UNIVERSITI TEKNOLOGI MARA

ADOPTION OF AIR WELL IN IBS WALL PANEL

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Innovation project report submitted in partial fulfilment of the requirements for the degree of
Bachelor of Science (Hons.) Construction Technology

Department of Built Environment Studies and Technologies

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AUTHOR'S DECLARATION

I declare that the work in this innovation project report was carried out following the regulations of Universiti Teknologi MARA (Majlis Amanah Rakyat). It is original and is the result of my own work, unless otherwise showed or acknowledged as referenced work. This topic has not been given to any other academic institution or non-academic institution for any degree or qualification.

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ABSTRACT

Ventilation is essential to achieving best thermal comfort and comfort students. However, in Malaysia, student accommodation lacked mechanical ventilation and relied heavily on natural ventilation. Regardless of their position or size, fans are the only source of mechanical aid. Therefore, by effectively incorporating air, it is possible to create adequate ventilation for the dwelling. Thus, the air could maximise the flow amount of the air outside the buildings. Due to that matter, this study aims to propose the air well design that could maximise the air movement circulation into the building particularly at students' accommodation. The air well was designed to help regulate air movement in and out of buildings, and the air well could reduce the maintenance costs of structures. Even the terraced housing hardly provides the occupants with thermal comfort. Often, mechanical cooling, which is an energy-consuming part, contributes to outdoor heat dissipation that leads to an urban heat island effect. The research goals that have been established as guidance for the questions that have been produced are as follows. The goal of this project is to improve the students' accommodation by enhancing the Sustainable Development Goals (SDGs) and the Industrialized Building System. The goals should be achieved at the end of the study, a) to find the current issues and problems on the student's accommodation ventilation, b) to propose an innovative an innovative IBS wall panel with air well and c) to recommend the marketability of IBS wall panel with air well that improves student's accommodation.

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