

A350 S19.1 ACOUSTIC FATIGUE ANALYSES

INTRODUCTION

ICEMM has participated in the Acoustic Fatigue Analyses of the A350 S19.1 Skin, Rear Fairing, Rear Firewall, Curved Firewall and Front Firewall for Type Certification, First Flight and Mat C.

COMPLETED PROJECT

Client: Alestis Aerospace

Date: 2013-2014

- Acoustic Fatigue analysis for A350XWB S19.1 Skin, Rear Fairing, Rear Firewall, Curved Firewall and Front Firewall.



Figure 1. General view of A350 S19.1

COMPLETED ACTIVITIES

- Critical area is obtained using an acoustic random analysis methodology, using FEM based methodology and Power Spectral Density (PSD).
- Total number of cycles applied is calculated from a frequency response analysis with random response.
- Damage is evaluated from total number of cycles applied and allowable number of cycles obtained from certified documentation

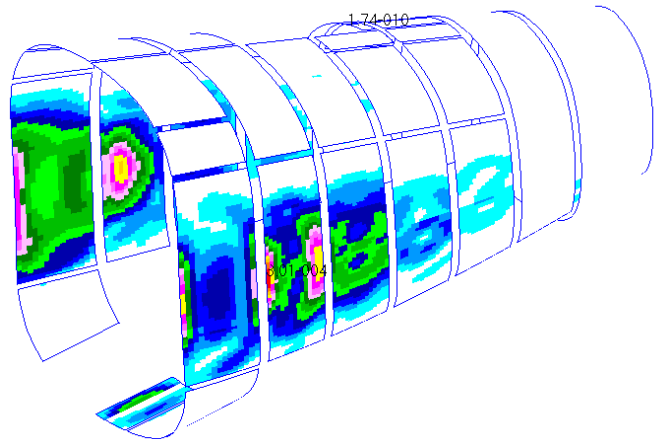


Figure 2. Results obtained for a selected configuration for Skin panels

TECHNOLOGY

Project has been analyzed with NASTRAN and the pre/post processing has been carried out with PATRAN. Allowable material data is obtained from certified documentation.