

Advances
in
Aircraft Structures

Editor

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Chapter 22

Buckling of Thin Walled Sections

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Abstract

The objective of this chapter is to study the buckling behavior of thin walled sections that is made of aluminum. The failure load and the failure mode of the specimens will be examined. The specimens were made of different thin walled sections with different thickness and length.

***Keywords:** Buckling, thin walled, experimental, crippling, critical load.*

1. Introduction

A large portion of aircraft's structure consists of thin webs stiffened by slender longerons or stringers. Both of them are subjected to compression loading which may lead to buckling. Since buckling will occur before fail, therefore, for this type of structure, buckling is the most critical mode of failure so the prediction of buckling loads of the thin wall structure is very important in aircraft design. The specimens were tested against the compressive load and that the buckling phenomenon was studied.