48.8
+1 / -3 **	75/25	40.0	70.6	12.7	23.7	16.9	31.6	71.8	22.6	39.8	14.7	22.7	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		
0	100/0	27.5	46.5	15.8	31.1	21.0	41.4	101.4	24.8	51.9	19.5	28.4		
-8	75/25	29.3	53.2	9.1	17.0	12.1	22.6	51.2	18.5	31.5	12.6	18.2		
40 / 44 ***	100/0	27.5	46.5	12.5	24.5	16.6	32.7	80.0	24.8	51.9	19.5	28.4		
-10 / -14 ***	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	10	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

TABLE 2-11: TYPE II GENERIC

VERIFICATION TABLE

				нс	OTDS Verifi	cation Time As Calcul	es Under Va	rious Weat	ther Conditi oefficients	ons (minute	es)		
Outside Air Temp. (°C)	Fluid Dilution	Freezi Freezi or Ice (g/d	ng Fog, ng Mist, Crystals m²/h)	Mixed S Freezin (g/dr	now and g Fog*** m²/h)	Snow, Sn or Snov (g/di	ow Grains v Pellets m²/h)	Free Driz (g/d	z zing zzle m²/h)	Lit Freezin (g/di	ght ng Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing n²/h)
		5	2	25	10	25	10	13	5	25	13	75	5
	100/0	54.9	108.2	21.5	39.5	28.6	52.6	33.4	62.7	23.6	34.9	7.5	44.9
+1 / -3 *	75/25	40.0	70.6	12.7	23.7	16.9	31.6	22.6	39.8	12.8	22.7	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		
0	100/0	27.5	46.5	15.8	28.9	21.0	38.5	18.4	43.3	13.1	18.9		
-0	75/25	25.2	53.2	9.1	17.0	12.1	22.6	13.8	29.0	8.1	14.1		
40 / 44 **	100/0	27.5	46.5	12.2	22.5	16.3	30.0	18.4	43.3	13.1	18.9		
-10 / -14 ***	75/25	25.2	53.2	7.2	13.4	9.6	17.9	13.8	29.0	8.1	14.1		
-18	100/0	13.4	21.7	1.5	5.3	2.0	7.0						
-25	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

TABLE 3-1: ALLCLEAR AEROCLEAR MAX, APPLIED UNHEATED ON LOW SPEED AIRCRAFT

		Regres	ssion Coefficients f	or Calculating Hold	over Times Under \	/arious Weather Co	onditions ¹
Outside Air Temperature	Fluid Dilution	Freezing Fog, Freezing Mist, or Ice Crystals ²	Snow, Snow Grains or Snow Pellets ^{3:4}	Freezing Drizzle ²	Light Freezing Rain²	Rain on Cold Soaked Wing²	Other
	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	
-3 °C and above (27 °F and above)	75/25	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a		
below -3 to -10°C	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	CAI No h	JTION: oldover
below -3 to -10°C (below 27 to 14 °F)	75/25	n/a	n/a	n/a	n/a	time g e	uidelines xist
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				

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

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

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				HOTD	S Verific	ation Tin As Calc	nes Unde ulated fro	er Variou m Regres	s Weath sion Coe	er Condit fficients	tions (mii	nutes)		
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezin or Ice ((g/di	ng Fog, ng Mist, Crystals m²/h)	Mixed and Fr Fog (q/dr	Snow eezing g*** ^{n²/h)}	Snow, Sr	Snow G now Pell (g/dm²/h)	ains or ets	Free Driz (g/dr	zing zzle m²/h)	Lig Freezin (g/dr	ght ng Rain m²/h)	Rain o Soake (g/dr	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	46.1	113.8	13.7	29.0	18.2	38.7	104.3	23.1	50.4	14.6	26.4	5.9	42.4
+1 / -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
	50/50	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

TABLE 3-2: ALLCLEAR AEROCLEAR MAX, APPLIED UNHEATED ONMIDDLE SPEED AIRCRAFT

		Regres	sion Coefficients fo	or Calculating Holdo	over Times Under Va	arious Weather Con	ditions ¹
Outside Air Temperature -3 °C and above (27 °F and above) below -3 to -10°C (below 27 to 14 °F)	Fluid Dilution	Freezing Fog, Freezing Mist, or Ice Crystals ²	Snow, Snow Grains or Snow Pellets ^{3,4}	Freezing Drizzle²	Light Freezing Rain²	Rain on Cold Soaked Wing²	Other
	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	
-3 °C and above (27 °F and above)	75/25	n/a	n/a	n/a	n/a	n/a	
	50/50	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	CAI No h	JTION: oldover
	75/25	n/a	n/a	n/a	n/a	time g e	uidelines exist
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			-	

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

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

3 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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)				HOTD	S Verific	ation Tin As Calc	nes Unde ulated fro	er Variou om Regres	s Weath	e r Condi t fficients	tions (mii	nutes)		
	Fluid Dilution	Freezin Freezin or Ice ((g/di	ng Fog, ng Mist, Crystals m²/h)	Mixed and Fr Fog (g/dr	Snow eezing g*** ^{n²/h})	Snow, Sr	Snow Gi now Pell (g/dm²/h)	rains or ets	Free Driz (g/dr	z ing zzle m²/h)	Lig Freezin (g/dr	ght ng Rain m²/h)	Rain o Soake (g/di	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	46.1	113.8	13.7	29.0	18.2	38.7	104.3	23.1	50.4	14.6	26.4	5.9	42.4
+1 / -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
	50/50	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

TABLE 3-3: ALLCLEAR AEROCLEAR MAX, APPLIED UNHEATED ON HIGH SPEED AIRCRAFT

		Regres	ssion Coefficients f	or Calculating Hold	over Times Under V	/arious Weather Co	onditions ¹
Outside Air Temperature	Fluid Dilution	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
	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	
-3 °C and above (27 °F and above)	75/25	n/a	n/a	n/a	n/a	n/a	
	50/50	n/a	n/a	n/a	n/a		
below -3 to -10°C	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	CAI No h	JTION: oldover
(below 27 to 14 °F)	75/25	n/a	n/a	n/a	n/a	time g e	uidelines xist
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				

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

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

3 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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)				HOTD	S Verific	ation Tin As Calc	nes Unde ulated fro	er Variou om Regres	s Weath	er Condi fficients	tions (mi	nutes)		
	Fluid Dilution	Freezin Freezin or Ice ((g/di	ng Fog, ng Mist, Crystals m²/h)	Mixed and Fr Fog (q/dr	Snow eezing g*** ^{n²/h)}	Snow, Sr	Snow G now Pell (g/dm²/h)	rains or ets	Free Driz (g/dr	z ing zzle m²/h)	Lig Freezin (g/di	ght ng Rain m²/h)	Rain o Soake (g/di	on Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	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	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
	50/50	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		
-10	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

TABLE 4-1: ABAX ECOWING AD-49

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcula	ating Holdove	r Times Unde	r Various Wea	ther Condition	ns
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		I = 2.4713	I = 3.0052	I = 3.0052	I = 3.0052	= 2.3729	I = 2.4943	I = 2.6531	
	100/0	A = -0.2370	A = -0.7148	A = -0.7148	A = -0.7148	A = -0.3927	A = -0.5000	A = -0.8558	
			B = -0.3380	B = -0.3380	B = -0.3380				
-3 °C and above	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		-
	50/50								
		= 2.5177	= 3.0052	= 3.0052	= 3.0052	= 2.8172	= 1.9828		
	100/0	A = -1.7715	A = -0.7148	A = -0.7148	A = -0.7148	A = -1.2681	A = -0.5016		
below -3 to -14 °C			B = -0.3380	B = -0.3380	B = -0.3380				
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25)N:
		= 1.7838	= 2.3257	= 2.2682	= 2.5957			time guide	lines
below -14 to -18 °C	100/0	A = -0.5976	A = -1.4094	A = -1.3140	A = -1.6415			exist	
			B = 0.0000	B = 0.0000	B = 0.0000				
below -18 to -25 °C (below 0 to -13 °F)		= 1.7838	= 2.4506	= 1.7911	= 1.6761				
	100/0	A = -0.5976	A = -2.4094	A = -1.3140	A = -1.1990				
			B = 0.0000	B = 0.0000	B = 0.0000				
helow -25 to -26 °C		= 1.7838	I = 1.5915	I = 1.6682	I = 6.0834				
(below -13 to -15 °F)	100/0	A = -0.5976	A = -1.2398	A = -1.3672	A = -5.7824				
			B = 0.0000	B = 0.0000	B = 0.0000				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS Ve	rification As C	Times Und alculated fr	er Various om Regress	Weather	Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezing Ice Cr (g/dr	1g Fog, J Mist, or rystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** m²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/di	z zing zzle m²/h)	Li Freezii (g/di	ght ng Rain m²/h)	Rain o Soake (g/di	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	202.1	251.2	44.1	85.0	58.8	113.3	267.9	86.2	125.4	62.4	86.6	11.2	113.5
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	19.0	96.5	35.0	67.2	46.6	89.6	211.9	25.4	85.3	19.1	26.5		
-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	19.0	96.5	29.8	57.4	39.7	76.5	180.8	25.4	85.3	19.1	26.5		
-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		
-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

TABLE 4-2: ALAB INTERNATIONAL PROFLIGHT EG4

		Regressi	on Coefficien	ts for Calculat	ing Holdover	Times Under \	/arious Weath	ner Conditions	;
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	/ Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
·		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing¹	Other
		I = 2.4706	= 2.7580	= 2.7580	= 2.7580	I = 2.3592	= 2.3221	= 2.7211	
	100/0	A = -0.2841	A = -0.7077	A = -0.7077	A = -0.7077	A = -0.3847	A = -0.4973	A = -0.8970	
			B = 0.0000	B = 0.0000	B = 0.0000				
-3 °C and above (27 °F and above)	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		
		= 2.5208	= 2.7580	= 2.7580	= 2.7580	= 2.4912	= 3.0504		
	100/0	A = -0.4856	A = -0.7077	A = -0.7077	A = -0.7077	A = -0.5979	A = -0.9541		
below -3 to -14 °C			B = 0.0000	B = 0.0000	B = 0.0000				
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC No holdo	N: ver
h - Louis - 4.4 h - 4.0 %O		= 2.3177	= 2.2480	= 2.1544	= 2.3979			time guide	lines
(below 7 to 0 °F)	100/0	A = -1.1409	A = -0.9120	A = -0.7565	A = -1.0000			exist	
			B = 0.0000	B = 0.0000	B = 0.0000				
holow 19 to 25 °C		= 2.3177	= 2.2685	I = 2.2465	= 2.3751				
(below 0 to -13 °F)	100/0	A = -1.1409	A = -1.1070	A = -1.0704	A = -1.1990				
, ,			B = 0.0000	B = 0.0000	B = 0.0000				
below -25 to -26 °C (below -13 to -15 °F)		= 2.3177	I = 2.1021	I = 2.1466	I = 2.4160				
	100/0	A = -1.1409	A = -1.1696	A = -1.2435	A = -1.5129				
. ,			B = 0.0000	B = 0.0000	B = 0.0000				

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS Ve	rification As C	Times Und alculated fr	ler Various	Weather sion Coeffic	Conditions cients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezing Ice Cr (g/dr	ng Fog, g Mist, or rystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** m²/h)	Snov or	w, Snow G Snow Pell (g/dm²/h)	rains lets	Free Dri: (g/di	e zing zzle m²/h)	Lit Freezii (g/di	ght n g Rain m²/h)	Rain o Soake (g/di	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	187.1	242.7	44.0	84.2	58.7	112.3	263.2	85.2	123.1	42.4	58.6	10.9	124.2
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	151.8	236.9	44.0	84.2	58.7	112.3	263.2	66.9	118.4	52.1	97.2		
-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	151.8	236.9	44.0	84.2	58.7	112.3	263.2	66.9	118.4	52.1	97.2		
-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		
-18	100/0	33.1	94.2	7.5	18.8	10.0	25.0	65.0						
-25	100/0	33.1	94.2	3.8	11.3	5.0	15.0	55.0						
-26	100/0	33.1	94.2	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

TABLE 4-3: ALAB INTERNATIONAL PROFLIGHT PG4

REGRESSION COEFFICIENTS TABI	LE AND VERIFICATION TABLE
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		Regres	sion Coefficier	ts for Calculat	ting Holdover	Times Under V	arious Weath	er Conditions	
Outside Air Temperature	Fluid	Freezing	Snow, Snov	v Grains or Sn	ow Pellets ^{2,3}	Fronzina	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain ¹	Cold Soaked Wing ¹	Other
		I = 2.3021	= 2.8229	= 2.8229	= 2.8229	= 2.1502	= 2.1311	= 2.3363	
	100/0	A = -0.5493	A = -0.7812	A = -0.7812	A = -0.7812	A = -0.3163	A = -0.3835	A = -0.6318	
			B = -0.2123	B = -0.2123	B = -0.2123				
-3 °C and above	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)									
		n/a	n/a	n/a	n/a	n/a	n/a		
	50/50								
		= 2.3983	= 2.8229	= 2.8229	= 2.8229	= 2.1974	= 2.1345		
	100/0	A = -0.8146	A = -0.7812	A = -0.7812	A = -0.7812	A = -0.4881	A = -0.4140		
below -3 to -14 °C			B = -0.2123	B = -0.2123	B = -0.2123				
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC	DN:
								No holdo	ver
below -14 to -18 °C		I = 1.8402	I = 2.3257	= 2.2682	= 2.5957			time guide	elines
(below 7 to 0 °F)	100/0	A = -0.4430	A = -1.4094	A = -1.3140	A = -1.6415			CAISE	
			B = 0.0000	B = 0.0000	B = 0.0000				
below -18 to -25 °C		I = 1.8402	I = 2.4506	I = 1.7911	I = 1.6761				
(below 0 to -13 °F)	100/0	A = -0.4430	A = -2.4094	A = -1.3140	A = -1.1990				
			в = 0.0000	в = 0.0000	в = 0.0000				
below -25 to -29 °C	100/5	= 1.8402	= 1.5915	= 1.6682	= 6.0834				
(below -13 to -20 °F)	100/0	A = -0.4430	A = -1.2398	A = -1.3672	A = -5.7824				
			B = 0.0000	B = 0.0000	в = 0.0000				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS V	erification As C	Times Und	er Various	Weather C	onditions (minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezing Freezing Ice Cr (g/dr	ng Fog, J Mist, or Jystals m²/h)	Mixed S Freezing (g/d	Alixed Snow and Freezing Fog**** Snow, Snow Grains or Snow Pellets Freezing Drizzle Light Freezing I (g/dm²/h) (g/dm²/h) (g/dm²/h) (g/dm²/h) (g/dm²/h) (g/dm²/h)		jht n g Rain n²/h)	Rain o Soaked (g/dr	n Cold I Wing n²/h)					
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	82.8	137.0	28.7	58.7	38.2	78.2	200.3	62.8	84.9	39.4	50.6	14.2	78.5
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	67.4	142.3	24.8	50.6	33.0	67.5	172.9	45.0	71.8	36.0	47.1		
-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	67.4	142.3	22.4	45.8	29.9	61.1	156.5	45.0	71.8	36.0	47.1		
-107-14	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
-18	100/0	33.9	50.9	1.5	6.8	2.0	9.0	45.0						
-25	100/0	33.9	50.9	0.8	2.3	1.0	3.0	20.0						
-29	100/0	33.9	50.9	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

TABLE 4-4: ALLCLEAR CLEARWING EG

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	ssion Coefficie	ents for Calcul	ating Holdove	r Times Unde	r Various Wea	ther Condition	ns
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain ¹	Cold Soaked Wing ¹	Other
		= 2.4808	= 2.7895	= 2.7895	= 2.7895	= 2.2517	= 3.1105	= 2.4690	
	100/0	A = -0.6236	A = -0.7766	A = -0.7766	A = -0.7766	A = -0.3764	A = -1.1890	A = -0.7435	
			B = -0.1648	B = -0.1648	B = -0.1648				
-3 °C and above		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)	75/25								
		n/a	n/a	n/a	n/a	n/a	n/a		1
	50/50								
								-	
	100/0	= 2.6368	= 2.7895	= 2.7895	= 2.7895	= 2.1945	= 2.8/11		
below -3 to -14 °C	100/0	A – -0.9409	A = -0.7700 B = -0.1648	A = -0.7700 B = -0.1648	A = -0.1700 B = -0.1648	A – -0.0440	A0.9900		
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC	DN:
								No holdo	over
below -14 to -18 °C		= 2.3601	I = 4.7809	I = 4.7809	I = 4.7809			time guide	lines
(below 7 to 0 °F)	100/0	A = -0.9134	A = -0.8032	A = -0.8032	A = -0.8032			exist	
			B = -1.7747	B = -1.7747	B = -1.7747				
below -18 to -25 °C		I = 2.3601	= 4.7809	= 4.7809	I = 4.7809				
(below 0 to -13 °F)	100/0	A = -0.9134	A = -0.8032	A = -0.8032	A = -0.8032				
			B = -1.7747	B = -1.7747	B = -1.7747				
below -25 to -29 °C		= 2.3601	= 4.7809	= 4.7809	I = 4.7809				
(below -13 to -20 °F)	100/0	A = -0.9134	A = -0.8032	A = -0.8032	A = -0.8032				
			B = -1.7747	B = -1.7747	B = -1.7747				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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 Fluid				HOTDS Ve	rification T As C	Times Und alculated fr	er Various	Weather	Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezing Freezing Ice Cr (g/dr	1g Fog, J Mist, or rystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** m²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/di	zing zzle n²/h)	Lig Freezir (g/dr	ght ng Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	110.9	196.4	29.1	59.3	38.8	79.0	201.3	68.0	97.4	28.1	61.1	11.9	89.0
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	94.1	224.5	26.0	52.9	34.6	70.5	179.5	64.7	89.9	30.7	58.7		
-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	94.1	224.5	24.0	48.9	32.0	65.2	166.2	64.7	89.9	30.7	58.7		
-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		
-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

TABLE 4-5: ASGLOBAL 4FLITE EG

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficier	nts for Calculat	ting Holdover	Times Under V	arious Weath	er Conditions	
Outside Air Temperature	Dilution	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain ¹	Cold Soaked Wing ¹	Other
		= 2.5283	= 2.7028	= 2.7028	= 2.7028	= 2.2777	I = 2.5046	= 2.3356	
	100/0	A = -0.7924	A = -0.7583	A = -0.7583	A = -0.7583	A = -0.6136	A = -0.8767	A = -0.7595	
			B = -0.2145	B = -0.2145	B = -0.2145				
-3 °C and above	75/05	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)	75/25								
		n/a	n/a	n/a	n/a	n/a	n/a		1
	50/50								
		1 0 1001	1 0 7000	1 0 7000	1 0 7000	1 0.0000	1 0 4404		
	100/0	= 2.4381	= 2.7028	= 2.7028	= 2.7028	1 = 2.2338	I = 2.4121		
below -3 to -14 °C	100/0	A0.7329	A = -0.7565 B = -0.2145	A = -0.7565 B = -0.2145	A = -0.7563 B = -0.2145	A0.3042	A0.7932		
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC	DN:
								No holdo	over
below -14 to -18 °C		I = 2.0968	= 3.3322	= 3.3322	= 3.3322			time guide	elines
(below 7 to 0 °F)	100/0	A = -0.5619	A = -0.7962	A = -0.7962	A = -0.7962			exist	
· · · ·			B = -0.6729	B = -0.6729	B = -0.6729				
below -18 to -25 °C		I = 2.0968	= 3.3322	= 3.3322	= 3.3322				
(below 0 to -13 °F)	100/0	A = -0.5619	A = -0.7962	A = -0.7962	A = -0.7962				
			в = -0.6/29	в = -0.6729	в = -0.6729				
below -25 to -30 °C	400/0	1 = 2.1030	= 2.2062	I = 2.2062	= 2.2062				
(below -13 to -22 °F)	100/0	A = -0.9200	A = -0.7962	A = -0.7962	A = -0.7962				
	1		D - 0.0000	ы — 0.0000	D - 0.0000				

1 Regression Equation: t = 10¹ R^A, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)

2 Regression Equation: t = 10¹ 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

					HOTDS Ve	rification As C	Times Und alculated fr	er Various	Weather of the sion Coeffic	Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezing Freezing Ice Cr (g/dr	ng Fog, g Mist, or rystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** m²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	z ing zzle m²/h)	Lig Freezir (g/dr	ght ng Rain m²/h)	Rain o Soake (g/dr	n Cold d Wing n²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	94.3	194.9	23.3	46.7	31.1	62.3	155.3	39.3	70.6	19.0	33.7	8.2	63.8
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	84.3	165.0	20.1	40.3	26.8	53.7	133.8	40.3	69.1	20.1	33.8		
-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	84.3	165.0	18.2	36.5	24.2	48.6	121.0	40.3	69.1	20.1	33.8		
-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		
-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

TABLE 4-6: ASGLOBAL 4FLITE PG

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

•		Regres	sion Coefficier	nts for Calculat	ing Holdover	Γimes Under V	arious Weath	er Conditions	
Outside Air Temperature	Fluid	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Froozing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain ¹	Cold Soaked Wing ¹	Other
		= 2.4855	= 2.9661	= 2.9661	= 2.9661	= 2.1915	= 2.5200	= 2.2831	
	100/0	A = -0.6410	A = -0.6490	A = -0.6490	A = -0.6490	A = -0.3146	A = -0.6341	A = -0.5569	
			B = -0.4864	B = -0.4864	B = -0.4864				
-3 °C and above (27 °F and above)	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		
		= 2.2316	= 2.9661	= 2.9661	= 2.9661	= 2.0710	= 2.4941		
	100/0	A = -0.5964	A = -0.6490	A = -0.6490	A = -0.6490	A = -0.3106	A = -0.6796		
below -3 to -14 °C			B = -0.4864	B = -0.4864	B = -0.4864				
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC No holdo)N: over
h - h 44 to - 40 %O		= 1.8152	= 4.7113	= 4.7113	= 4.7113			time guide	lines
(below 7 to 0 °F)	100/0	A = -0.5003	A = -0.7433	A = -0.7433	A = -0.7433			exist	
			B = -1.8834	B = -1.8834	B = -1.8834				
below 18 to 25 °C		= 1.8152	= 4.7113	I = 4.7113	= 4.7113				
(below 0 to -13 °F)	100/0	A = -0.5003	A = -0.7433	A = -0.7433	A = -0.7433				
, ,			B = -1.8834	B = -1.8834	B = -1.8834				
below -25 to -26 °C		I = 1.8152	= 4.7113	= 4.7113	= 4.7113				
(below -13 to - 15°F)	100/0	A = -0.5003	A = -0.7433	A = -0.7433	A = -0.7433				
· · · · · · · · · · · · · · · · · · ·			B = -1.8834	B = -1.8834	B = -1.8834				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS Ve	rification As C	Times Und	er Various	Weather of the sion Coeffic	Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezing Ice Cr (g/dr	ng Fog, g Mist, or rystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** n²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	zing zzle m²/h)	Lig Freezir (g/dr	ght ng Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing n²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	109.0	196.1	39.2	71.2	52.3	94.9	207.2	69.4	93.7	43.0	65.1	17.3	78.3
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	65.3	112.7	28.1	50.8	37.4	67.7	147.9	53.1	71.4	35.0	54.6		
-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	65.3	112.7	22.3	40.4	29.7	53.9	117.7	53.1	71.4	35.0	54.6		
-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		
-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

TABLE 4-7: AVIAFLUID AVIAFLIGHT EG

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcula	ating Holdove	r Times Unde	r Various Wea	ther Condition	ns
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain ¹	Cold Soaked Wing ¹	Other
		I = 2.4936	I = 2.5416	I = 2.5416	I = 2.5416	= 2.5110	I = 2.6126	I = 2.6633	
	100/0	A = -0.7662	A = -0.5966	A = -0.5966	A = -0.5966	A = -0.6263	A = -0.8113	A = -0.8384	
			B = -0.1650	B = -0.1650	B = -0.1650				
-3 °C and above		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)	75/25								
		n/a	n/a	n/a	n/a	n/a	n/a		
	50/50								
		= 2.5170	= 2.5416	I = 2.5416	I = 2.5416	= 2.2536	I = 2.4418		
	100/0	A = -0.8812	A = -0.5966	A = -0.5966	A = -0.5966	A = -0.4445	A = -0.6514		
below -3 to -14 °C			B = -0.1650	B = -0.1650	B = -0.1650				
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC	N:
								No holdo	ver
below -14 to -18 °C		= 2.3805	= 3.4362	= 3.4362	= 3.4362			time guide	elines
(below 7 to 0 °F)	100/0	A = -1.1620	A = -0.7022	A = -0.7022	A = -0.7022			CAIST	
			B = -0.7851	B = -0.7851	B = -0.7851				
below -18 to -25 °C		= 2.3805	= 3.4362	= 3.4362	= 3.4362				
(below 0 to -13 °F)	100/0	A = -1.1620	A = -0.7022	A = -0.7022	A = -0.7022				
	ļ		B = -0.7851	B = -0.7851	B = -0.7851				
below -25 to -31 °C		= 2.0469	= 1.9668	= 1.9668	I = 1.9668				
(below -13 to -24 °F)	100/0	A = -0.7482	A = -0.7022	A = -0.7022	A = -0.7022				
			B = 0.0000	B = 0.0000	B = 0.0000				

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

2 Regression Equation: t = 10¹ 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

		HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients												
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezing Ice Cr (g/dr	1g Fog, J Mist, or rystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** m²/h)	Snov or	Snow, Snow Grains or Snow Pellets (g/dm²/h)			z ing zzle m²/h)	Lig Freezir (g/dr	ght ng Rain m²/h)	Rain o Soake (g/dr	n Cold d Wing m²/h)
	<u> </u>	5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	90.8	183.2	29.3	50.7	39.1	67.6	138.6	65.1	118.4	30.1	51.2	12.3	119.5
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	79.6	178.5	26.2	45.2	34.9	60.3	123.6	57.3	87.7	34.0	52.0		
-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		
-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		
-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

TABLE 4-8: AVIAFLUID AVIAFLIGHT PG

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcula	ating Holdove	r Times Unde	r Various Wea	ther Condition	ns
Outside Air Temperature	Fluid	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		= 2.7578	= 3.0863	= 3.0863	= 3.0863	= 2.0792	= 2.8829	= 2.5971	
	100/0	A = -0.8947	A = -0.6642	A = -0.6642	A = -0.6642	A = 0.0000	A = -0.7432	A = -0.6957	
			B = -0.6086	B = -0.6086	B = -0.6086				
-3 °C and above		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)	75/25								
		n/a	n/a	n/a	n/a	n/a	n/a		
	50/50								
								-	
	100/0	1 = 2.3529	1 = 3.0863	1 = 3.0863	1 = 3.0863	1 = 2.9286	= 2.4317		
h a law 0 ha 11.80	100/0	A = -0.7800	A = -0.0042 B = -0.6086	A = -0.0042 B = -0.6086	A = -0.0042 B = -0.6086	A = -1.2431	A = -0.5072		
(below 27 to 7 °F)		nla	D 0.0000	D 0.0000	D 0.0000	n/o	n/o	1	
(75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	10/20							CAUTIC No holde)N:
		= 1.7548	= 5.2600	= 5.2600	= 5.2600			time guide	lines
below -14 to -18 °C	100/0	A = -0.7332	A = -0.6724	A = -0.6724	A = -0.6724			exist	
			B = -2.4320	B = -2.4320	B = -2.4320				
		I = 1.7548	= 5.2600	I = 5.2600	= 5.2600				
below -18 to -25 °C (below 0 to -13 °F)	100/0	A = -0.7332	A = -0.6724	A = -0.6724	A = -0.6724				
			B = -2.4320	B = -2.4320	B = -2.4320				
bolow 25 to 25 5 °C		I = 1.7548	I = 5.2600	I = 5.2600	I = 5.2600				
(below -25 to -25.5 °C	100/0	A = -0.7332	A = -0.6724	A = -0.6724	A = -0.6724				
			B = -2.4320	B = -2.4320	B = -2.4320				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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)	1				HOTDS Ve	rification T As C	Times Und alculated fr	er Various om Regress	Weather (Conditions ients	(minutes)			
	Fluid Dilution	Freezing Freezing Ice Cr (g/dr	1g Fog, J Mist, or rystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** n²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	zing rzle m²/h)	Lig Freezir (g/dr	ght ng Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing m²/h)
	<u> </u> '	5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	135.7	307.9	40.5	74.4	54.0	99.2	220.8	120.0	120.0	69.8	113.5	19.6	129.1
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	100/0	63.6	130.7	26.6	48.8	35.4	65.1	144.8	35.0	114.7	43.5	63.1		
-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	63.6	130.7	20.0	36.7	26.6	48.9	108.8	35.0	114.7	43.5	63.1		
-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		
-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

TABLE 4-9: CHEMCO CHEMR EG IV

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcula	ating Holdove	r Times Undeı	r Various Wea	ther Condition	ns
Outside Air Temperature	Fluid	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		= 2.5221	= 2.8018	= 2.8018	= 2.8018	= 2.5776	= 2.3603	= 2.6437	
	100/0	A = -0.6191	A = -0.9158	A = -0.9158	A = -0.9158	A = -0.8305	A = -0.6816	A = -0.8858	
			B = 0.0000	B = 0.0000	B = 0.0000				
-3 °C and above		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)	75/25								
		n/a	n/a	n/a	n/a	n/a	n/a		
	50/50								
	400/0	1 = 2.6566	1 = 2.8018	1 = 2.8018	1 = 2.8018	1 = 2.3439	1 = 2.3463		
	100/0	A = -1.0376	A = -0.9158 B = 0.0000	A = -0.9158 B = 0.0000	A = -0.9158 B = 0.0000	A = -0.5194	A = -0.0807		
(below -3 to -14 °C (below 27 to 7 °F)			B = 0.0000	B = 0.0000	B = 0.0000		m/a		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	13/23							CAUTIC)N:
		I = 2.1693	I = 2.3992	I = 2.3992	I = 2.3992		<u> </u>	time guide	lines
below -14 to -18 °C	100/0	A = -0.8359	A = -0.7726	A = -0.7726	A = -0.7726			exist	
			B = 0.0000	B = 0.0000	B = 0.0000				
		= 2.1693	= 2.3992	= 2.3992	= 2.3992				
below -18 to -25 °C (below 0 to -13 °F)	100/0	A = -0.8359	A = -0.7726	A = -0.7726	A = -0.7726				
			B = 0.0000	B = 0.0000	B = 0.0000				
helew 05 to 07 °C		= 2.1693	= 2.3992	= 2.3992	I = 2.3992				
(below -25 to -27 °C) (below -13 to -17 °F)	100/0	A = -0.8359	A = -0.7726	A = -0.7726	A = -0.7726				
			B = 0.0000	B = 0.0000	B = 0.0000				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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)					HOTDS Ve	rification As C	Times Und Calculated fr	ler Various	Weather	Conditions ients	(minutes)			
	Fluid Dilution	Freezin Freezing Ice Cr (g/dr	1g Fog, 3 Mist, or 7 ystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** m²/h)	Snov or	w, Snow G Snow Pell (g/dm²/h)	rains lets	Free Driz (g/di	z ing zzle m²/h)	Lit Freezin (g/di	ght ng Rain m²/h)	Rain o Soake (g/di	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	122.8	216.6	24.9	57.7	33.2	76.9	231.7	44.9	99.3	25.6	39.9	9.6	105.8
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	85.4	220.9	24.9	57.7	33.2	76.9	231.7	58.3	95.7	33.6	49.3		
-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		
40 / 44 ***	100/0	85.4	220.9	24.9	57.7	33.2	76.9	231.7	58.3	95.7	33.6	49.3		
-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		
-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

TABLE 4-10: CHEMCO CHEMR NORDIK IV

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcula	ating Holdove	r Times Undeı	r Various Wea	ther Condition	ns
Outside Air Temperature	Fluid	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Froozing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		= 2.6325	= 2.7042	= 2.7042	= 2.7042	= 2.6092	= 2.4979	= 2.5308	
	100/0	A = -0.7158	A = -0.6856	A = -0.6856	A = -0.6856	A = -0.6398	A = -0.5367	A = -0.6285	
			B = 0.0000	B = 0.0000	B = 0.0000				
-3 °C and above		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)	75/25								
		,					,		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
	50/50								
		= 2.6790	= 2.7042	= 2.7042	= 2.7042	= 2.5682	= 2.7893		
	100/0	A = -0.9206	A = -0.6856	A = -0.6856	A = -0.6856	A = -0.6212	A = -0.7992		
below -3 to -14 °C			B = 0.0000	B = 0.0000	B = 0.0000				
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC	DN:
								No holdo	over
below -14 to -18 °C		= 2.2331	= 4.2171	= 4.2171	= 4.2171			time guide	lines
(below 7 to 0 °F)	100/0	A = -0.9189	A = -0.7360	A = -0.7360	A = -0.7360			CAIST	
			B = -1.1607	B = -1.1607	B = -1.1607				
below -18 to -25 °C		= 2.2331	= 4.2171	= 4.2171	= 4.2171				
(below 0 to -13 °F)	100/0	A = -0.9189	A = -0.7360	A = -0.7360	A = -0.7360 B = -1.1607				
			D = -1.100/	D = -1.1007	D = -1.1007				
below -25 to -29 °C	100/0	= 2.2331	= 4.2171	= 4.2171	= 4.2171				
(below -13 to -20 °F)	100/0	A = -0.9189	A = -0.7360 B = -1.1607	A = -0.7360 B = -1.1607	A = -0.7360 B = -1.1607				
below -25 to -29 °C (below -13 to -20 °F)	100/0	A = -0.9189	A = -0.7360 B = -1.1607	A = -0.7360 B = -1.1607	A = -0.7360 B = -1.1607				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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)		HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients													
	Fluid Dilution	Freezin Freezing Ice Cr (g/dr	ıg Fog, j Mist, or ∙ ystals m²/h)	Mixed Si Freezinç (g/dr	now and g Fog**** n²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	z ing zzle m²/h)	Lig Freezir (g/dr	ght ng Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing m²/h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5	
	100/0	135.6	261.2	41.8	78.3	55.7	104.4	238.3	78.8	145.2	55.9	79.4	22.5	123.5	
+1 / -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	
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
0	100/0	108.5	252.3	41.8	78.3	55.7	104.4	238.3	75.2	136.1	47.0	79.3			
-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	108.5	252.3	41.8	78.3	55.7	104.4	238.3	75.2	136.1	47.0	79.3			
-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			
-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

TABLE 4-11: CHONGQING JOBA CHEMICAL FW-IV

		Regress	ion Coefficien	ts for Calculat	ting Holdover	Times Under \	Various Weat	her Conditions	5
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snov	v Grains or Sn	ow Pellets ^{2,3}	Froozing	Light	Rain on	
		Mist, or Ice Crystals ¹	<4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Light Izzle ¹ Rain on Cold Soaked Wing ¹ Other Other 2.2934 I = 2.3766 A = -0.5092 I = 2.6472 A = -0.7934 I 0.3029 A = -0.5092 A = -0.7934 I 0.9102 A = -1.0519 I I 0.9102 A = -1.0519 I CAUTION: No holdover time guidelines exist	Other	
		= 2.4476	= 2.9200	= 2.9200	= 2.9200	= 2.2934	= 2.3766	= 2.6472	
	100/0	A = -0.2252	A = -0.7491	A = -0.7491	A = -0.7491	A = -0.3029	A = -0.5092	A = -0.7934	
			B = -0.2538	B = -0.2538	B = -0.2538				
-3 °C and above	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)									
	50/50	n/a	n/a	n/a	n/a	n/a	n/a		
		= 2.5397	I = 2.9200	I = 2.9200	I = 2.9200	= 2.7129	I = 3.0052		
	100/0	A = -0.5125	A = -0.7491	A = -0.7491	A = -0.7491	A = -0.9102	A = -1.0519		
below -3 to -14 °C			B = -0.2538	B = -0.2538	B = -0.2538				
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25								N:
		l = 2.3347	I = 42404	I = 42404	I = 42404			time guide	lines
below -14 to -18 °C	100/0	A = -1.1477	A = -0.8555	A = -0.8555	A = -0.8555			exist	
(below 7 to 0 °F)			B = -1.2663	B = -1.2663	B = -1.2663				
		= 2.3347	= 4.2404	= 4.2404	= 4.2404				
below -18 to -25 °C (below 0 to -13 °F)	100/0	A = -1.1477	A = -0.8555	A = -0.8555	A = -0.8555				
			B = -1.2663	B = -1.2663	B = -1.2663				
bolow 25 to 20 °C		= 2.3347	I = 4.2404	I = 4.2404	I = 4.2404				
below -25 to -29 °C (below -13 to -20 °F)	100/0	A = -1.1477	A = -0.8555	A = -0.8555	A = -0.8555				
			B = -1.2663	B = -1.2663	B = -1.2663				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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)					HOTDS Ve	rification As C	Times Und alculated fr	ler Various	Weather sion Coeffic	Conditions cients	(minutes)			
	Fluid Dilution	Freezing Freezing Ice Cr (g/dr	ng Fog, g Mist, or rystals m²/h)	Mixed Snow and Freezing Fog**** (g/dm²/h)		Snov or	Snow, Snow Grains or Snow Pellets (g/dm²/h)			e zing zzle m²/h)	Lig Freezir (g/dr	ght ng Rain m²/h)	Rain o Soake (g/d	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	195.1	239.8	37.2	73.9	49.6	98.5	242.8	90.4	120.7	46.2	64.5	14.4	123.8
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	151.9	242.9	31.2	62.0	41.6	82.6	203.6	50.0	119.3	34.3	68.1		
-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		
40 / 44 ***	100/0	151.9	242.9	27.7	55.0	36.9	73.3	180.7	50.0	119.3	34.3	68.1		
-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		
-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

TABLE 4-12: CLARIANT SAFEWING MP IV LAUNCH

REGRESSION COE	EFFICIENTS TABLE	AND VERIFICATION	TABLE
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		Regres	ssion Coefficie	nts for Calcula	ating Holdove	r Times Under	Various Wea	ther Condition	ns
Temperature	Dilution	Freezing	Snow, Snov	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing¹	Other
		= 2.3942	= 2.7218	= 2.7218	= 2.7218	= 2.7789	= 2.9492	= 2.5170	
	100/0	A = 0.0152	A = -0.5330	A = -0.5330	A = -0.5330	A = -0.7426	A = -0.8489	A = -0.7291	
			B = -0.2408	B = -0.2408	B = -0.2408				
2 °C and above		= 2.4388	= 2.7841	= 2.7841	= 2.7841	= 2.7945	= 2.7548	= 2.6192	
(27 °F and above)	75/25	A = -0.1431	A = -0.6180	A = -0.6180	A = -0.6180	A = -0.7101	A = -0.7917	A = -0.8499	
			B = -0.2044	B = -0.2044	B = -0.2044				
		= 2.4323	= 2.3978	I = 2.3978	= 2.3978	I = 2.0818	= 1.7686		
	50/50	A = -0.7333	A = -0.6703	A = -0.6703	A = -0.6703	A = -0.5727	A = -0.3607		
			B = -0.1021	B = -0.1021	B = -0.1021				
		= 2.2823	= 2.7218	= 2.7218	= 2.7218	= 2.7424	= 2.6379		
	100/0	A = -0.7333	A = -0.5330	A = -0.5330	A = -0.5330	A = -1.0767	A = -0.8846		
below -3 to -14 °C			B = -0.2408	B = -0.2408	B = -0.2408				
(below 27 to 7 °F)		I = 2.1203	= 2.7841	= 2.7841	= 2.7841	= 2.6204	= 2.4901		
	75/25	A = -0.7220	A = -0.6180	A = -0.6180	A = -0.6180	A = -1.0940	A = -0.7708	CAUTIC)N [.]
			B = -0.2044	B = -0.2044	B = -0.2044			No holdo	over
halaw 44.4a 40.8C		I = 1.8894	= 6.5565	= 6.5565	= 6.5565			time guide	lines
(below 7 to 0 °F)	100/0	A = -0.6349	A = -1.3090	A = -1.3090	A = -1.3090			exist	
			B = -2.9993	B = -2.9993	B = -2.9993				
halow 10 to 25 °C		= 1.8894	= 6.5565	= 6.5565	= 6.5565				
(below 0 to -13 °E)	100/0	A = -0.6349	A = -1.3090	A = -1.3090	A = -1.3090				
			B = -2.9993	B = -2.9993	B = -2.9993				
helew 25 to 20 5 °C		= 1.8894	= 6.5565	= 6.5565	= 6.5565				
below -25 to -28.5 °C	100/0	A = -0.6349	A = -1.3090	A = -1.3090	A = -1.3090				
(below -13 to -19 °F)			B = -2.9993	B = -2.9993	B = -2.9993				

1 Regression Equation: t = 10¹ R^A, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS Ve	rification As C	Times Und alculated fr	er Various	Weather sion Coeffic	Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezing Ice Cr (g/dr	1 g Fog, 3 Mist, or 7 ystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** m²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains lets	Free Driz (g/dr	zing zzle n²/h)	Lit Freezin (g/d	ght ng Rain m²/h)	Rain on Cold Soaked Wing (g/dm²/h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	254.0	250.5	48.2	78.6	64.3	104.8	199.2	89.5	181.9	57.9	100.8	14.1	101.7
+1 / -3 **	75/25	218.2	248.7	44.9	79.1	59.9	105.5	222.0	100.8	198.7	44.5	74.6	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		
0	100/0	58.8	115.2	40.8	66.5	54.4	88.7	168.5	34.9	97.7	25.2	44.9		
-0	75/25	41.3	80.0	39.0	68.7	52.0	91.6	192.7	25.2	71.7	25.9	42.8		
40 / 44 ***	100/0	58.8	115.2	36.5	59.4	48.6	79.2	150.5	34.9	97.7	25.2	44.9		
-10/-14	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

TABLE 4-13: CLARIANT SAFEWING MP IV LAUNCH PLUS

		Regres	sion Coefficie	nts for Calcula	ating Holdove	r Times Under	· Various Wea	ther Condition	ns
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain ¹	Cold Soaked Wing ¹	Other
		= 2.3920	I = 3.2161	I = 3.2161	I = 3.2161	I = 2.1074	I = 3.1822	= 2.5435	
	100/0	A = -0.0283	A = -0.8902	A = -0.8902	A = -0.8902	A = -0.0294	A = -0.9927	A = -0.6674	
			B = -0.3284	B = -0.3284	B = -0.3284				
3 °C and above		I = 2.3948	I = 3.2776	I = 3.2776	I = 3.2776	I = 2.0839	I = 2.0297	I = 2.4962	
(27 °F and above)	75/25	A = -0.0330	A = -0.9501	A = -0.9501	A = -0.9501	A = -0.0124	A = -0.0872	A = -0.6485	
(,			B = -0.3856	B = -0.3856	B = -0.3856				
		= 2.1682	= 2.6868	= 2.6868	= 2.6868	= 2.4651	= 1.8233		
	50/50	A = -0.4153	A = -0.8488	A = -0.8488	A = -0.8488	A = -0.9953	A = -0.4948		
			B = -0.2819	B = -0.2819	B = -0.2819				
		= 2.4166	I = 3.2161	= 3.2161	I = 3.2161	I = 2.8810	= 2.2126		
	100/0	A = -0.9721	A = -0.8902	A = -0.8902	A = -0.8902	A = -1.3058	A = -0.5630		
below -3 to -14 °C			B = -0.3284	B = -0.3284	B = -0.3284				
(below 27 to 7 °F)		= 2.4251	= 3.2776	= 3.2776	I = 3.2776	I = 2.5583	I = 2.1385		
	75/25	A = -1.1486	A = -0.9501	A = -0.9501	A = -0.9501	A = -1.0902	A = -0.5738	CAUTIC	N.
			B = -0.3856	B = -0.3856	B = -0.3856			No holdo	over
		= 1.9339	= 6.5722	= 6.5722	= 6.5722			time guide	lines
below -14 to -18 °C (below 7 to 0 °F)	100/0	A = -0.8158	A = -1.2696	A = -1.2696	A = -1.2696			exist	
			B = -3.0196	B = -3.0196	B = -3.0196				
1 Jan 40 to 05 %		= 1.9339	I = 6.5722	= 6.5722	I = 6.5722				
below -18 to -25 °C (below 0 to -13 °F)	100/0	A = -0.8158	A = -1.2696	A = -1.2696	A = -1.2696				
			B = -3.0196	B = -3.0196	B = -3.0196				
		= 1.9339	I = 6.5722	I = 6.5722	I = 6.5722				
below -25 to -29 °C (below -13 to -20 °F)	100/0	A = -0.8158	A = -1.2696	A = -1.2696	A = -1.2696				
(below -10 to -20 T)			B = -3.0196	B = -3.0196	B = -3.0196				

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS Ve	rification As C	Times Und	er Various	Weather (Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezing Freezing Ice Cr (g/dr	n g Fog, g Mist, or r ystals m²/h)	Mixed S Freezing (g/di	now and g Fog**** m²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	zing zzle n²/h)	Lię Freezir (g/dr	ght ng Rain n²/h)	Rain on Cold Soaked Wing (g/dm²/h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	235.6	241.8	41.4	93.6	55.2	124.8	364.6	118.8	122.1	62.3	119.2	19.6	119.4
+1 / -3 **	75/25	235.4	242.6	35.9	85.7	47.9	114.3	358.7	117.5	118.9	80.9	85.6	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		
0	100/0	54.6	133.0	33.0	74.6	44.0	99.4	290.4	26.7	93.0	26.6	38.5		
-0	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		
-10/-14	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

TABLE 4-14: CRYOTECH POLAR GUARD® ADVANCE

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcul	ating Holdove	r Times Under	r Various Wea	ther Condition	ns
Outside Air Temperature	Fluid	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		= 2.5794	I = 2.9600	I = 2.9600	I = 2.9600	= 2.2682	= 2.2584	I = 2.6661	
	100/0	A = -0.5025	A = -0.5988	A = -0.5988	A = -0.5988	A = -0.2524	A = -0.2806	A = -0.7999	
			B = -0.4378	B = -0.4378	B = -0.4378				
3 °C and above		I = 2.5776	= 2.9905	I = 2.9905	I = 2.9905	I = 2.2204	I = 2.8328	I = 2.6248	
(27 °F and above)	75/25	A = -0.5705	A = -0.8191	A = -0.8191	A = -0.8191	A = -0.1898	A = -0.8896	A = -0.8807	
(B = -0.3466	B = -0.3466	B = -0.3466				
		= 2.1254	= 2.8810	= 2.8810	= 2.8810	= 2.2943	= 2.3695		
	50/50	A = -0.6271	A = -1.0631	A = -1.0631	A = -1.0631	A = -0.9086	A = -0.9996		
			B = -0.5673	B = -0.5673	B = -0.5673				
		= 2.5101	= 2.9600	= 2.9600	= 2.9600	= 2.7077	I = 2.0801		
	100/0	A = -1.1145	A = -0.5988	A = -0.5988	A = -0.5988	A = -1.0390	A = -0.3886		
below -3 to -14 °C			B = -0.4378	B = -0.4378	B = -0.4378				
(below 27 to 7 °F)		= 2.2594	= 2.9905	= 2.9905	= 2.9905	= 2.4495	I = 2.0483		
	75/25	A = -0.9785	A = -0.8191	A = -0.8191	A = -0.8191	A = -0.9076	A = -0.3597	CAUTIC	N.∙
			B = -0.3466	B = -0.3466	B = -0.3466			No holdo	over
		= 1.9253	= 6.4718	= 6.4718	= 6.4718			time guide	lines
below -14 to -18 °C (below 7 to 0 °F)	100/0	A = -0.6979	A = -1.1603	A = -1.1603	A = -1.1603			exist	
			B = -2.9134	B = -2.9134	B = -2.9134				
		= 1.9253	= 6.4718	= 6.4718	I = 6.4718				
below -18 to -25 °C (below 0 to -13 °E)	100/0	A = -0.6979	A = -1.1603	A = -1.1603	A = -1.1603				
			B = -2.9134	B = -2.9134	B = -2.9134				
		= 1.9253	= 2.0544	I = 2.0544	I = 2.0544				
below -25 to -30.5 °C (below -13 to -23 °F)	100/0	A = -0.6979	A = -1.1592	A = -1.1592	A = -1.1592				
(55/00 - 10 (0 -20 1)			B = 0.0000	B = 0.0000	B = 0.0000				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS Ve	rification As C	Times Und	er Various	Weather (Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezing Ice Cr (g/dr	ng Fog, g Mist, or rystals m²/h)	Mixed S Freezing (g/di	now and g Fog**** m²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	zing zzle n²/h)	Lię Freezir (g/dr	ght ng Rain n²/h)	Rain on Cold Soaked Wing (g/dm²/h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	169.1	268.0	49.2	85.2	65.6	113.6	233.5	97.1	123.5	73.5	88.3	14.7	127.9
+1 / -3 **	75/25	151.0	254.6	30.1	63.7	40.1	84.9	227.7	102.1	122.4	38.8	69.5	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		
0	100/0	53.8	149.5	36.3	62.9	48.4	83.8	172.4	35.5	95.8	34.4	44.4		
-0	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		
-10/-14	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

TABLE 4-15: CRYOTECH POLAR GUARD® XTEND

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regression Coefficients for Calculating Holdover Times Under Various						ther Condition	ns
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
	100/0	I = 2.5325 A = -0.5036	I = 2.9681 A = -0.6559	I = 2.9681 A = -0.6559	I = 2.9681 A = -0.6559	I = 2.0792 A = 0.0000	= 3.0299 A = -0.8932	= 2.4479 A = -0.6234	
			B = -0.3399	B = -0.3399	B = -0.3399				
-3 °C and above (27 °F and above)	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		
		= 2.2661	= 2.9681	= 2.9681	I = 2.9681	= 2.7919	I = 1.9558	1	
	100/0	A = -0.7204	A = -0.6559	A = -0.6559	A = -0.6559	A = -1.1481	A = -0.1963		
below -3 to -14 °C			B = -0.3399	B = -0.3399	B = -0.3399				
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC No holdo)N: over
helew 11 to 10 °C		= 1.7603	= 6.6792	= 6.6792	I = 6.6792			time guide	lines
(below 7 to 0 °F)	100/0	A = -0.5578	A = -0.8166	A = -0.8166	A = -0.8166			exist	
			B = -3.2905	B = -3.2905	B = -3.2905				
below -18 to -25 °C		I = 1.7603	I = 6.6792	I = 6.6792	I = 6.6792				
(below 0 to -13 °F)	100/0	A = -0.5578	A = -0.8166 B = -3.2905	A = -0.8166 B = -3.2905	A = -0.8166 B = -3.2905				
below -25 to -29 °C		I = 1.7603	I = 6.6792	I = 6.6792	I = 6.6792				
(below -13 to -20 °F)	100/0	A = -0.5578	A = -0.8166 B = -3.2905	A = -0.8166 B = -3.2905	A = -0.8166 B = -3.2905				

1 Regression Equation: $t = 10^{1} R^{A}$, 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

					HOTDS Ve	rification As C	Times Und	er Various	Weather (Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezing Freezing Ice Cr (g/dr	1 g Fog, 1 Mist, or rystals m²/h)	Mixed Sr Freezinç (g/dr	n ow and 3 Fog**** n²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	zing : zle n²/h)	Lig Freezir (g/dı	ght ng Rain m²/h)	Rain on Cold Soaked Wing (g/dm²/h)	
L		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	151.5	240.4	48.8	89.0	65.1	118.7	261.6	120.0	120.0	60.4	108.4	19.0	102.8
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	57.9	112.0	38.6	70.4	51.4	93.8	206.7	32.6	97.6	48.0	54.6		
-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	57.9	112.0	32.9	60.0	43.8	80.0	176.1	32.6	97.6	48.0	54.6		
-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		
-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

TABLE 4-16: DOW INC. UCAR ENDURANCE™ EG106

REGRESSION COEFFICIENTS TABI	LE AND VERIFICATION TABLE
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		Regres	sion Coefficie	ents for Calcul	ating Holdove	r Times Undeı	· Various Wea	ther Condition	าร
Outside Air Temperature	Fluid	Freezing	Snow, Snov	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		= 2.4198	= 2.8358	= 2.8358	= 2.8358	I = 2.4460	I = 2.5011	I = 2.5903	
	100/0	A = -0.4664	A = -0.7951	A = -0.7951	A = -0.7951	A = -0.5295	A = -0.5672	A = -0.7102	
			B = -0.1996	B = -0.1996	B = -0.1996				
-3 °C and above		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)	75/25								
		n/a	n/a	n/a	n/a	n/a	n/a		
	50/50								
	100/0	= 2.4942	= 2.8358	= 2.8358	= 2.8358	1 = 2.5065	= 2.6525		
	100/0	A = -0.6588	A = -0.7951 B = 0.1006	A = -0.7951 B = -0.1006	A = -0.7951 B = 0.1006	A = -0.6779	A = -0.7145		
(below -3 to -14 °C (below 27 to 7 °F)		n/o	D = -0.1330	D = -0.1330	D = -0.1000	2/2	2/2		
	75/25	n/a	n/a	n/a	n/a	n/a	n/a		
	10/20							CAUTIO No holdo	N:
		1 = 2 0589	1 = 3 3185	I = 3 3185	I = 3 3185			time guide	lines
below -14 to -18 °C	100/0	A = -0.7941	A = -0.8385	A = -0.8385	A = -0.8385			exist	
(below 7 to 0 °F)			B = -0.6048	B = -0.6048	B = -0.6048				
		= 2.0589	= 3.3185	= 3.3185	= 3.3185				
below -18 to -25 °C	100/0	A = -0.7941	A = -0.8385	A = -0.8385	A = -0.8385				
			B = -0.6048	B = -0.6048	B = -0.6048				
helew 25 to 20 °C		= 2.0589	= 3.3185	= 3.3185	= 3.3185				
below -25 to -29 °C (below -13 to -20 °F)	100/0	A = -0.7941	A = -0.8385	A = -0.8385	A = -0.8385				
			B = -0.6048	B = -0.6048	B = -0.6048				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

			<u> </u>		HOTDS Ve	rification As C	Times Und	er Various	Weather	Conditions ients	(minutes)			
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezing Ice Cr (g/dr	1g Fog, J Mist, or rystals m²/h)	Mixed S Freezing (g/dr	n ow and 3 Fog**** n²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	zing rzle m²/h)	Liç Freezir (g/dr	ght 1g Rain m²/h)	Rain on Cold Soaked Wing (g/dm²/h)	
L	<u> </u>	5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	124.1	190.3	28.8	59.7	38.4	79.6	207.5	71.8	119.1	51.1	74.0	18.1	124.1
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	108.1	197.6	25.1	52.1	33.5	69.4	180.7	56.4	107.8	45.0	71.9		
-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	108.1	197.6	22.9	47.3	30.5	63.1	164.5	56.4	107.8	45.0	71.9		
-107-14	75/25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
-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

TABLE 4-17: DOW INC. UCAR™ FLIGHTGUARD™ AD-49

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE
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	Regres	sion Coefficie	ents for Calcula	r Times Undeı	r Various Wea	ther Condition	ıs	
Fluid	Freezing	Snow, Snov	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
	Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing¹	Other
	= 2.4713	I = 3.0052	I = 3.0052	I = 3.0052	= 2.3729	I = 2.4943	I = 2.6531	
100/0	A = -0.2370	A = -0.7148	A = -0.7148	A = -0.7148	A = -0.3927	A = -0.5000	A = -0.8558	
		B = -0.3380	B = -0.3380	B = -0.3380				
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
75/25								
								l
50/50	n/a	n/a	n/a	n/a	n/a	n/a		
50/50								
	= 2.5177	= 3.0052	= 3.0052	= 3.0052	= 2.8172	= 1.9828		
100/0	A = -1.7715	A = -0.7148	A = -0.7148	A = -0.7148	A = -1.2681	A = -0.5016		
		B = -0.3380	B = -0.3380	B = -0.3380				
	n/a	n/a	n/a	n/a	n/a	n/a		
75/25							CAUTIC	N:
							No holdo	ver
	= 1.7838	= 2.3257	= 2.2682	I = 2.5957			time guide	lines
100/0	A = -0.5976	A = -1.4094	A = -1.3140	A = -1.6415			0,001	
		B = 0.0000	B = 0.0000	B = 0.0000				
100/0	= 1.7838	= 2.4506	= 1.7911	= 1.6761				
100/0	A = -0.5976	A = -2.4094 B = 0.0000	A = -1.3140 R = 0.0000	A = -1.1990 B = 0.0000				
	1 1 7000	D = 0.0000		B = 0.0000				
100/0	I = 1.7838	I = 1.5915	I = 1.0082	I = 0.0834				
100/0	A0.09/0	A = -1.2398 B = 0.0000	A = -1.3072 B = 0.0000	A = -3.7624 B = 0.0000				
	Fluid Dilution 100/0 75/25 50/50 100/0 75/25 100/0 100/0 100/0 100/0	Regres Freezing Fog, Freezing Mist, or Ice Crystals ¹ 100/0 I = 2.4713 A = -0.2370 75/25 n/a 50/50 n/a 50/50 I = 2.5177 A = -1.7715 100/0 I = 2.5177 A = -1.7715 100/0 I = 2.5177 A = -1.7715 100/0 I = 1.7838 A = -0.5976 100/0 I = 1.7838 A = -0.5976 100/0 I = 1.7838 A = -0.5976	Regression Coefficie Freezing Mist, or lce Crystals' Snow, Snow 100/0 I = 2.4713 A = -0.2370 I = 3.0052 A = -0.7148 B = -0.3380 100/0 I = 2.4713 A = -0.2370 I = 3.0052 A = -0.7148 B = -0.3380 75/25 n/a n/a 50/50 n/a n/a 100/0 A = -1.7715 A = -1.7715 I = 3.0052 A = -0.7148 B = -0.3380 75/25 n/a n/a 100/0 A = -1.7715 A = -1.7715 I = 3.0052 A = -0.3380 75/25 n/a n/a 100/0 I = 2.5177 A = -0.7148 B = -0.3380 75/25 n/a I = 3.0052 A = -1.7715 100/0 I = 1.7838 A = -0.5976 I = 2.3257 A = -1.4094 B = 0.0000 100/0 I = 1.7838 A = -0.5976 I = 2.4506 A = -2.4094 B = 0.0000 100/0 I = 1.7838 A = -0.5976 I = 1.5915 A = -1.2398 B = 0.0000	Regression Coefficients for Calculation Freezing Mist, or loc Crystals' Snow, Snow Grains or Sn 100/0 I = 2.4713 A = -0.2370 Snow, Snow Grains or Sn 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 75/25 n/a n/a n/a 75/25 n/a n/a n/a 75/25 n/a n/a n/a 100/0 A = -1.7715 I = 3.0052 A = -0.7148 B = -0.3380 I = 3.0052 A = -0.7148 B = -0.3380 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 100/0 I = 1.7838 A = -0.5976 I = 3.0052 A = -1.4094 B = 0.0000 I = 2.2682 A = -1.3140 B = 0.0000 100/0 I = 1.7838 A = -0.5976 I = 2.4506 A = -1.4094 B = 0.0000 I = 1.7911 A = -1.3140 B = 0.0000 100/0 I = 1.7838 A = -0.5976 I = 1.5915 B = 0.0000 I = 1.6682 A = -1.3672 B = 0.0000	Regression Coefficients for Calculting Holdowe Freezing Fog, Freezing Mist, or Ice Crystals ¹ Snow, Snow Grains or SW Pellets ^{2.3} 100/0 I = 2.4713 I = 3.0052 100/0 A = -0.2370 A = -0.7148 A = -0.7148 B = -0.3380 B = -0.3380 B = -0.3380 75/25 n/a n/a n/a n/a A = -0.7148 B = -0.3380 B = -0.3380 B = -0.3380 75/25 n/a n/a n/a n/a Na A = -0.7148 B = -0.3380 B = -0.7148 A = -0.7148 A = -0.7148 B = -0.7148 B = -0.3380 I = 3.0052 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 = 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 =	Regression Coefficients for Calculation fo	Hegresson Coefficients for Calculation of Cal	Neget: source officiency is or Calculation of

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

2 Regression Equation: t = 10¹ 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

					HOTDS Ve	erification As C	Times Und	er Various	Weather of the sion Coeffic	Conditions ients	(minutes)			
Outside Air Temp. (°C)		Freezin Freezing Ice Cr (g/dr	ng Fog, g Mist, or rystals m²/h)	Mixed Snow and Freezing Fog**** (g/dm²/h)		Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	zing zzle n²/h)	Lię Freezir (g/dr	ght n g Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing n²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	202.1	251.2	44.1	85.0	58.8	113.3	267.9	86.2	125.4	62.4	86.6	11.2	113.5
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	19.0	96.5	35.0	67.2	46.6	89.6	211.9	25.4	85.3	19.1	26.5		
-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	19.0	96.5	29.8	57.4	39.7	76.5	180.8	25.4	85.3	19.1	26.5		
-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		
-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

TABLE 4-18: INLAND TECHNOLOGIES ECO-SHIELD®

REGRESSION COEFFICIENTS TAR	BLE AND VERIFICATION TABLE
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		Regression Coefficients for Calculating Holdove					[.] Various Wea	ther Condition	ns
Outside Air Temperature	Fluid	Freezing	Snow, Snov	v Grains or Sn	ow Pellets ^{2,3}	Froozing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain ¹	Cold Soaked Wing ¹	Other
		= 2.4628	= 2.6693	I = 2.6693	I = 2.6693	= 2.5329	I = 1.8305	I = 2.4740	
	100/0	A = -0.8425	A = -0.6224	A = -0.6224	A = -0.6224	A = -0.8434	A = -0.1843	A = -0.7236	
			B = -0.2015	B = -0.2015	B = -0.2015				
-3 °C and above		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)	75/25								
		n/a	n/a	n/a	n/a	n/a	n/a		
	50/50								
		= 2.4493	= 2.6693	= 2.6693	= 2.6693	= 2.3150	I = 1.9809		
	100/0	A = -0.8541	A = -0.6224	A = -0.6224	A = -0.6224	A = -0.5411	A = -0.3441		
below -3 to -14 °C			B = -0.2015	B = -0.2015	B = -0.2015				
$(\text{Delow } 27 \text{ to } 7^{-1}\text{F})$		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC	N:
								No holdo	over
below -14 to -18 °C	100/0	= 1.9894	= 2.3257	= 2.2682	= 2.5957			exist	lines
(below 7 to 0 °F)	100/0	A = -0.6913	A = -1.4094	A = -1.3140 B = 0.0000	A = -1.6415 B = 0.0000				
			Б = 0.0000	Б = 0.0000	Б = 0.0000				
below -18 to -25 °C	400/0	= 1.9894	= 2.4506	= 1.7911	= 1.6761				
(below 0 to -13 °F)	100/0	A = -0.6913	A = -2.4094	A = -1.3140 R = 0.0000	A = -1.1990 B = 0.0000				
		1 4 000 4	D = 0.0000		D = 0.0000				
below -25 to -25.5 °C	100/0	I = 1.9894	I = 1.5915	I = 1.6682	I = 6.0834				
(below -13 to -14 °F)	100/0	A = -0.6913	A = -1.2398 B = 0.0000	A = -1.3672 B = 0.0000	A = -0.7824				
1			5 - 0.0000	5 - 0.0000	5 - 0.0000				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

] 					HOTDS Ve	rification As C	Times Und	er Various	Weather (Conditions ients	(minutes)			
Outside Air Temp. (°C) Fluid Dilution		Freezin Freezing Ice Cr (g/dr	ıg Fog, j Mist, or ∙ystals m²/h)	Mixed Snow and Freezing Fog**** (g/dm²/h)		Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	z ing zzle m²/h)	Lig Freezir (g/dr	ght ng Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing n²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	74.8	161.9	34.1	60.4	45.5	80.5	170.4	39.2	87.8	37.4	42.2	13.1	92.9
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	71.2	155.7	29.7	52.5	39.6	70.0	148.2	51.6	86.5	31.6	39.6		
-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	71.2	155.7	27.0	47.8	36.0	63.7	134.8	51.6	86.5	31.6	39.6		
-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		
-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

TABLE 4-19: JSC RCP NORDIX DEFROST ECO 4

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcul	ating Holdove	r Times Undei	· Various Wea	ther Condition	ns
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
Tomporataro	Bildion	Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		I = 2.4080	= 2.7595	= 2.7595	= 2.7595	I = 2.1497	= 2.5972	= 2.2932	
	100/0	A = -0.6597	A = -0.7621	A = -0.7621	A = -0.7621	A = -0.2970	A = -0.7187	A = -0.6241	
			B = -0.1757	B = -0.1757	B = -0.1757				
-3 °C and above		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)	75/25								
		n/a	n/a	n/a	n/a	n/a	n/a		
	50/50								
		= 2.5248	= 2.7595	= 2.7595	= 2.7595	= 2.2310	= 2.2288		
	100/0	A = -1.1145	A = -0.7621	A = -0.7621	A = -0.7621	A = -0.4646	A = -0.4780		
below -3 to -14 °C			B = -0.1/5/	B = -0.1/5/	B = -0.1757				
		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC	DN:
								No holdo	over
below -14 to -18 °C	100/0	= 1.8711	= 2.3257	= 2.2682	= 2.5957			exist	annes
(below 7 to 0 °F)	100/0	A = -0.5814	A = -1.4094	A = -1.3140 B = 0.0000	A = -1.6415 B = 0.0000				
			Б = 0.0000		Б = 0.0000				
below -18 to -25 °C	100/0	= 1.8/11	1 = 2.4506	= 1.7911	1 = 1.6/61				
(below 0 to -13 °F)	100/0	A = -0.5814	A = -2.4094 B = 0.0000	A = -1.3140 R = 0.0000	A = -1.1990 B = 0.0000				
		4 0744			D = 0.0000				
below -25 to -25.5 °C	100/0	= 1.8/11	I = 1.5915	= 1.6682	= 6.0834				
(below -13 to -14 °F)	100/0	A = -0.5814	A = -1.2398 B = 0.0000	A = -1.30/2 B = 0.0000	A = -5.7824 B = 0.0000				
			5 - 0.0000	5 - 0.0000	5 - 0.0000				

1 Regression Equation: $t = 10^{1} R^{A}$, 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

			HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients													
Outside Air Temp. (°C) Ilution		Freezin Freezing Ice Cr (g/dr	1g Fog, J Mist, or r ystals m²/h)	Mixed Snow and Freezing Fog**** (g/dm²/h)		Snov or	Snow, Snow Grains or Snow Pellets (g/dm²/h)		Free Driz (g/di	zing zzle m²/h)	Lit Freezin (g/di	ght ng Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing m²/h)		
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5		
	100/0	88.5	162.0	28.0	56.2	37.3	74.9	187.5	65.9	87.5	39.1	62.6	13.3	71.9		
+1 / -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		
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
0	100/0	55.7	154.6	24.8	49.7	33.0	66.3	166.0	51.7	80.6	36.4	49.7				
-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	55.7	154.6	22.8	45.8	30.4	61.1	152.9	51.7	80.6	36.4	49.7				
-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				
-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

TABLE 4-20: JSC RCP NORDIX DEFROST NORTH 4

REGRESSION COEFFICIENTS TAB	BLE AND VERIFICATION TABLE
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		Regres	sion Coefficie	ents for Calcul	ating Holdove	r Times Unde	r Various Wea	ther Condition	ns
Outside Air Temperature	Fluid	Freezing	Snow, Snov	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		= 2.6515	= 2.7447	= 2.7447	= 2.7447	= 2.6377	I = 2.4403	I = 2.7110	
	100/0	A = -0.7575	A = -0.8267	A = -0.8267	A = -0.8267	A = -0.7492	A = -0.6778	A = -0.9348	
			B = 0.0000	B = 0.0000	B = 0.0000				
-3 °C and above		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)	75/25								
		n/a	n/a	n/a	n/a	n/a	n/a		
	50/50								
		= 2.6157	= 2.7447	= 2.7447	= 2.7447	= 2.6041	= 2.5954		
	100/0	A = -0.5906	A = -0.8267	A = -0.8267	A = -0.8267	A = -0.7058	A = -0.7285		
below -3 to -14 °C			B = 0.0000	B = 0.0000	B = 0.0000				
$(\text{Delow } 27 \text{ to } 7^{-1}\text{F})$		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC	N:
								No holdo	over
below -14 to -18 °C	100/0	= 2.3727	= 2.2480	= 2.1544	= 2.3979			exist	sines
(below 7 to 0 °F)	100/0	A = -1.0450	A = -0.9120 B = 0.0000	A = -0.7565	A = -1.0000				
			В = 0.0000	B = 0.0000	В = 0.0000				
below -18 to -25 °C	400/0	= 2.3727	= 2.2685	= 2.2465	= 2.3751				
(below 0 to -13 °F)	100/0	A = -1.0450	A = -1.1070 B = 0.0000	A = -1.0704 B = 0.0000	A = -1.1990				
			B = 0.0000	D = 0.0000	D = 0.0000				
below -25 to -26 °C	100/0	= 2.3/27	1 = 2.1021	1 = 2.1466	1 = 2.4160				
(below -13 to -15 °F)	100/0	A = -1.0450	A = -1.1696 B = 0.0000	A = -1.2435 B = 0.0000	A = -1.5129 B = 0.0000				
			Б – 0.0000	ы — 0.0000	ы — 0.0000				

1 Regression Equation: t = 10¹ R^A, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS Ve	rification	Times Und	er Various	Weather	Conditions	(minutes)			
, P	1					As C	alculated fr	om Regress	sion Coeffic	ients				
Outside Air Temp. (°C)		Freezin Freezing Ice Cr (g/dr	ig Fog, j Mist, or ystals m²/h)	Mixed Snow and Freezing Fog**** (g/dm²/h)		Snow or	Snow, Snow Grai or Snow Pellets (g/dm²/h)		Free Driz (g/dr	zing : zle m²/h)	Liç Freezir (g/dı	յիt າg Rain m²/h)	Rain o Soaker (g/dı	n Cold d Wing m²/h)
l'		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
1	100/0	132.4	265.1	29.1	62.1	38.8	82.8	224.0	63.6	130.0	31.1	48.4	9.1	114.2
+1 / -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
l'	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	100/0	159.5	274.1	29.1	62.1	38.8	82.8	224.0	65.7	129.1	37.8	60.8		
-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	159.5	274.1	29.1	62.1	38.8	82.8	224.0	65.7	129.1	37.8	60.8		
-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		
-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	1 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

TABLE 4-21: KILFROST ABC-S PLUS

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcula	ating Holdove	r Times Unde	r Various Wea	ther Condition	ns
Outside Air	Fluid Dilution	Freezing	Snow, Snov	v Grains or Sn	ow Pellets ^{2,3}	F actoria a	Light	Rain on	
remperature	Bildton	Fog, Freezing Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Freezing Drizzle ¹	Freezing Rain ¹	Cold Soaked Wing¹	Other
	100/0	= 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	= 3.2080 A = -1.0102	= 2.5437 A = -0.6337	
-3 °C and above (27 °F and above)	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	= 2.4230 A = -0.7288	
	50/50	= 1.8988 A = -0.5888	I = 2.1742 A = -0.6668 B = 0.0000	= 2.1742 A = -0.6668 B = 0.0000	I = 2.1742 A = -0.6668 B = 0.0000	= 2.2203 A = -0.8993	I = 1.7490 A = -0.4516		
below -3 to -14 °C	100/0	= 2.7468 A = -1.4224	= 2.7997 A = -0.5886 B = -0.1639	= 2.7997 A = -0.5886 B = -0.1639	= 2.7997 A = -0.5886 B = -0.1639	= 2.9992 A = -1.4676	= 2.3542 A = -0.7931		
(below 27 to 7 °F)	75/25	= 2.3554 A = -1.0359	= 2.5586 A = -0.5815 B = -0.1638	= 2.5586 A = -0.5815 B = -0.1638	= 2.5586 A = -0.5815 B = -0.1638	= 2.8273 A = -1.3891	= 2.1553 A = -0.6538	CAUTIC No holdo)N: over
below -14 to -18 °C (below 7 to 0 °F)	100/0	= 1.9370 A = -0.5185	I = 2.3257 A = -1.4094 B = 0.0000	= 2.2682 A = -1.3140 B = 0.0000	I = 2.5957 A = -1.6415 B = 0.0000			time guide exist	lines
below -18 to -25 °C (below 0 to -13 °F)	100/0	= 1.9370 A = -0.5185	= 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	= 1.9370 A = -0.5185	= 1.5915 A = -1.2398 B = 0.0000	= 1.6682 A = -1.3672 B = 0.0000	I = 6.0834 A = -5.7824 B = 0.0000				

1 Regression Equation: t = 10¹ R^A, where t = holdover time (minutes) and R = precipitation rate (g/dm²/h)

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{8}$, where $t = holdover time (minutes), R = precipitation rate (<math>g/dm^{2}/h$) 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

			HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients													
Outside Air Temp. (°C)	Fluid Dilution	Freezin Freezing Ice Cr (g/dr	n g Fog, g Mist, or r ystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** m²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	zing zzle n²/h)	Li Freezii (g/di	ght n g Rain m²/h)	Rain o Soakee (g/dr	n Cold d Wing n²/h)		
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5		
	100/0	130.3	242.3	54.6	93.7	72.8	124.9	253.7	110.8	119.8	62.5	121.0	22.7	126.1		
+1 / -3 **	75/25	85.7	162.3	32.1	54.7	42.8	72.9	146.8	60.5	80.3	32.3	51.4	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				
0	100/0	56.6	208.3	48.8	83.6	65.0	111.5	226.4	23.1	94.1	17.6	29.6				
-0	75/25	42.8	110.6	28.7	48.8	38.2	65.1	131.0	19.1	71.8	17.4	26.7				
40 / 44 ***	100/0	56.6	208.3	45.2	77.4	60.2	103.2	209.7	23.1	94.1	17.6	29.6				
-10/-14	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

TABLE 4-22: MKS DEVO CHEMICALS COREICEPHOB TYPE-IV PG

		Regress	ion Coefficien	ts for Calculat	ing Holdover	Times Under \	/arious Weatl	ner Conditions	i
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	/ Grains or Sn	ow Pellets ^{2,3}	Freesing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		= 2.5147	= 3.1944	= 3.1944	= 3.1944	= 2.3070	= 2.6455	= 2.5469	
	100/0	A = -0.5177	A = -0.8559	A = -0.8559	A = -0.8559	A = -0.3347	A = -0.6713	A = -0.7833	
			B = -0.4836	B = -0.4836	B = -0.4836				
-3 °C and above (27 °F and above)	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		
		= 1.8551	= 3.1944	= 3.1944	= 3.1944	= 2.5656	= 2.6477		
	100/0	A = -0.9628	A = -0.8559	A = -0.8559	A = -0.8559	A = -0.8764	A = -0.9684		
below -3 to -14 °C			B = -0.4836	B = -0.4836	B = -0.4836				
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC No holdo	N: over
		= 1.7334	= 2.3257	= 2.2682	= 2.5957			time guide	lines
below -14 to -18 °C (below 7 to 0 °F)	100/0	A = -0.8596	A = -1.4094	A = -1.3140	A = -1.6415			exist	
			B = 0.0000	B = 0.0000	B = 0.0000				
holow 19 to 25 °C		= 1.7334	= 2.4506	= 1.7911	= 1.6761				
(below 0 to -13 °F)	100/0	A = -0.8596	A = -2.4094	A = -1.3140	A = -1.1990				
(B = 0.0000	B = 0.0000	B = 0.0000				
below -25 to -29 °C (below -13 to -20 °F)		= 1.7334	= 1.5915	= 1.6682	= 6.0834				
	100/0	A = -0.8596	A = -1.2398	A = -1.3672	A = -5.7824				
			B = 0.0000	B = 0.0000	B = 0.0000				

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

					HOTDS Ve	rification As C	Times Und alculated fr	er Various	Weather	Conditions cients	(minutes)			
Outside Air Temp. (°C)	Outside Air Temp. (°C)		ng Fog, g Mist, or rystals m²/h)	Mixed S Freezing (g/dr	now and g Fog**** m²/h)	Snov or	Snow, Snow Grai or Snow Pellets (g/dm²/h)		Free Dri: (g/di	ezing zzle m²/h)	Lit Freezii (g/di	ght ng Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	142.2	228.5	34.3	75.1	45.7	100.1	280.5	85.9	118.3	50.9	79.0	12.0	99.9
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	15.2	36.8	24.5	53.7	32.7	71.6	200.6	38.8	89.7	19.7	37.1		
-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		
40 / 44 ***	100/0	15.2	36.8	19.5	42.8	26.0	57.0	159.9	38.8	89.7	19.7	37.1		
-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		
-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

TABLE 4-23: NEWAVE AEROCHEMICAL FCY 9311

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcula	ating Holdove	r Times Undei	· Various Wea	ther Condition	ns
Outside Air Temperature	Fluid	Freezing	Snow, Snov	v Grains or Sn	ow Pellets ^{2,3}	Froozing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		I = 2.6186	I = 2.8340	I = 2.8340	I = 2.8340	= 2.5218	I = 2.7035	I = 2.4128	
	100/0	A = -0.7874	A = -0.7480	A = -0.7480	A = -0.7480	A = -0.6026	A = -0.8019	A = -0.6988	
			B = -0.3361	B = -0.3361	B = -0.3361				
-3 °C and above		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)	75/25								
		n/a	n/a	n/a	n/a	n/a	n/a		
	50/50								
		= 2.4840	= 2.8340	= 2.8340	= 2.8340	= 2.4894	= 2.3272		
	100/0	A = -1.3099	A = -0.7480	A = -0.7480	A = -0.7480	A = -0.8313	A = -0.7195		
below -3 to -14 °C			B = -0.3361	B = -0.3361	B = -0.3361				
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC	N:
								No holdo	over
below -14 to -18 °C		= 1.9261	= 4.8041	= 4.8041	= 4.8041			ume guide exist	ennes
(below 7 to 0 °F)	100/0	A = -0.6637	A = -0.8155	A = -0.8155	A = -0.8155				
			B = -1.9481	B = -1.9481	B = -1.9481				
below -18 to -25 °C		= 1.9261	= 4.8041	= 4.8041	= 4.8041				
(below 0 to -13 °F)	100/0	A = -0.6637	A = -0.8155	A = -0.8155	A = -0.8155				
			в = -1.9481	в = -1.9481	в = -1.9481				
below -25 to -29.5 °C	100/5	= 1.9261	= 1.9749	= 1.9749	= 1.9749				
(below -13 to -21 °F)	100/0	A = -0.6637	A = -0.8155	A = -0.8155	A = -0.8155				
			в = 0.0000	в = 0.0000	в = 0.0000				

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

2 Regression Equation: $t = 10^{1} R^{A} (2-T)^{B}$, 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

			<u>.</u>	<u></u>	HOTDS Ve	rification As C	Times Und	er Various	Weather	Conditions ients	(minutes)	. <u> </u>]
Outside Air Temp. (°C)	Dutside ir Temp. (°C) Fluid Dilution (g/dm²/h) 5		ing Fog, ng Mist, or Crystals g/dm²/h) Mixed Snow Freezing Fc (g/dm²/!		n ow and 3 Fog**** m²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/di	zing zzle m²/h)	Lig Freezir (g/dr	ght ng Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing m²/h)
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5
	100/0	117.0	240.8	26.9	53.3	35.8	71.0	174.7	70.9	126.1	38.2	64.6	12.7	84.0
+1 / -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
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
0	100/0	37.0	122.9	21.2	42.2	28.3	56.2	138.4	36.6	81.0	21.0	33.6		
-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	37.0	122.9	18.2	36.0	24.2	48.0	118.1	36.6	81.0	21.0	33.6		
-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		
-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

TABLE 4-24: NEWAVE AEROCHEMICAL FCY-EGIV

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

		Regres	sion Coefficie	ents for Calcula	ating Holdove	r Times Undeı	· Various Wea	ther Condition	ns
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Freezing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
		I = 2.7246	= 2.9022	= 2.9022	I = 2.9022	= 2.5738	I = 2.6083	I = 2.6420	
	100/0	A = -0.7713	A = -0.8496	A = -0.8496	A = -0.8496	A = -0.6025	A = -0.7282	A = -0.7798	
			B = -0.2809	B = -0.2809	B = -0.2809				
3 °C and above		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
(27 °F and above)	75/25								
		n/a	n/a	n/a	n/a	n/a	n/a		
	50/50								
		= 2.6090	= 2.9022	I = 2.9022	= 2.9022	= 2.8537	= 2.4852		
	100/0	A = -0.9888	A = -0.8496	A = -0.8496	A = -0.8496	A = -1.0325	A = -0.6098		
below -3 to -14 °C			B = -0.2809	B = -0.2809	B = -0.2809				
(below 27 to 7 °F)		n/a	n/a	n/a	n/a	n/a	n/a		
	75/25							CAUTIC	N:
								No holdo	over
below -14 to -18 °C		= 2.4392	= 3.8875	= 3.8875	= 3.8875			ume guide exist	ennes
(below 7 to 0 °F)	100/0	A = -1.2580	A = -0.9433	A = -0.9433	A = -0.9433				
			B = -1.0268	B = -1.0268	B = -1.0268				
below -18 to -25 °C		= 2.4392	= 3.8875	= 3.8875	= 3.8875				
(below 0 to -13 °F)	100/0	A = -1.2580	A = -0.9433	A = -0.9433	A = -0.9433				
			в = -1.0268	в = -1.0268	в = -1.0268				
below -25 to -29 °C	100/5	= 2.4392	= 3.8875	= 3.8875	= 3.8875				
(below -13 to -20 °F)	100/0	A = -1.2580	A = -0.9433	A = -0.9433	A = -0.9433				
(below -13 to -20 T)			В = -1.0268	В = -1.0268	B = -1.0268				

1 Regression Equation: $t = 10^{1} R^{A}$, 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

		HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients													
Outside Air Temp. (°C) Fluid Dilution		Freezin Freezing Ice Cr (g/dr	ıg Fog, j Mist, or ™ystals m²/h)	Mixed Sı Freezinç (g/dı	now and g Fog**** m²/h)	Snov or	v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	zing rzle m²/h)	Lig Freezin (g/dr	ght 1g Rain m²/h)	Rain o Soakeo (g/dr	n Cold d Wing m²/h)	
	<u> </u>	5	2	25	10	25	10	LUPR*	13	5	25	13	75	5	
	100/0	153.3	310.8	24.8	53.9	33.0	71.8	199.8	79.9	142.1	38.9	62.7	15.1	125.0	
+1 / -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	
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
0	100/0	82.8	204.8	20.3	44.3	27.1	59.1	164.4	50.5	135.5	42.9	64.0			
-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	82.8	204.8	17.9	38.9	23.8	51.8	144.1	50.5	135.5	42.9	64.0			
-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			
-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	í .						

* 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

TABLE 4-25: SHAANXI CLEANWAY CLEANSURFACE IV

		Regressi	ion Coefficien	ts for Calculat	ing Holdover	Times Under \	/arious Weath	ner Conditions	;
Outside Air Temperature	Fluid Dilution	Freezing	Snow, Snow	v Grains or Sn	ow Pellets ^{2,3}	Fronzing	Light	Rain on	
		Mist, or Ice Crystals ¹	< 4 g/dm²/h	4 to <10 g/dm²/h	≥ 10 g/dm²/h	Drizzle ¹	Freezing Rain¹	Cold Soaked Wing ¹	Other
	100/0	I = 2.5799 A = -0.5825	= 3.3751 A = -0.9153 B = -0.6693	= 3.3751 A = -0.9153 B = -0.6693	= 3.3751 A = -0.9153 B = -0.6693	= 2.3673 A = -0.4192	= 2.8005 A = -0.8461	= 2.5963 A = -0.7896	
-3 °C and above (27 °F and above)	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		
below -3 to -14 °C	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		
(below 27 to 7 °F)	75/25	n/a	n/a	n/a	n/a	n/a	n/a	CAUTIC No holdo	N: ver
below -14 to -18 °C (below 7 to 0 °F)	100/0	I = 1.7153 A = -0.5029	= 4.9319 A = -0.8455 B = -2.0179	= 4.9319 A = -0.8455 B = -2.0179	= 4.9319 A = -0.8455 B = -2.0179			time guide exist	lines
below -18 to -25 °C (below 0 to -13 °F)	100/0	I = 1.7153 A = -0.5029	= 4.9319 A = -0.8455 B = -2.0179	= 4.9319 A = -0.8455 B = -2.0179	= 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	= 1.9612 A = -0.8436 B = 0.0000	= 1.9612 A = -0.8436 B = 0.0000	= 1.9612 A = -0.8436 B = 0.0000				

REGRESSION COEFFICIENTS TABLE AND VERIFICATION TABLE

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

2 Regression Equation: $t = 10^1 R^A (2-T)^8$, 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

		HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients													
Outside Air Temp. (°C)	Outside Air Temp. (°C) Fluid Dilution		ng Fog, g Mist, or rystals m²/h)	Mixed S Freezing (g/dr	Mixed Snow and Freezing Fog**** (g/dm²/h)		v, Snow G Snow Pell (g/dm²/h)	rains ets	Free Dri: (g/di	ezing zzle m²/h)	Lit Freezii (g/di	ght ng Rain m²/h)	Rain o Soake (g/d	n Cold d Wing m²/h)	
		5	2	25	10	25	10	LUPR*	13	5	25	13	75	5	
	100/0	148.9	253.8	31.8	73.7	42.4	98.2	295.5	79.5	118.7	41.5	72.1	13.1	110.8	
+1 / -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	
	50/50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
0	100/0	56.3	125.5	20.0	46.3	26.7	61.7	185.8	28.8	89.2	25.0	32.8			
-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			
40 / 44 ***	100/0	56.3	125.5	14.6	33.8	19.5	45.1	135.7	28.8	89.2	25.0	32.8			
-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			
-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

TABLE 4-26: TYPE IV GENERIC

VERIFICATION TABLE

Outside			HOTDS Verification Times Under Various Weather Conditions (minutes) As Calculated from Regression Coefficients											
Air Temp. (°C)		Freezii Freezii or Ice (ng Fog, ng Mist, Crystals m²/h)	Mixed S Freezin (g/di	now and g Fog*** m²/h)	Snov or	w, Snow G Snow Pell (g/dm²/h)	rains ets	Free Driz (g/dr	zzing zzle m²/h)	Lig Freezin (g/di	ght ng Rain m²/h)	Rain on Cold Soaked Wing (g/dm²/h)	
		5	2	25	10	25	10	3	13	5	25	13	75	5
	100/0	74.8	137.0	23.3	46.7	31.1	62.3	138.6	39.2	70.6	19.0	33.7	8.2	63.8
+1 / -3 *	75/25	85.7	162.3	30.1	54.7	40.1	72.9	146.8	60.5	80.3	32.3	51.4	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		
0	100/0	15.2	36.8	20.0	40.3	26.7	53.7	123.6	23.1	69.1	17.6	26.5		
-0	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	33.8	19.5	45.1	108.8	23.1	69.1	17.6	26.5		
-107-14	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

TABLE 5: LOWEST USABLE PRECIPITATION RATES IN SNOW¹

Type II De/Anti-Icing Fluids												
FLUID DILUTION	100	0/0	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/dm²/h	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h								
Aviation Xi'an High-Tech Cleanwing II	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h								
Clariant Safewing MP II FLIGHT	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h								
Cryotech Polar Guard® II	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h								
Kilfrost ABC-K Plus	3 g/dm²/h	10 g/dm²/h	4 g/dm²/h	3 g/dm²/h								
Kilfrost Ice Clear II	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
MKS DevO Chemicals COREICEPHOB Type II	3 g/dm²/h	3 g/dm²/h	not applicable	3 g/dm²/h								
Newave Aerochemical FCY-2	3 g/dm²/h	10 g/dm²/h	3 g/dm²/h	3 g/dm²/h								
ROMCHIM ADD-PROTECT NG Type II	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h								
ROMCHIM ADD-PROTECT Type II	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h								

TYPE II, TYPE III AND TYPE IV FLUIDS²

Type III De/Anti-Icing Fluids												
FLUID DILUTION 100/0 75/25 50/50												
TEMPERATURE	TEMPERATURE -25°C AND ABOVE BELOW -25°C -10°C AND ABOVE -3°C AND ABOVE											
AllClear AeroClear MAX	3 g/dm²/h	3 g/dm²/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.

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	10	0/0	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/dm²/h	3 g/dm²/h	not applicable	not applicable								
ALAB International PROFLIGHT EG4	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
ALAB International PROFLIGHT PG4	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
AllClear ClearWing EG	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
ASGlobal 4Flite EG	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
ASGlobal 4Flite PG	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
AVIAFLUID AVIAFlight EG	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
AVIAFLUID AVIAFlight PG	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
CHEMCO ChemR EG IV	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
CHEMCO ChemR Nordik IV	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
Chongqing Joba Chemical FW-IV	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
Clariant Safewing MP IV LAUNCH	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h								
Clariant Safewing MP IV LAUNCH PLUS	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h								
Cryotech Polar Guard® Advance	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h								
Cryotech Polar Guard® Xtend	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
Dow Inc. UCAR ENDURANCE [™] EG106	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
Dow Inc. UCAR™ FLIGHTGUARD™ AD-49	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
Inland Technologies ECO-SHIELD®	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
JSC RCP Nordix Defrost ECO 4	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
JSC RCP Nordix Defrost NORTH 4	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
Kilfrost ABC-S Plus	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h	3 g/dm²/h								
MKS DevO Chemicals COREICEPHOB TYPE-IV PG	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
Newave Aerochemical FCY 9311	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
Newave Aerochemical FCY-EGIV	3 g/dm²/h	3 g/dm²/h	not applicable	not applicable								
Shaanxi Cleanway Cleansurface IV	3 g/dm²/h	3 g/dm²/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.

TABLE 6: HIGHEST USABLE PRECIPITATION RATES IN SNOW¹

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/dm²/h	25 g/dm²/h	50 g/dm²/h	50 g/dm²/h			
Aviation Xi'an High-Tech Cleanwing II	50 g/dm²/h	25 g/dm²/h	50 g/dm²/h	50 g/dm²/h			
Clariant Safewing MP II FLIGHT	50 g/dm²/h	25 g/dm²/h	50 g/dm²/h	40 g/dm²/h			
Cryotech Polar Guard® II	50 g/dm²/h	25 g/dm²/h	50 g/dm²/h	50 g/dm²/h			
Kilfrost ABC-K Plus	50 g/dm²/h	25 g/dm²/h	50 g/dm²/h	25 g/dm²/h			
Kilfrost Ice Clear II	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
MKS DevO Chemicals COREICEPHOB Type II	50 g/dm²/h	25 g/dm²/h	not applicable	50 g/dm²/h			
Newave Aerochemical FCY-2	50 g/dm²/h	25 g/dm²/h	50 g/dm²/h	50 g/dm²/h			
ROMCHIM ADD-PROTECT NG Type II	50 g/dm²/h	25 g/dm²/h	50 g/dm²/h	50 g/dm²/h			
ROMCHIM ADD-PROTECT Type II	50 g/dm²/h	25 g/dm²/h	50 g/dm²/h	50 g/dm²/h			

TYPE II, TYPE III AND TYPE IV FLUIDS²

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/dm²/h	25 g/dm²/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.

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/dm²/h	25 g/dm²/h	not applicable	not applicable			
ALAB International PROFLIGHT EG4	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
ALAB International PROFLIGHT PG4	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
AllClear ClearWing EG	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
ASGlobal 4Flite EG	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
ASGlobal 4Flite PG	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
AVIAFLUID AVIAFlight EG	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
AVIAFLUID AVIAFlight PG	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
CHEMCO ChemR EG IV	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
CHEMCO ChemR Nordik IV	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
Chongqing Joba Chemical FW-IV	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
Clariant Safewing MP IV LAUNCH	50 g/dm²/h	25 g/dm²/h	50 g/dm²/h	50 g/dm²/h			
Clariant Safewing MP IV LAUNCH PLUS	50 g/dm²/h	25 g/dm²/h	50 g/dm²/h	50 g/dm²/h			
Cryotech Polar Guard® Advance	50 g/dm²/h	25 g/dm²/h	50 g/dm²/h	50 g/dm²/h			
Cryotech Polar Guard® Xtend	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
Dow Inc. UCAR ENDURANCE [™] EG106	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
Dow Inc. UCAR [™] FLIGHTGUARD [™] AD-49	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
Inland Technologies ECO-SHIELD®	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
JSC RCP Nordix Defrost ECO 4	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
JSC RCP Nordix Defrost NORTH 4	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
Kilfrost ABC-S Plus	50 g/dm²/h	25 g/dm²/h	50 g/dm²/h	50 g/dm²/h			
MKS DevO Chemicals COREICEPHOB TYPE-IV PG	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
Newave Aerochemical FCY 9311	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
Newave Aerochemical FCY-EGIV	50 g/dm²/h	25 g/dm²/h	not applicable	not applicable			
Shaanxi Cleanway Cleansurface IV	50 g/dm²/h	25 g/dm²/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.