

FOURTH EUROPEAN MINI-SYMPOSIUM

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Development of Spray Riggs for Icing Tests at Dornier Flight Test

1. Introduction

1.1 Ice Certification according to JAR 25

1.1.1 Definition of Atmospheric Icing Conditions

Icing of aircraft and their components is one of the major problems engineers are facing during the development and certification phase of an aircraft.

Ice accretions, as well as their shape, have to be predicted in order to investigate their effect on aerodynamic flight safety, performance and functioning of systems, and for example to determine the need for provision of anti- or de-icing systems. Typical components where hazardous accretions may occur are wings, tails, engine inlets, hubs, antennas and propellers.

According to JAR 25 (Joint Aviation Requirements) the manufacturer has to develop an innovative in-flight experimental technique for evaluating aircraft icing problems. This regulation is basically described in FAR Part 25, Appendix C, which defines the characteristics of the icing clouds.

FAR Part 25, Appendix C, describes two kinds of icing, continuous and intermittent maximum icing.