INVESTIGATION ON POST IMPACT TEST ON 25% SHORT FIBER KENAF COMPOSITE WITH ALUMINUM AND WOVEN FIBER GLASS LAMINATION.

MEGAT NAZIRUL HAZMI BIN MEGAT MOHD ARIS
(2006688839)

A thesis submitted in partial fulfillment of the requirement for the award
Of Bachelor Engineering (Hons) Mechanical

Faculty of Mechanical Engineering
Universiti Teknologi MARA
(UiTM)

MAY 2010

ACKNOWLEDGEMENT

Fist and foremost, I would like to thanks Allah s.w.t for giving me the faith and strength to finally complete this project successfully. I would like to express my gratitude and appreciation for my project supervisor, Mr Suhairil Bin Hj Meon for her supervision, continue support, generous guidance, advice and encouragement throughout the whole process of completing this project. Thank you for having the faith in me and trusted me all the way.

Thanks also to my co-supervisor Zuraidah Bt. Salleh which willingly to guide and give ideas toward achieving the objective of this project. I also would like to express my appreciation to all strength lab technicians for their assistance on the investigation done at the laboratory.

A big appreciation to my family for giving me a lot of support and always be there whenever I needed them and lastly , I would like to thanks my friends for giving hand to help me in any ways. Without all of their helps and support, I would not be able to complete this final year project successfully.

Thank You.

ABSTRACT

Nowadays, a lot of researches continuously do to get superior material with has superior strength, low density and cheap. Therefore a lot of researches have been done to natural fiber composite which it meet the characteristics. In Malaysia kenaf will be the famous plant to be planting due to it have high potential economic plant and will change the tobacco planting. The objective of this project is to see the characteristic of the kenaf short fiber composite and the ability of the composite to withstand it properties when applied by post impact test in different loads. Post impact will be done to the composite and then the tensile test will be done to get the relation from stress-strain curve. Then the fractured composite will be investigated under microscope to observe its microstructure. It expected that aluminum coated kenaf short fiber has high modulus of rigidity compare to woven fiber glass coated to the composite. It also expected that the rigidity of the composite decreasing with increasing of load applied in the post impact test. From the investigation, it hope that the best composite with can withstand high load can be obtain and the result can be use in engineering applications widely.

TABLE OF CONTENTS