

Advances
in
Aircraft Structures

Editor

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Chapter 2

Fabrication and Testing of IIUM Aircraft Fuselage Structure Made of Composite Laminate Material

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Abstract

This chapter describes fabrication and test of IIUM aircraft fuselage structure made from composite laminate structure. The comparison of load calculated using basic theory of thin wall with load obtained from test result will be discussed. The mechanism of failure on the fuselage structure parts will be observed and discussed in detail.

Keywords: *Composite, fuselage, failure mechanism, design, aircraft structure, thin wall.*

1. Introduction

Proper materials are needed to build the fuselage especially for light weight aircraft. The composite materials become naturally the best candidate to be chosen. The fuselage was taken for discussion to exemplify the principles of structural mechanics employed in aircraft structure. This chapter dealt with the construction process and the test campaign. The content of this chapter is to understand the process of fuselage manufacturing following the optimal design