

Advances
in
Aircraft Structures

Editor

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IIUM Press

Published by:
IIUM Press
International Islamic University Malaysia

First Edition, 2011
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Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

ISBN: 978-967-418-148-2

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM
(Malaysian Scholarly Publishing Council)

Printed by :

IIUM PRINTING SDN. BHD.

No. 1, Jalan Industri Batu Caves 1/3

Taman Perindustrian Batu Caves

Batu Caves Centre Point

68100 Batu Caves

Selangor Darul Ehsan

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Chapter 10

Composite Failure Mechanism of Corrugated Hybrid Composite Subjected to Bending Loading

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Abstract

In this chapter, failure mechanism of hybrid corrugated composite subjected to three-point bending tests will be observed. The fabrication process of Jute/epoxy, glass/epoxy and hybrid jute/glass/epoxy plates using hand lay-up method will be detailed. Two types of composites corrugated plates are proposed which are in form of rectangular and trapezoidal. Load-displacement relations will be drawn for the mentioned specimens and failure mechanisms of the corrugated specimens will be observed during the test.

Keywords: *Corrugated form, composite, hybrid, natural fiber, failure mechanism.*

1. Introduction

Numerous studies have shown that composite materials have superior structural performance in high specific strength (strength to density ratio) and high specific stiffness (modulus to density ratio). However, composites also have some limitations that conventional monolithic do not have. The purpose of this chapter is to investigate the failure mechanism related to mechanical properties that exhibit by the composites materials such as jute/epoxy, glass/epoxy and hybrid