



**POST IMPACT FATIGUE OF KENAF POWDER, PP, MAPP
LAMINATED WITH KEVLAR HYBRID COMPOSITES.**

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ABSTRACT

The post impact fatigue tests were carried out on Kenaf powder /PP [KPP] without and with MAPP [KPPMAPP] specimens. The same tests were also carried out on KPP / Kevlar Hybrid composites [KPPLK] and KPPMAPP / Kevlar Hybrid composites [KPPMAPPLK] to determine their modulus, ultimate tensile strength (UTS) and the fatigue life of the materials. The UTS determined from these tests were then used as the fatigue test parameters. Three different weight ratio of 20%, 30% and 40% Kenaf powder size 100 μ m were involved in this investigation. Tensile test were conduct and the result shows that the 30% of Kenaf powder is the best weight ratio of Kenaf powder. The low energy impact tests were conduct using energy levels 0.55J, 0.94J and 2.23J on the specimens. Fatigue test using constant weight ratio, 30% of Kenaf powder were carried out for with and without post impact KPP, KPPMAPP, KPPLK and KPPMAPPLK at the stress ratio of 0.1 and frequency of 6Hz. The results for tensile properties and post impact fatigue behavior were evaluated. The results show that the KPPMAPPLK have longer fatigue life.

Keywords: Kenaf powder, PP, MAPP, Kevlar, post impact fatigue.

TABLE OF CONTENTS

CONTENTS	PAGE
Acknowledgement	i
Abstract	ii
Table of contents	iii
List of Table	vi
List of figures	viii
Abbreviations	ix

CHAPTER I INTRODUCTION

1.0 Background	1
1.1 Problem Statement	2
1.2 Project Brief	2
1.3 Objective of the Research	3
1.4 Scope of the Research	3
1.5 Significant contribution to the new knowledge	4
1.6 Benefits to country/ Society/ Organization	4

CHAPTER II LITERATURE REVIEW

2.0 Background	5
2.1 Review previous studies	8

CHAPTER III EXPERIMENTAL PROCEDURES

3.0 Introduction	14
3.1 Methodology	15
3.2 Sample preparation	16
3.2.1 Materials	16
3.2.2 Preparation of composites	16
3.2.3 Laminate preparation	17
3.3 Mechanical testing	18
3.3.1 Tensile test	18
3.3.2 Post impact test	18
3.3.3 Fatigue test	19

CHAPTER IV RESULTS

4.0 Introduction	20
4.1 Selection best weight ratio	20
4.2 Post impact test	21
4.3 Tensile test result	25
4.4 Fatigue test result	27
4.4.1 Fatigue Test Results for KPP specimens.	27
4.4.2 Fatigue Test Results for KPPLK specimens.	28
4.4.3 Fatigue Test Results for KPPLMAPP specimens	29
4.4.4 Fatigue Test Results for KPPMAPPLK specimens	31
4.5 Average No.of Cycles versus Impact energy for Post Impact Fatigue test	35