

A PROJECT REPORT SUBMITTED TO THE
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ANALYSIS OF THE GLUED WOOD JOINT

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ABSTRACT

The objective of this study is to analyse the glued wood joint of glued laminated timber beam with a different cross section and lap lengths.

The analysis is to obtain the stresses in and around the joint using the ANSYS program package for the selected types of the model.

CONTENTS

CONTENTS	PAGE
ACKNOWLEDGEMENT	(i)
ABSTRACT	(ii)
LIST OF TABLES	(iii)
LIST OF FIGURES	(iv)
CONTENTS	(vi)
CHAPTER 1.0 : INTRODUCTION	
1.1 Introduction	1
1.1.1 Finger joint	3
1.1.2 Lap joint	3
1.1.3 Scarf joint	4
1.2 Objective of study	4
1.3 Scope of study	5
CHAPTER 2.0 : MODELING	
2.1 Two-dimensional solid element ...	6
2.2 Element used	7
2.3 Input data	10
2.4 Output data	10

1.1 LITERATURE REVIEW

Glue laminated timber is structural timber glued up from smaller pieces of wood either in straight or curved. The abbreviation of glue laminated timber structure is glulam.

Glulam refer to two or more layers of wood glued together with the grain of all layers or lamination approximately parallel.

A joint using glue as a means of joining pieces of timber together does not require any mechanical fastener. Although mechanical fastener are sometimes used, such as nails and staples to initially apply pressure to join the pieces together, they should not be considered as adding to the strength of the glued joint even though they may be left there permanently.

Work on glulam was first started in Germany in the early 1900's (*Selbo, M.L and Knauss, A.G 1985*) and then gradually spread to the other part of the world.

Various authorities have stated that glue lines are generally strongest in shear, weaker in tension and weakest in peel or cleavage (*Stanger, A.G and Blomquist, R.F 1965*) Since the properties of timber varies from species to species, the result obtained from worked made in temperate