WOOD PLASTIC COMPOSITE FROM BATAI (Paraserianthes falcataria)

NAZIRAH BINTI JAMALUDDIN NUR SYUHADA BINTI ABD LATIF

DIPLOMA IN WOOD INDUSTRY
UNIVERSITI TEKNOLOGI MARA
PAHANG

2011

ACKNOWLEDGEMENT

بسم ألله الرحمن الرحيم

Alhamdulillah, praise of Allah for give us strength and opportunity to finish and complete our final project paper titled Wood Plastic Composite from Batai (*Paraserianthes falcataria*). First of all, we would like to record our special thanks for our advisor, Prof. Dr. Shaikh Abdul Karim Yamani bin Zakaria for his commitment and guidance in designing and completing this project. Thanks a lot for his time and sacrifice in order to guide us doing this project properly.

Besides, we would also thanks to Prof. Dr. Jamaludin bin Kasim for his guidance on how to do this project based on appropriate format. Thanks also for all wood industry lecturers and staffs for their helps, support and encouragement from semester one until now. All their contribution is highly appreciated.

Thanks also to our beloved parents respectively for their moral and financial support throughout the year study. Last but not least, thanks to our members and others who involved directly and indirectly during we finishing our final project. Thank you so much.

TABLE OF CONTENT

PAGE
APPROVAL SHEETi
DEDICATIONii
ACKNOWLEDGEMENTiii
LIST OF TABLEvii
LIST OF PLATESviii
LIST OF FIGUREix
LIST OF ABBREVIATIONSx
ABSTRACTxi
ABSTRAKxii
CHAPTER I
1.0 INTRODUCTION
1.1 Introduction
1.2 Problem Statement
1.3 Justification
1.4 Objectives
CHAPTER II
2.0 LITERATURE RIVIEW
2.1 Properties of Batai
2.1.1 Batai in General
2.1.2 Wood Properties4
2.1.3 Uses

2.2 Properties of WPC
2.2.1 Definition of WPC5
2.2.2 General Characteristics6
2.2.3 Advantages6
2.2.4 Manufacturing Process
2.2.5 Uses
CHAPTER III
3.0 MATERIAL AND METHOD
3.1 Material Preparation
3.2 Chipping8
3.3 Flaking9
3.4 Grinding9
3.5 Blending
3.6 Crushing
3.7 Mould Compressing. 12
3.8 Sample Cutting and Evaluate14
CHAPTER IV
4.0 RESULT AND DISCUSSION
4.1 Bulk Density
4.2 Mean of Mechanical & Physical Properties17
4.3 Source of Variation

Wood Plastic Composite from Batai (Paraserianthes falcataria)

By

NAZIRAH BINTI JAMALUDDIN NUR SYUHADA BINTI ABD LATIF

APRIL 2011

ABSTRACT

This project was carried out to study about the properties of wood plastic composite by using the Batai wood. Batai is the new species that has a potential to be commercialized as the raw material in wood based industry as it is a fast growing species and now this species is planted in the most country. Till now there are no reports to date on the use of batai for Wood Plastic Composite (WPC). In line with the need to further exploit the potential use of batai, this study was undertaken to investigate the feasibility of the species in WPC manufacturing. For this study, four specimen having 0%, 5%, 10% and 15% of sawdust from batai (*Paraserianthes falcataria*) were mixed with polypropylene (plastic) and additive name Maleated Anhydride Polypropylene (MAPP) which is coupling agent and the rest four samples were cooking without MAPP application. MAPP is act as the variables.