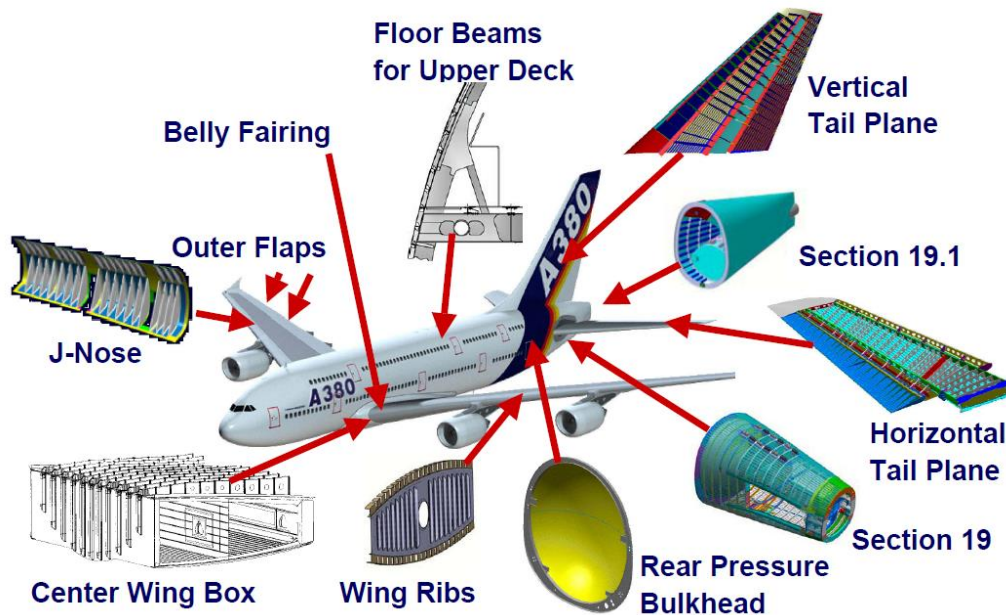


LECTURE ANNOUNCEMENT WS 2015 / 16

Materials for Aerospace Applications



Source: Airbus

Prof. Dr.- Ing. Marion Bartsch

First lecture: 23.10.2015

Fridays, 9:00 – 12:00 h

Room ID 04/445

Learning outcomes

Students have a comprehensive overview of high performance materials for aerospace applications, which includes the well introduced materials and material systems as well as new developments and visionary concepts. They understand how materials and material systems are designed to be 'light and reliable' under extreme service conditions such as fatigue loading, high temperatures, and harsh environments. The students know about the degradation and damage mechanisms and learn how characterization and testing methods are used for qualifying materials and joints for aerospace applications. They learn about concepts and methods for lifetime assessment

Subject aims

- * Loading conditions for components of air- and space crafts (structures and engines)
- * Development of materials and material systems for specific service conditions in aerospace applications (e.g. for aero-engines, rocket engines, thermal protection shields for reentry vehicles, light weight structures for airframes, wings, and satellites)
- * Degradation and damage mechanisms of aerospace materials and material systems under service conditions
- * Characterization and testing methods for materials and joints for aerospace applications
- * Concepts and methods for lifetime assessment

Lectures will be given by Prof. M. Bartsch (Marion.Bartsch@rub.de). General support will be provided by Hannah Sommer (ICFO 04-307, Hannah.Sommer@rub.de).