ANALYSIS OF PROFILED STEEL SHEET DRY BOARD WALL PANEL WITH WINDOW OPENING AND DIFFERENT SCREW SPACING.

By

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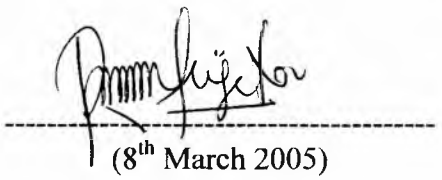
DECLARATION OF THE CANDIDATE

I Rosniza Binti Mohd Nor, 2002329530 confirm that the work is my own and that appropriate credit has been given where references have been made to the work of others.



(8th March 2005)

ABSTRACT

This project was present the finite element analysis of Profiled Steel Sheet Dry Board (PSSDB) composite wall panel with window opening and different screw spacing. PSSDB system is a structural system consisting of profiled steel sheeting connected to dry board by self-tapping and self-drilling screws. It is a composite system that can be used as load bearing component for the building, such as flooring, roofing and walling units. Finite elements analysis software called LUSAS has applied for this study. The model analyzed measurement is 3100mm wide and 3000mm high and window opening of 1200mm by 1200mm is modeled as symmetrical position. The structural behavior of PSSDB wall panels under compressive axial load with difference screw is presented and discussed. Beside that, the influence of connector spacing on the overall structural performance of the PSSDB wall panels has been described. As consequently, the connector spacing play major roles in influencing the stiffness of such composite panels was carried out. The profiled steel sheeting is the main component in resisting load on the PSSDB wall panel, while the dry board is very instrumental in delaying elastic deflections besides carrying a small portion of the load. By obtained this project using LUSAS programme, proved that the PSSDB wall panels have a good load bearing capacity and stiff when built as a wall units. Panel 200 with spacing 200 mm at each vertical panel has shows the best optimum stiffness with economical, effective and efficient.

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