Office of Professional Education

CONTAMINATED RUNWAYS

PILOT SPECIALTY COURSE SERIES

SUMMARY

Covers flight operations on Contaminated Runways. Regulatory requirements and reporting standards for dry, wet and contaminated runways are considered. Aircraft performance effects, including considerations for accelerate and stop distances, reduced thrust take-offs, and range of V_1 speeds braking action are discussed in detail. Reporting methods (SNOWTAMS, Runway Friction Indices) are included.

TARGET POPULATION

Experienced Airline Pilots

Great for pilots requiring initial or recurrent training.

REGULATORY COMPLIANCE*

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

DELIVERY MODE

100% online, self-guided

COURSE LENGTH

1 hour

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LESSON 1: Concepts and Definitions

- Definitions
- Runway condition categorization
- Dry runways
- Damp runways
- Wet runways
- Contaminated runways
- Assessing contamination
- Water-equivalent contamination depths
- Other Contaminants
- Contaminants and performance
- Runway condition reporting
- Ploughing and sweeping
- SNOWTAMS
- Braking Action Reports / Friction Indices
- Quiz

LESSON 2: Operations and Performance

- Impact on performance
- Performance calculations
- Reduced thrust
- Limiting field length
- Balanced field length
- Range of V_1 speeds
- Precipitation drag
- Rejected take-off considerations
- Aquaplaning – dynamic, viscous, rubber reversion
- Landing distance correction
- Approach considerations
- Ice-covered runways
- Anti-skid considerations
- Runway surfaces
- Engineered Materials Arrestor System (EMAS)
- Quiz

*** REGULATORY COMPLIANCE:** This course provides pilots and operators with information needed to identify, understand and mitigate risks associated with operations from contaminated runways. It is based on information outlined in:

- FAA AC 91-79A Mitigating the Risks of a Runway Overrun Upon Landing
- UK CAA 20120801 Operations on Contaminated Runways
- ICAO CIR 329, AN/191 Runway Surface Condition Assessment, Measurement and Reporting

Operator remains responsible for obtaining approval from the regulatory authority.

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