

## SUMMARY

This course covers operations in Cold Weather conditions including hazards and factors, ground operation considerations, ground de-icing and anti-icing procedures and equipment, and airborne issues including aerodynamic effects of icing.

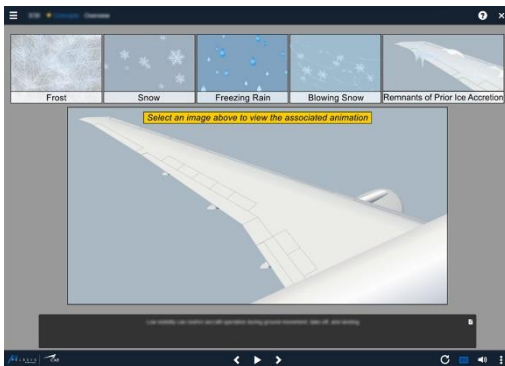
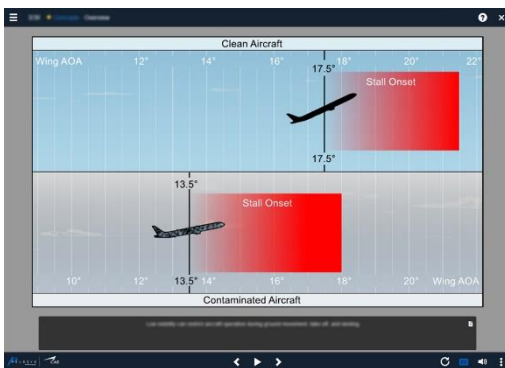
Regulatory requirements are emphasised, including the use of current Hold-Over Tables (HOT) and associated inspections.

## TARGET POPULATION

The Pelesys Cold Weather Operations course is designed for Professional Pilots requiring initial or recurrent training.

## REGULATORY COMPLIANCE

- ICAO / EASA / FAA / Transport Canada
- Maintain compliance with IOSA standards



Versions Available:  
Standard

Course Length:  
1 hr 25 min

## LESSON 01: Hazards and Factors

In this lesson we will cover the hazards associated with Cold Weather Operations and accumulation of contamination on aircraft critical surfaces:

- Ground icing conditions
- Critical surface contamination Time and fuel savings
- Icing related accidents
- Aerodynamic effects of contamination
- Effects on stall speed, stall Angle of Attack and stall warning systems
- Effects on pitch and lateral stability
- Contamination effects on aircraft performance
- Increases in aircraft weight and drag
- Icing classification: snow, freezing rain, hail
- Rime, mixed, clear ice
- Ground contamination
- Supercooled Large Drops (SLD)
- Mixed Phase
- Ice crystal conditions

## LESSON 02: Ground Operations

In this lesson we will cover aircraft ground operations in Cold Weather:

- Certification requirements
- Ground handling
- Aircraft systems
- Flight controls
- Engine starting
- Pitot-static systems
- Ground manoeuvring
- Take-off performance
- Derated / Flex thrust
- Contaminated runways
- Hydroplaning
- Wet runways

## LESSON 03: Ground De-Icing

In this lesson we will cover airframe ground anti-icing and de-icing procedures:

- Regulatory requirements
- Critical Surface Inspection (CSI)
- Allowable frost
- Inspection considerations
- Dry snow
- Tactile inspections
- Contamination removal
- Freezing point depressants
- Lowest Operational Usable Temperature (LOUT)
- Types and uses of de-icing & anti-icing fluids
- De-icing / anti-icing procedures
- Hold Over Times (HOT)
- HOT tables for composite surfaces
- Use of Hold Over Tables (HOT)
- Post De-icing Inspection (PDI)
- HOT range
- Pre-take-off Contamination Inspection (PCI)
- Lapsed HOT

## LESSON 04: Airborne Operations

In this lesson we will cover the in-flight aircraft operations during Cold Weather:

- Engine run-up
- Gear retraction
- In-flight icing conditions
- Anti-icing systems
- Freezing precipitation
- Aerodynamic effects of icing
- Roll upset
- Tail plane stall
- Operational envelope
- Fuel freeze
- Landing distance
- Runway excursions
- Runway Condition Assessments
- Contaminated Runways
- Crosswind limitations
- Cold temperature altimetry
- Reduced visibility
- Use of reverse thrust
- Flap retraction

## LEARNING TIME AND RUN TIME

This course has a learning time of: (run time plus additional time per page to account for understanding learning points)

- 1 hr 25 min

This course has a run time of: (the base time for each page to be completed)

- 44 min

## Exam Generation System (EGS) Banked Questions

The total amount of banked questions for this course is:

Lesson Title	Standard Questions
Hazards and Factors	12
Ground Operations	3
Ground De-Icing	11
Airborne Operations	8
	<b>34</b>

## REFERENCE MATERIAL

The Pelesys Cold Weather Operations Course provides pilots and operators with information needed to identify, understand and mitigate risks associated with operations during cold weather. It is based on information outlined in:

### ICAO

- DOC 9385 Manual of All-weather Operations

### EASA

- AMC1.ORO.FC.230
- GM2 CAT.OP.MPA.250
- AMC1 CAT.POL.A.200
- AMC1 CAT.POL.A.230-235
- AMC1 CAT.POL.A.330-335
- AMC1 CAT.POL.A.430-435

### FAA

- AC 25-31
- AC 25-25A
- AC 25-28
- AC 91-74B
- AC 120-107
- AC 120-60B
- AC 120-58
- AC 120-117
- AC 121-321-1

**TC**

- TP 14052 – Guidelines for Aircraft Ground – Icing Operations
- Holdover Time (HOT) Guidelines for De-icing and Anti-icing Aircraft 2019-2020
- CASS 622.11 – Ground Icing Operations

The operator remains responsible for obtaining approval from the regulatory authority.

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