

ANNEX B

Abbreviations

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IMPORTANT NOTICE:

**This will be the last time
this document will be
published. See for
details the Foreword**



FOREWORD

The 2016-2017 winter season will be the last time the “AEA Recommendations for de-icing/anti-icing aeroplanes on the ground” and the “AEA Training Recommendations and Background Information for De-Icing /Anti-Icing of Aeroplane on the Ground” are published. Before the start of the 2017-2018 winter season, both documents will be withdrawn completely from the AEA website and a reference will be made to the new SAE Global Deicing Standards AS6285 (Deicing procedures) and AS6286 (Deicing training, including 6 slash-sheets with detailed training information).

On a request from the IATA, these SAE Global Deicing Standards are being established for the last 5 years by the SAE G-12 Committee on aircraft ground deicing in close cooperation with the AEA De-icing W/G. AEA made the agreement that the moment the SAE Global Deicing Standards are published, the AEA deicing documents (both the Procedures/methods and the Training documents) would be cancelled/withdrawn to have just one deicing standard worldwide. The current ISO de-icing document 11076 “Aircraft — De-icing/anti-icing methods on the ground” is solely referring to the AEA deicing document, so this will either be cancelled as well or changed into a reference to the SAE AS6285 document.

The SAE Global Deicing Standard documents will most likely be published very soon. It concerns the AS6285, “Aircraft Ground Deicing/anti-icing processes” and the AS6286, “Training and Qualification Program for Deicing/Anti-icing of Aircraft on the Ground”, Main document.

The AS6286 Training document has a main document and 6 so called slash-sheets with all the detailed information in separate slash-sheets for Equipment, Fluids, Holdover time, Methods, Health/Safety and Aircraft diagrams with no-spray areas. These slash-sheets are not yet ready for publication.

Since the publication of the SAE Global Deicing Standards will most likely be relatively late and the training document is not complete (slash-sheets not yet ready), the AEA deicing W/G decided in their May 2016 meeting that they will publish an updated procedures/methods document once more to give users the time and opportunity to adjust and get used to the new situation and be able to fully switch over to this new standard for their own procedures and instructions for winter 2017-2018.

The current AEA deicing training manual will stay as is on the AEA website, no update needed.

The expectation is that all the SAE Global Deicing Standard documents will be published this year or early next year, well before the 2017-2018 winter season starts. This means that from this 2017-2018 winter season the AEA deicing documents will disappear from the AEA website and people will be referred to the SAE Global Deicing Standard documents.

The main differences with the AEA deicing documents will be that there are no holdover time tables and no Q.A. checklist example included into the AS6285 and AS6286 documents. Also, the mid-season check on truck nozzles is not mandatory, but discussions are on-going on this subject for future revisions.

Further, the SAE documents are not for free despite the AEA de-icing W/G’s opinion that they should be

1 ANNEX B

1.1 Abbreviations, General

A	
A/S	Airspeed
AAA	Amended meteorological message (or AAB, AAC, etc., in sequence)
AAS	Airport Advisory Service
A/C	Aeroplane
AC	Advisor Circular
AC	Altostratus (cloud genera)
ACC	Area Control Center or Area Control
ACI	Airports Council
AD	Advisory Directive
AD	Airworthiness Directive
ADF	Aeroplane De-icing Facility
AEA	Association of European Airlines
AECMA	The European Association of Aerospace Industries
AFIS	Aerodrome Flight Information Service
AFTN	Aeronautical Fixed Telecommunication Network
AFM:	Airplane Flight Manual
AIC	Aeronautical Information Circular
AIM	Aeronautical Information Message (Manual)
AIP	Aeronautical Information Publication
AIS	Aeronautical Information Service
ALT	Alternate, Altitude
ALT	Altitude
AMD	Amended Meteorological Message
AMIL	Anti-icing Material International Laboratory
AMM	Aeroplane Maintenance Manual
AMSL	Above Mean Sea Level
ANT	Antenna
AO	Aeroplane Operator
AOA	Angle of Attack
AP	Autopilot
APP	Approach Control (office)
APU	Auxiliary Power Unit
ARP	Aerodrome Reference Point
ARR	Arrival
AS	Altostratus (cloud genera)
ASN	Aviation Safety Network
ASR	Airport Surveillance Radar
ASRS	Aviation Safety Reporting System
ASSW	Associated with
ATA	Actual Time of Arrival
ATAG	Air Transport Action Group
ATC	Air Traffic Control
ATCT	Air Traffic Control Tower
ATFM	Air Traffic Flow Management
ATD	Actual Time of Departure
ATIS	Automated Terminal Information Service
ATS	Air Traffic Services
B	
BARO	Barometric

BASE	Cloud base
BAT	Battery
BKN	Broken (5/8-7/8)
BLDT	Boundary layer displacement thickness
BLO	Below clouds
BLW	Below...
BRK	Brake
BTL	Between layers
BTN	Between...
C	
C	Centigrade
°C	Degrees Celsius
CA	Cabin Attendant
CAA	Civil Aviation Administration
CAA	Civil Aviation Authorities
CANSO	Civil Air Navigation Services Organisation
CAPT	Captain
CASA	Computer Assisted Slot Allocation
CAT	Clear Air Turbulence
CB	Cumulonimbus (cloud genera)
CC	Cirrocumulus (cloud genera)
CCA	Corrected Meteorological Message (or CCB, CCC, etc..., in sequence)
CDF	Centralized De-icing Facility
CEN	Comité Européen de Normalisation (European Committee for Standardization)
CG	Center of Gravity
CI	Cirrus (cloud genera)
CLD	Cloud
CLR	Clear
CM	Centimeter
CNL	Cancelled
CNS	Continuous
COM	Communication
COMPT	Compartment
COR	Corrected, Correct
COORD	Coordination, Coordinator
COT	At the coast
COV	Covered
CP	Control Panel
CS	Cirrostratus (cloud genera)
CTOT	Calculated Takeoff Time
CU	Cumulus (cloud genera)
CUF	Cumuliform
CWR	Cockpit Voice Recorder
D	
DAILY	Daily Check
DEG	Degrees
DENEB	Fog dispersal operations
DEV	Deviation
DEP	Departure
DEST	Destination
DGAC	Direction Générale de l'Aviation Civile
DIF	Diffuse

DIR	Direction
DP	Dewpoint temperature
DUC	Dense upper cloud
E	
EA	Each
EASA	European Aviation Safety Agency
EBAA	European Business Aviation Association
EC	European Commission
ECAC	European Civil Aviation Conference
EEA	European Express Association
ELEV	Elevator
EMBD	Embedded in a layer
EMER	Emergency
EPA	Environmental Protection Agency
ERAA	European Regions Airline Association
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
EU	European Union
EU	European Union
EUROCONTROL	European Organisation for the Safety of Air Navigation
EXT PWR	External power
F	
°F	Degrees Fahrenheit
FAA	Federal Aviation Administration
FADS	Forced Air Deicing Systems
FBL	Light
FBO	Fixed Base Operator
FCST	Forecast
FIC	Flight Information Centre
FIDS	Flight Information Display System
FIR	Flight Information Region
FIS	Flight Information Service
FL	Flight Level
FLT	Flight
FLUC	Fluctuating, Fluctuation
FO	First Officer
FOD	Foreign Object Damage
FP	Freezing Point
FPD	Freezing Point Depressant
FRONT	Weather Front
FRQ	Frequent
FSF	Flight Safety Foundation
FT	Feet
FWD	Forward
FZ	Freezing
G	
G	Gram (g)
GA	General Aviation
GMT	Greenwich Mean Time
GND	Ground
GRID	Processed meteorological data in the form of grid point values

GSE	Ground Support Equipment
GVC	General Visual Check
H	
H	Hours
H24	Continuous day and night service
HHET	High Humidity Endurance Test
HLD	Hold
HO	Service available to meet operational requirements
HOT	Holdover Time
HS	Service available during hours of scheduled operations
HURCN	Hurricane
HVY	Heavy
Hz	Herz
I	
IACA	International Air Carrier Association
IAO	In and out of clouds
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
ICE	Icing
IFA	International Federation of Airworthiness
IFR	Instrument Flight Rules
IMC	Instrument Meteorological Conditions
IMPR	Improve, Improving
INBD	Inboard
INC	In cloud
INOP	Inoperative
INTL	International
INTSF	Intensifying
IR	Infrared
ISA	International Standard Atmosphere
ISO	International Organisation for Standardization
ISO	International Standardization Organisation
ISOL	Isolated
J	
JAA	Joint Aviation Authorities
JAR	Joint Aviation Requirements
JTST	Jet stream
K	
KG	Kilogram
KM	Kilometer
L	
L	Litre (l)
L/G	Landing Gear
LAN	Inland
LBS	Pounds
LH	Lefthand
LOC	Locally
LOUT	Lowest Operational Use Temperature

LSQ	Line Squall
LV	Light and Variable (relating to wind)
LYR	Layered
M	
M	Meter
MAC	Mean Aerodynamic Chord
MAR	At sea
MECH	Mechanic
MEL	Minimum Equipment List
MG	Milligram (mg)
MHz	Megahertz
MIN	Minutes (min)
MISC	Miscellaneous
MLG	Main Landing Gear
MM	Maintenance Manual
MM	Millimeter
MOD	Moderate
MON	Above Mountains
MOV	Moving
MSL	Mean Sea Level
MT	Mountain
MTOW	Maximum Takeoff Weight
MTW	Mountain Waves
N	
NA	Not available, Not applicable
NACA	National Aviation Committee for Aeronautics
NASA	National Aeronautics and Space Administration
NC	No Change
NDT	Non Destructive Testing
NIL	No, None
NLG	Nose Landing Gear
NM	Nautical Miles
NOAA	National Oceanic and Atmospheric Administration
NS	Nimbostratus (cloud genera)
NSC	No Significant Clouds
NSW	No Significant Weather
NTP	National Toxicology Program
NTSB	National Transportation Safety Board
O	
OAT	Outside Air Temperature
OBS	Observed
OBT	Off Block Time
OCNL	Occasionally
OJT	On Job Training
OPC	Operational Check
OPMET	Operational Meteorological Information
OTP	On Top
OVC	Overcast
P	
P/N	Part number
PAX	Passengers

PFC	Phase Check
PH	Potential of Hydrogen
PIC	Pilot in Command
PPM	Parts Per Million
PROB	Probability
PROP	Propeller
PSI	Pounds per Square Inch
PWR	Power
Q	
QC	Quality Control
QFE	Atmospheric pressure at aerodrome elevation (or at runway threshold)
QNH	Sea level pressure
QTS	Quarts
R	
RAG	Ragged
RAT	Ram Air Turbine
RCC	Rescue Coordination Centre
RDP	Remote De-icing Pad
REF	Reference
REG	Registration
RH	Righthand, Relative Humidity
ROBT	Revised Off Block Time
RPM	Revolutions Per Minute
RRA	Delayed meteorological message (or RRB, RRC, etc..., in sequence)
RT/E	Radio Telephony/English
RVR	Runway Visual Range
RWY	Runway
S	
SAE	Society of Automotive Engineers
SAR	Search And Rescue
SC	Stratocumulus (cloud genera)
SCT	Scattered
SEV	Severe
SFC	Surface
SIGWX	Significant Weather
SKC	Sky Clear
SLW	Slow
SMI	Scientific Material International
SMS	Safety Management System
SPC	Special Check
ST	Stratus (cloud genera)
STA	Station
STD	Standard
STD	Stand
STF	Stratiform
STNR	Stationary
SWC	Significant Weather Chart
T	
TC	Transport Canada
TCU	Towering cumulus
TDO	Tornado

TEMP	Temperature
T/O	Take Off
TOP	Cloud Top
TROP	Tropopause
TURB	Turbulence
TVC	Thorough Visual Check
TWR	Aerodrome Control, Control Tower
TYPH	Typhoon
U	
U/S	Unserviceable
UNL	Unlimited
UTC	Coordinated Universal Time
V	
V ₁	Takeoff decision speed
V ₂	Minimum takeoff safety speed
VC	Vicinity of the aerodrome
VER	Vertical
VHF	Very High Frequency
VIS	Visibility
VMC	Visual Meteorological Conditions
V _r	Rotation speed
VRB	Variable
W	
WAC	Walk Around Check
WDSPR	Widespread
WKN	Weaken, Weakening
WS	Wind Shear
WSET	Water Spray Endurance Test
WSI	Weather Service International
WTSPT	Waterspout
WX	Weather
WXR	Weather Radar

1.2 Abbreviations, Weather

A	
ATIS	Air traffic information service
AUTOMETAR	Aerodrome observation made by the wind to a height of 6 feet or more above the ground
B	
BLSN	Snow storm/snow raised by the wind to a height of 6 feet or more above the ground
C	
C	Celsius (°C Degrees Celsius)
CNS	Continuous
D	
DEG	Degrees
DENEB	Fog dispersal operations

DP	Dew point temperature
DRSN	Snow raised by the wind to less than 6-ft. above ground level
DZ	Drizzle
F	
F	Fahrenheit (°F Degrees Fahrenheit)
FCST	Forecast
FG	Fog
FP	Freezing point
FRONT	Weather front
FRQ	Frequent
FZ	Freezing
FZRA	Freezing/super cooled rain
FZDZ	Freezing/super cooled drizzle
G	
GR	Grain
GR/GS	Hail/small hail or snow pellets
H	
H24	Continuous day and night service
HVY	Heavy
I	
IC	Ice crystal (diamond dust)
ICE	Icing
IMPR	Improve, improving
INTSF	Intensifying
ISA	International standard atmosphere
ISOL	Isolated
L	
LOC	Locally
M	
METAR	Routine aerodrome observation in the METAR code
METREP	Local routine aerodrome observation
MOD	Moderate
MOV	Moving
MSL	Mean Sea level
N	
NC	No change
NIL	No, none
NSW	No significant weather
O	
OAT	Outside air temperature
OBS	Observed
OCNL	Occasionally
P	
PL	Ice pellets
PROB	Probability
R	

RA	Rain
RASN	Rain and snow mixed, sleet (slush)
S	
SADIS	Satellite distribution system of meteorological data
SEV	Severe
SFC	Surface
SG	Snow grain
SH	Shower
SIGWX	Significant weather
SKC	Sky clear
SLW	Slow
SN	Snow
SNRA	Snow and rain mixed, sleet (slush)
SPECIAL	Special aerodrome observation in METAR code
STNR	Stationary
SWC	Significant weather chart
T	
TAF	Aerodrome forecast
TREND	TREND-type landing forecast
TS	Thunderstorm
U	
UNL	Unlimited
UTC	Coordinated Universal time
V	
VRB	Variable
W	
WKN	Weaken, weakening
WX	Weather

1.3 Glossary, terms and definitions

1.3.1 Active frost:

Active frost is a condition when frost is forming. Active frost occurs when aeroplane surface temperature is:

- at or below 0 °C (32°F)
- and
- at or below dew point

1.3.2 Anti-icing

Precautionary procedure which provides protection against the formation of frost or ice and accumulation of snow or slush on treated surfaces of the aeroplane for a limited period of time (holdover time).

1.3.3 Anti-icing fluid

- a) Premix Type I fluid;
- b) mixture of water and Type I fluid;
- c) Type II fluid, Type III fluid, or Type IV fluid;
- d) mixture of water and Type II fluid, Type III fluid, or Type IV fluid.

NOTE: Fluids mentioned in a) and b) must be heated to ensure a temperature of 60 °C (140 °F) minimum at the nozzle.

1.3.4 Check

An examination of an item against a relevant standard by a trained and qualified person.

1.3.5 Cold-soak effect

The wings of an aeroplane are said to be “cold-soaked” when they contain very cold fuel as a result of having just landed after a flight at high altitude or from having been re-fuelled with very cold fuel. Whenever precipitation falls on a cold-soaked aeroplane when on the ground, clear icing may occur. Even in ambient temperatures between -2 °C and +15 °C (28 °F and 59 °F), ice or frost can form in the presence of visible moisture or high humidity if the aeroplane structure remains at 0 °C (32 °F) or below. Clear ice is very difficult to be detected visually and may break loose during or after takeoff. The following factors contribute to cold-soaking: temperature and quantity of fuel in fuel cells, type and location of fuel cells, length of time at high altitude flights, temperature of re-fuelled fuel and time since re-fuelling.

1.3.6 Contamination

Contamination in this document is understood as all forms of frozen or semi-frozen moisture such as frost, snow, ice or slush.

1.3.7 Contamination check

Check of aeroplane surfaces for contamination to establish the need for de-icing.

1.3.8 De-icing

Procedure by which frost, ice, slush or snow is removed from an aeroplane in order to provide clean surfaces.

1.3.9 De-icing/anti-icing

Combination of the procedures 'de-icing' and 'anti-icing'. It may be performed in one or two steps.

1.3.10 De-icing fluid

- a) heated water;
- b) Premix Type I fluid;
- c) mixture of water and Type I fluid;
- d) Type II, Type III, or Type IV fluid;
- e) Mixture of water and Type II, Type III, or Type IV fluid.

NOTE: De-icing fluid is normally applied heated in order to assure maximum efficiency.

1.3.11 Freezing drizzle

Fairly uniform precipitation composed exclusively of fine drops (diameter less than 0.5 mm (0.02 inch)) very close together which freezes upon impact with the ground or other exposed objects.

1.3.12 Freezing fog

A suspension of numerous very small water droplets which freezes upon impact with ground or other exposed objects, generally reducing the horizontal visibility at the earth's surface to less than 1 km (5/8 mile).

1.3.13 Frost/hoar frost

Ice crystals that form from ice saturated air at temperatures below 0 °C (32 °F) by direct deposition on the ground or other exposed objects.

1.3.14 Hail

Precipitation of small balls or pieces of ice with a diameter ranging from 5 to 50 mm (0.2 to >2.0 inches) falling either separately or agglomerated.

1.3.15 Heated fluid and fluid/water mixtures

Heated fluid and fluid/water mixtures is considered to be heated when the temperature is +60 °C (140 °F) in de-/anti-icing operation.

1.3.16 Holdover time:

Estimated time for which an anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the protected surfaces of an aeroplane (under weather conditions as specified in the holdover time table).

1.3.17 Ice pellets

Precipitation of transparent (grains of ice), or translucent (small hail) pellets of ice, which are spherical or irregular, and which have a diameter of 5 mm (0.2 inch) or less. The pellets of ice usually bounce when hitting hard ground.

1.3.18 Light freezing rain

Precipitation of liquid water particles which freezes upon impact with the ground or other exposed objects, either in the form of drops of more than 0.5 mm (0.02 inch) or smaller drops which, in contrast to drizzle, are widely separated. Measured intensity of liquid water particles is up to 2.5 mm/hour (0.10 inch/hour) or 25 grams/dm²/hour with a maximum of 0.25 mm (0.01 inch) in 6 minutes.

1.3.19 LWE

Liquid Water Equivalent, i.e. the amount of water in the precipitation, e.g. amount of water in snow

1.3.20 Lowest Operational Use Temperature (LOUT)

The lowest operational use temperature (LOUT) is the higher (warmer) of

- a) The lowest temperature at which the fluid meets the aerodynamic acceptance test (according to AS5900) for a given type (high speed or low speed) of aeroplane or
- b) The freezing point of the fluid plus the freezing point buffer of 10 °C (18 °F) for Type I fluid and 7 °C (13 °F) for Type II, III or IV fluids.

For applicable values refer to the fluid manufacturer's documentation.

1.3.21 Moderate and heavy freezing rain

Precipitation of liquid water particles which freezes upon impact with the ground or other exposed objects, either in the form of drops of more than 0.5 mm (0.02 inch) or smaller drops which, in contrast to drizzle, are widely separated. Measured intensity of liquid water particles is more than 2.5 mm/hour (0.10 inch/hour) or 25 grams/dm²/hour.

1.3.22 Negative buffer

A negative buffer exists when the freezing point of a de-icing fluid is above the OAT.

1.3.23 Rain or high humidity (on cold soaked wing)

Water, visible moisture or humidity forming ice or frost on the wing surface, when the temperature of the aeroplane wing surface is at or below 0 °C (32 °F).

1.3.24 Rime Ice

Small frozen water droplets, spherical opaque/milky granular appearance looking similar to frost in a freezer. Typically rime ice has low adhesion to the surface and its surrounding rime ice particles.

1.3.25 Rain and snow

Precipitation in the form of a mixture of rain and snow.

1.3.26 Snow

Precipitation of ice crystals, most of which are branched, star-shaped or mixed with unbranched crystals. At temperatures higher than -5 °C (23 °F), the crystals are generally agglomerated into snowflakes.

1.3.27 Snow grains

Precipitation of very small white and opaque particles of ice that are fairly flat or elongated with a diameter of less than 1 mm (0.04 inch). When snow grains hit hard ground, they do not bounce or shatter.

NOTE: For holdover time purposes treat snow grains as snow.

1.3.28 Snow pellets

Precipitation of white, opaque particles of ice. The particles are round or sometimes conical; their diameter range from about 2 - 5 mm (0.08 - 0.2 inch). Snow pellets are brittle, easily crushed; they do bounce and may break on hard ground.

NOTE: For holdover time purposes treat snow pellets as snow.

1.3.29 Slush

Snow or ice that has been reduced to a soft watery mixture.

1.3.30 Symmetrical treatment

Performing the de-/anti-icing treatment for the same areas on both sides of the airplane with the same fluid and type as well as fluid mixture and same amount of fluid when anti-icing

1.3.31 Training

Instruction in a new task or skill or whenever changes to equipment or processes occur