

**PROPERTIES OF BIO-COMPOSITE PRODUCTS FROM
ACACIA STRAND AND COCONUT VENEER**

By

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ABSTRACT

Properties of bio-composite product from Acacia strand and coconut veneer were ascertained. The effects of strand size and layer arrangement were determined. Different strand sizes (10 mm, 15 mm and 20 mm) were used to create different combinations of layer arrangement; strand-veneer-strand (SVS) and veneer-strand-veneer (VSV). Comply is a bio-composite product, was assessed for the mechanical properties (bending and internal bonding) and physical properties (thickness swelling and water absorption) in accordance with the European Standard. The value of MOR and MOE were found to be not significant when comparing SVS (10 mm and 15 mm) with 100% strand. Meanwhile, it was found that SVS (10 mm) and 100% strand had the highest value of IB and TS respectively. Both layer arrangements were then being compared with plywood made by coconut veneer. The result showed that plywood had the highest value of MOR (51.54 MPa) and IB (0.66 MPa), VSV had the highest value of MOE (8037.79 MPa), and plywood had the best value of TS (12.19%).

TABLE OF CONTENTS

	Page
CANDIDATE'S DECLARATION	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ixx
LIST OF PLATES	x
LIST OF ABBREVIATIONS	xii
ABSTRACT	xii
ABSTRAK	xiii

CHAPTER

I INTRODUCTION	1
1.1 Background of Study	1
1.2 Problem Statement	3
1.3 Objective	5
 II LITERATURE REVIEW	 6
2.1 Malaysian Bio-Composite Industry	6
2.2 Raw Material in the Bio-Composite Industry	8
2.2.1 Rubberwood	9
2.2.2 Mixed Tropical Hardwoods	11
2.2.3 <i>Acacia mangium</i>	13
2.2.4 Coconut Palm (<i>Cocos nucifera</i>)	15
2.3 Bio-Composite Products (OSB and Plywood)	17
2.3.1 Oriented Strand Board (OSB)	19
2.3.1.1 Strand Geometry	20
2.3.1.2 Manufacture of OSB	21

2.3.2 Plywood.....	22
2.3.2.1 Coconut Veneer.....	23
2.3.2.2 Manufacture of Plywood.....	24
2.3.3 Composite Plywood (Comply).....	25
2.4 Strand Size.....	26
2.5 Layer Arrangement.....	27
2.6 Adhesive for Comply.....	28
2.6.1 Phenol Formaldehyde (PF).....	29
III MATERIALS AND METHODS.....	30
3.1 Field Procedure and Materials Preparation.....	30
3.1.1 Strand.....	31
3.1.1.1 Raw Materials.....	31
3.1.1.2 Debarking.....	32
3.1.1.3 Cut into Billet.....	32
3.1.1.4 Flaking.....	33
3.1.1.5 Pre-Drying.....	34
3.1.1.6 Screening.....	34
3.1.1.7 Drying.....	35
3.1.1.8 Glue Mixing and Blending.....	36
3.1.2 Veneer.....	37
3.1.2.1 Cutting.....	37
3.1.2.2 Drying.....	37
3.1.2.3 Glue Spreading.....	38
3.2 Comply Manufacture.....	39
3.2.1 Board Preparation.....	39
3.2.2 Cold Press.....	39
3.2.3 Hot Press.....	40
3.2.4 Cooling.....	41
3.2.5 Trimming and Sizing.....	41
3.2.6 Testing.....	42