THE EFFECT OF OVERLAPPED PROFILED STEEL SHEET DRY BOARD SYSTEM WITH DOOR AND WINDOW OPENING USING FINITE ELEMENT METHOD

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DECLARATION

" I declared that this thesis is the result of my own work except the ideas and summaries which I have clarified their sources. This thesis has not been accepted for any degree and is not concurrently submitted in candidature of any degree".

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ABSTRACT

The Profiled Steel Sheeting Dry Board (PSSDB) system is a kind of composite structure that can be used as load bearing component for a building. Profiled steel sheeting connected to dry board using self-drilling or self-tapping screw to form a composite section forms this system.

This study reviews the Profiled Steel Sheeting Dry Board (PSSDB) system as wall panel, which door and window opening. The material of profiled steel sheet is BONDEK II and the dry board is CEMBOARD. The present work is theoretical in nature and attention is focused on the behavior of the PSSDB with single window opening and PSSDB with single door opening.

Finite Element Method (FEM) known as LUSAS is a numerical procedure of finding solution to a complicated problem by establishing the response of the interconnected demand of finite dimensions with continuity of equilibrium consideration.

The application of the finite element method is used in modeling process to investigate the behavior of the PSSDB system as walling unit with window and door opening by determining the deflection and stress- strain pattern of the model.

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