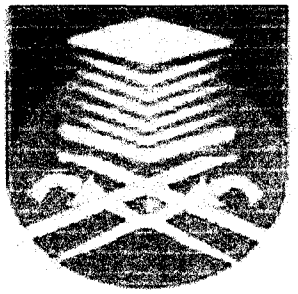

MARA UNIVERSITY OF TECHNOLOGY
FACULTY OF MECHANICAL ENGINEERING

FINAL YEAR PROJECT
DIPLOMA IN MECHANICAL ENGINEERING
(KJP 365)

STUDY THE EFFECT OF PRESSURE ON POLYPROPYLENE/EPOXY PLATES WITH ENDS FIXED

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TABLE OF CONTENTS

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Thank you,

ABSTRACT

The main aim of the project in to determine the rigidity of Polypropylene/Epoxy composite plate subjected to uniform pressure. In general the following items an determine:

1. The material tensile strength (σ_T) and Elastic Modulus Young (E)
2. The weight of fraction of samples.
3. Study the deflection of plate subjected to pressure.
4. Compare the experiment result with the theoretical analysis.
5. Observation of the failure surface.

Several layers of Polypropylene/Epoxy plate-having thickness 3mm, 5mm, 7mm and 9mm were prepared and made into square plate of dimension 18mm x 18mm using specially made mould. The plates are then fixed using 4 bolts on the testing rigidity. Pressure is applied using air compressor various from 10 psi to 50 psi. The maximum deflection of the plate is measured using the dial gauge.

Observe failure of plate and maximum deflection of plate. Compare experimental value from theoretical analysis. From the study theoretical analysis and experimental, values gives difference various from (66.6% to 88.8%) on pressure increase.