Introduction to Composite Materials for Engineers and Managers

3 Day Course

4 to 6 September 2018 - Amsterdam

Course Objectives

This 3-day course has been developed to provide engineers and technical managers with an understanding of the principles of composite materials, detailing specific issues related to the use of composites in structures and component design, manufacture, and in-service operations. The course covers major aspects of composite materials application, with emphasis on materials behavior (essential for the successful use of composite materials).

This course also compares major manufacturing processes, outlining the differences that various processes offer in terms of composite component quality and performance.This aspect is emphasized with the display and discussion of composite panels. Specific component design details (holes, joints, ply drop-offs, etc.) are discussed and examined from a structural behaviour point of view. The course will conclude with a review of in-service issues, such as damage and defects, NDI, reparability, environmental influences, manufacturing quality requirements, certification standards, and health and safety concerns.

Overall this course allows engineers and technical managers to better understand the issues facing composite design engineers and fabricators as they develop and implement composite materials into new components and structures. This understanding will greatly improve the effective and efficient use of composite materials into their products.

Course Program - ENC101

Day 1

- Introduction to composite capabilities.
- Design requirements for composites.
- Structural applications and reasons for the use of composite materials.
- Health and safety issues when working with composite materials.
- Constituent material properties and interaction.

Day 2

- Composite component manufacturing.
- The cost of developing and producing a composite product.
- An approach to designing composite components.
- The basic properties of a composite material.
- The properties and effects of a laminated structure

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Day 3

- Structural behavior of composite components.
- Quality control and quality assurance for composite materials
- Certification and material allowables
- Composite structure detailed design
- The operational environment
- Putting it all together.

Course Instructor

Rikard Benton Heslehurst, PhD

CPEng, FIE Australia, FRAeS, FSAMPE, AIAA, ACSS, SAE, Composites Australia, EAA, Spitfire Association

Rik has worked in the composites industry for more than 30 years. He started his career as an aeronautical engineering officer in the RAAF with postings as an F/A-18 airworthiness engineer, and Officer in-charge of the RAAF Materials and Process Engineering. More recently Rik retired as an academic with the University of New South Wales (UNSW) at the Australian Defense Force Academy where he lectured and conducted research in aircraft and airframe design and composite structures design and analysis. . Rik also consults for several organizations; including Raytheon, NASA, USAF, Boeing, Lockheed-Martin, Bombardier, Pratt and Whitney. Rik is the chair of the Australian Chapter of SAMPE and works part-time for Composites Australia. *Please consult our website for Rik's complete bio.*

Training Venue

To be announced

Training Cost

$1,395.00 per student for the 3 day training period - Attendance will be limited to 12 students

Enrollment

Enroll via our website at www.m51resources.com