



Joint CMH-17-EASA-FAA Workshop on Damage Tolerance

Date & Place: 15th, 16th and 17th July – EASA Headquarters, Cologne, Germany

Agenda – Workshop on Damage Tolerance

EASA Meeting (Monday, July 15)

European Aviation Safety Agency

Konrad-Adenauer-Ufer 3, D-50668 Köln, Germany

1. Welcome, Introduction [Simon Waite, EASA]
2. Composite Materials Handbook-17 (CMH-17) Damage Resistance, Durability and Damage Tolerance Initiatives and Priorities for Revision H Update [NSE Composites]
3. Aviation Rulemaking Advisory Committee (ARAC) extension activity [Larry Ilcewicz, FAA]
4. European Industry Working Group Composite Airplanes (WGCA) – First Gained Experiences and Initial Results from a Cooperation at European Level, Including EASA, and Planned Future Research Priorities [Joerg Heubischl, DLR]

Working Meeting – Day 1 (Tuesday, July 16)

European Aviation Safety Agency

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1. Welcome, Introduction [Simon Waite, EASA]
2. Composite Materials Handbook-17 (CMH-17) Damage Resistance, Durability and Damage Tolerance initiatives and priorities for Revision H update [NSE Composites]
3. ILX Wing Demonstrator Case Study [Małgorzata Zalewska, Warsaw Institute of Aviation]
4. CMH-17 – Design and Analysis of Bonded Joints – Certification Issues-Aircraft [NSE Composites]
 - a. §10.5.4 Damage Tolerance
5. Determination of Composite Life [Waruna Seneviratne, NIAR]
6. CMH-17 – Durability and Damage Growth under Cyclic Loading [NSE Composites]
 - a. §12.6.3 Test Issues (Modern LEF data)
 - b. §12.6.1 Influencing Factors (Schematic Diagram of Viscoelastic Changes in the Stress-Free Temperature due to Environmental History and Associated Text)
 - c. §12.6.3.5 Test Issues – Ultimate Strength Approach

7. CMH-17 – Applications/Examples [Embraer]
 - a. §12.8.X Embraer Case Study – A Feasibility Analysis Flow for Primary Components: Damage Tolerance Evaluation of Composite Primary Structure for a Technology Demonstrator
8. Material Models for Simulation of Intra- and Interlaminar Damage Behavior of Thin-Walled Stringer Stiffened CFRP Structures – Experiences Gained and State of Knowledge [Joerg Heubischl, DLR]
9. Discuss CMH-17 Sandwich Task Group suggestions for Sandwich Content [NSE Composites]
10. CMH-17 Content Development Addressing Application of Probabilistic Methods [NSE Composites]
11. CMH-17 Content Development Addressing Flight with Known Damage [NSE Composites]

Working Meeting – Day 2 (Wednesday, July 17)
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1. CMH-17 Content Development Addressing Inspection Maintenance Technology [Al Fawcett, Boeing]
2. CMH-17 Content Development Addressing HEWABI & Category 5 Damage [NSE Composites]
3. Standards Organization Roles Supporting Detailed Knowledge Transfer for Best Engineering Practices that Supports Industry-Based Means of Compliance to More Performance-Based Regulatory Guidance [Larry Ilcewicz, FAA]
4. Impact Damage Methodology and Robust Design [Chantal Fualdes, Airbus]
5. CMH-17 – Design Development and Substantiation [Mike Smeets, GKN Fokker]
 - a. §12.3.1 Damage Threat Assessment
6. CMH-17 Content Development Addressing Aging [NSE Composites]
7. Weak Bonds and Kissing Bonds [Chantal Fualdes, Airbus]
8. Adjourn