

**A PROJECT REPORT SUBMITTED TO THE
SCHOOL OF ENGINEERING IN PARTIAL
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FOR THE AWARD OF AN
ADVANCED DIPLOMA IN CIVIL ENGINEERING**

**TO STUDY THE COMPRESSIVE STRENGTH
OF SOLID TIMBER COLUMN.**

BY

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ABSTRACT.

The Modulus of Elasticity of timber is an important application in structural timber design calculations in estimating the deflection of flexural members and as parameter in calculating the buckling strength of timber members. This study emphasize on the realistic value of Modulus of Elasticity of timber columns configuration.

To obtain the closest deflection of the timber columns at selected points on the samples tested, the ANSYS program is utilised to iterate the value of Modulus of Elasticity of the timber column. Predetermined testing was carried out at it timber member (timber column).

The discrepancies of the Modulus of Elasticity of timber member obtained from the iteration with value obtain using ASTM, D:143 (method of small clear specimen) are elaborated herein.

1.0 INTRODUCTION

Timber has been used traditionally in the past as a construction material and its presence today is a living testimony of its unsurpassed properties. It is very likely that the use of timber for structural purposes will continue as it provides a reasonable balance of performance and economy. The technology is available to provide the necessary base for continuous improvements in timber products. One of the biggest advantage of timber compared to other materials is that it can be regenerated naturally. We shall never run out of timber so long as we replant young trees to replace those cut for use. Besides that timber requires little energy to transform itself into a usable building material.

Why we use timber?. The selection of the materials for construction is one of the most important design decisions of fitness of the chosen material to the intended purpose must be made. The material chosen should perform adequately during construction and in service after the structure is built.