Winter planning for airports

A coordinated plan of actions to deal with a snow, ice and/or reduced visibility weather contingency.

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Airports

Reduced visibility procedures

In the case of reduced visibility various procedures can be implemented:

- ¬ Precision instrument landing system (ILS) procedures
- ¬ Changes in the operational configuration of the runways
- ¬ Reduction in number of operations
- ¬ Restrictions on ground movement of aircraft
- ¬ Guidance of aircraft from the runway to the parking apron and vice versa

Contingency plans for snow or ice

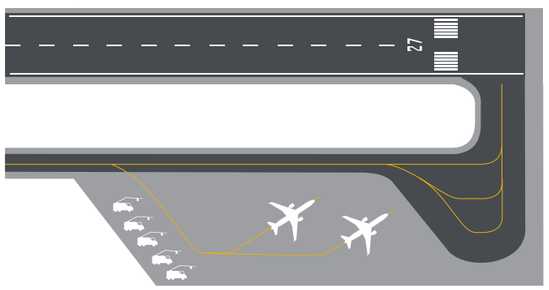
The purpose of these is the assessment, clearing and communication of the status of all surfaces (runways, taxiways and aprons) where aircraft operate, as well as access roads and/or evacuation routes.

Preventive measures

- ¬ Continuous periodic monitoring of weather forecasts and conditions
- ¬ Monitoring of the status of runways, taxiways, aprons, and roads
- ¬ Ensuring the availability of melting equipment and materials
- ¬ Periodic checks of the runway friction coefficient
- ¬ Staff training
- ¬ Drills

De-icing area

A specific area close to the head of the runway is usually set up for de-icing operations



Aircraft

De-icing airport

Mechanical methods are used to clear snow/ice and when necessary, de/anti icing chemicals applied (solid or liquid)

Equipment involved in winter plans

- ¬ Snowploughs
- ¬ Vehicles with spreading blades
- ¬ Vehicles for spreading melting substances (solid and liquid)
- ¬ Milling machines
- ¬ Bucket loaders
- ¬ Excavators
- ¬ Loading trucks
- ¬ Vehicles with systems for measuring the runway friction coefficient
- ¬ Light support vehicles
- ¬ Vehicles for inspection and control

Aircraft de-icing procedures

The procedure for de-icing aircraft has the aim of protecting the aircraft in situations of frost, ice or snow. Before take-off, the aircraft fuselage is sprayed with glycol, in a higher or lower concentration depending on the local weather conditions.

De-icing certain parts of the aircraft is especially important for safe take-off, such as flat surfaces, flaps, slats, ailerons, spoilers and vertical and horizontal stabilisers. This ensures that no moving part of the aircraft is blocked and that ice on the flat surfaces cannot negatively affect lift.

Depending on the size of the aircraft, the number of de-icing machines will vary, with up to 4 machines required for an aircraft with a wide fuselage.

Did you know...?

CURIOUS FACTS

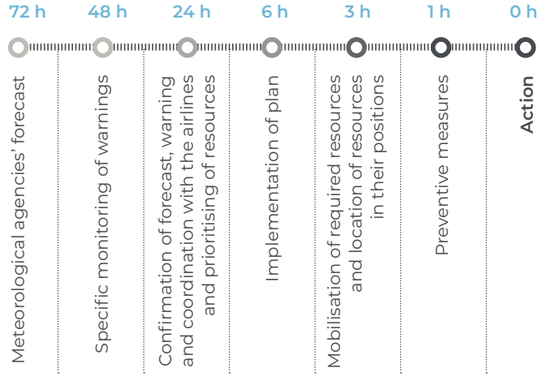
LATITUDE

The implementation of the winter plan will change depending on the latitude of the airport, although generally such plans are activated between November and April each year.

SEASON

Outside the winter season, airports hold all the necessary resources to be able to deal with unforeseen weather events.

Action timeline



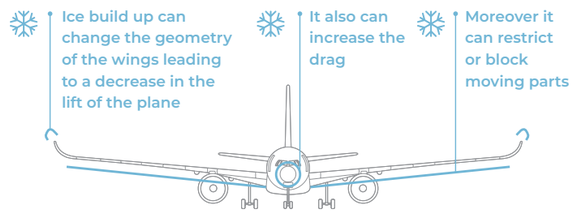
Agents

Operational agents

- ¬ Handling agents
- ¬ Airport operations centres
- ¬ Signallers
- ¬ Fire extinction service
- ¬ Quality and Environmental department
- ¬ Meteorology Office
- ¬ ATC (Aircraft Traffic Control)

The procedures are designed to optimize the antifreeze treatment, without compromising the safety of the operators, and taking special care with the engines. In four-engine aircraft, it is requested to turn off the external engines to be able to reach all surfaces effectively.

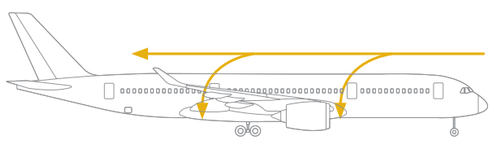
Possible consequences of the accumulation of ice on the safety of aircraft:



AIRCRAFT DECONTAMINATION ✈ DE/ANTI ICING

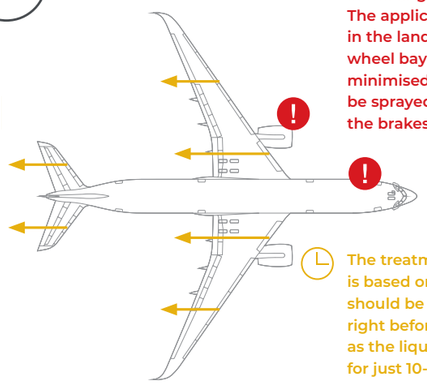
De-icing

Anti-icing



Fuselage

Wings



Avoid getting fluids in the engines. The application of liquid in the landing gear and wheel bays should be minimised (it should not be sprayed directly onto the brakes or wheels)

The treatment liquid is based on glycols and should be performed right before takeoff, as the liquid is effective for just 10-15 minutes.

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