# TYPES OF DAMAGE IN PIN-LOADED ALUMINUM PLATE AND OTHER MATERIAL

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A report submitted in partial fulfilment of the requirements for the award of the degree of Bachelor of Mechanical Engineering

Faculty of Mechanical Engineering UNIVERSITI MALAYSIA PAHANG

NOVEMBER 2009

## UNIVERSITI MALAYSIA PAHANG FACULTY OF MECHANICAL ENGINEERING

We certify that the project entitled *Types of Damage in Pin-Loaded Aluminum Plate and Other Material* is written by *Mohammad Afifi B. Mohammad.* We have examined the final copy of this project and in our opinion; it is fully adequate in terms of scope and quality for the award of the degree of Bachelor of Engineering. We herewith recommend that it be accepted in partial fulfillment of the requirements for the degree of Bachelor of Mechanical Engineering.

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Signature

## SUPERVISOR'S DECLARATION

I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Mechanical Engineering.

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#### **STUDENT'S DECLARATION**

I hereby declare that the work in this project is my own except for quotations and summaries which have been duly acknowledged. The project has not been accepted for any degree and is not concurrently submitted for award of other degree.

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#### LIST OF SYMBOLS

L	: Length of the plate
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- P : Load by Universal Testing Machine
- E \_\_\_\_\_ Distance between centre of hole and edge of the plate
- W : Width of the plate
- D Diameter of the plate
- *t* Thickness of the plate

#### LIST OF ABBREVIATIONS

- FML : Fiber Metal Laminates
- FEA : Finite Element Analysis
- Al : Aluminum
- Ms : Mild Steel