

## عنوان مقاله:

Structural and Functional Analysis of an Industrial, Flexible, and Demountable Wall Panel System

## محل انتشار:

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## نویسندگان:

n Sadafi - Department Architecture, Faculty of Engineering, University Kebangsaan Malaysia (UKM), Bangi Malaysia

m.f.m zain - Department Architecture, Faculty of Engineering, University Kebangsaan Malaysia (UKM), Bangi Malaysia

m jamil - Department Architecture, Faculty of Engineering, University Kebangsaan Malaysia (UKM), Bangi Malaysia

## خلاصه مقاله:

Building waste is a critical issue in current construction. Innovative design strategies are required to reduce the depletion of valuable materials and resources through providing flexible and versatile structures. This study focuses on the development of an industrial, flexible, and demountable wall panel construction system. The panel system consists of concrete blocks with steel connectors that can be simply assembled and disassembled onsite. This work experimentally investigates the structural response of panels under compressive load. After testing the stability and load-bearing capacity of the designed panels, the construction stage of the walls indicated satisfactory performance with predictable behavior within the installation process. During the experiment, displacement and strain were determined using linear variable differential transducers and strain gauges. Careful visual examination was also performed to observe the formation of cracks in panels. Although the architectural panels were not designed to resist the structural load, results in terms of load-deflection, strain distribution, and crack patterns signify that the panels' response to the compressive load is satisfactory

## کلمات کلیدی:

Precast Concrete Wall Panel, Industrial Flexible & Demountable (IFD), Building System, Functional Requirements, Structural Behaviour

## لینک ثابت مقاله در پایگاه سیویلیکا:

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