

**ANALYSIS OF PSSDB WALL PANEL WITH HORIZONTAL
BUTT JOINTS IN THE DRYBOARDS**

By

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ABSTRACT

Composite engineering component which may consist of two or more materials, connected or combined to give a performance in service, which is superior to the properties of its individual materials.

Profile steel sheet dry board (PSSDB) is a composite system, which classified into macrocomposite system comprises of profile steel sheet, cemboard and connected by self tapping screws. This system when combine impose strength and stiffness.

The proposed of this system as a load bearing wall give more advantages in building construction. It's lightweight structure, easy to fabricate and save a lot of time for installation work.

In this study, profile steel sheet dry board has been treated as load bearing wall, where it's due to door opening using finite element method (LUSAS) has been analyzed. The model analyzed measures 1.232 m wide and 1m high and window opening of 400mm by 400mm is modeled in symmetrical position.

LUSAS 13.5 software adopted to create the finite element model. The model was modeled using 3D thin shell elements as a profile steel (BONDEK II) and dryboard (cemboard)

A series of load had been asined to his model and the result are stated as follow. For load of 256 kN/m the maximum displacement is 8.063mm, for maximum stress is 4442 N/mm² and maximum strain is 0.215E-1.

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