

Composite Material Introduction & TAP Testing for Aviation Inspectors – 2 Days

Introduction

Composite materials have gained significant importance in the aviation industry. These materials, including carbon fibre, fibreglass, and others, are lighter, stronger, and more flexible than traditional metals, contributing to lighter, more fuel-efficient aircraft.

Composite visual inspection is of the greatest importance to aviation reliability. Performed correctly it can detect a variety of defects including the following

- Delamination's
- Debonding
- Impact damage
- Disbonds
- Honeycomb core damage

Barely visible impact damage (BVID)

The Maintenance process has come a long way over the last decades – however, the success of the entire process is dependent on the ability of the maintenance staff not just to perform inspections in the best way but to understand why they are performing inspections. (the criteria by which the object is being measured! (It is this knowledge which makes the difference and makes you into an effective inspector)

This course introduces the basics of composite materials used in the aviation industry, helping students understand their properties, types, and applications, the course also focuses on using TAP testing (or Tap Hammer testing) as a non-destructive technique used to find delamination's, voids, or disbonds in composite materials.

Who is the course for?

145 Maintenance & Insepection Staff, Quality Assurance Staff, 145 Safety System Staff, Maintenance Managemnt Staff, Other Stakeholders, and Engineering Training Staff.

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Date	On Demand
Category	Personal Development
Venue	On Demand
Level	
Price	On Demand

What is the Benefit of this Training – What will I learn?

- The course provides aviation inspectors with a comprehensive understanding of composite materials, including their composition, properties, manufacturing processes, and specific inspection requirements. This knowledge enables inspectors to accurately identify, evaluate, and address potential issues or defects in composite structures.
- Participants will be able to accurately inspect aircraft made from or repaired with composite materials.
- Develop the competence related to detection and identification of problems associated to composite material in-service deterioration
- To provide an overview of best practice aircraft maintenance Tap Testing inspection techniques
- To further develop an understanding of the need for an effective aircraft maintenance inspection.
- The course aims to provide students with the techniques to inspect aircraft composed of or repaired with composite materials.
- How to scan, search and identify components related to visual inspection tasks and to correctly identify and locate defects.

Detailed Content / Topics – The following Subjects will be addressed

- Contents
- Abbreviations and Terms
- General Introduction to Composite Materials in Aviation and TAP Testing
- Introduction to Composite Materials and Their Applications
- Development of Competence related to Practical Inspection Training
- Understanding the Importance of TAP Hammer Testing as a Tool for Aircraft Composite Inspection
- Composite Damage Inspection and Tolerances
- General Guide to Effective Aircraft Inspection
- Basic Principles of TAP Hammer (or Coin) Testing
- Considerations Related to Aircraft Composite Inspection BVD & NVD
- Cleaning Procedures for Preparation of Aircraft Composite Visual Inspection and Tap Testing
- TAP Testing Equipment and Tools Overview
- Hands-On Practice with TAP Testing Equipment
- Tapping Inspection Procedures for Different Composite Materials and How to Interpret the Results
- Review of Safety Precautions and Best Practices
- Different types of defects detectable by TAP testing Part 1
- Different types of defects detectable by TAP testing Part 2
- Analyzing Complex Composite Structures Using TAP Testing
- TAP Testing Quality Control and Quality Assurance Considerations
- Examination and Practical Assessment
- Q&A session and Course Wrap-Up

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Pre-requisites

This is not an entry-level course and typically assumes as a minimum the completion of an Aviation Maintenance Training as well as a background in an aviation maintenance environment.

Learning Objectives

Inspectors learn various inspection techniques and procedures specifically designed for composite materials. This includes visual inspections, tapping techniques, and the interpretation of inspection results to assess the structural integrity of composite components. To provide a detailed understanding of the best practice aircraft composite maintenance inspection techniques in a relevant and practical way.
To develop a detailed awareness regarding the need for effective aircraft TAP testing inspection techniques

What do People Say about Sofema Aviation Services Training?

"The instructor used the right words to explain the material."
"The discussions among the group were very beneficial."
"The instructor showed very resourceful background and experience."
"All sections of the course were related to my field."
"Adequate answers were given to specific questions."

Duration

2 Days – The training day will start at 09.00 and finish at 17.00 with appropriate refreshment breaks.

To register for this training, please email team@sassofia.com or Call +359 28210806

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