UNIVERSITI TEKNOLOGI MARA
PERAK BRANCH

INTEGRATED DISPLACEMENT VENTILATION SYSTEM PRECAST WALL

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Innovation project report submitted in partial fulfilment of the requirement for the degree of

Bachelor of Science (Hons.) Construction Technology

Faculty Of Architecture, Planning and Surveying

July 2022

AUTHOR'S DECLARATION

I declare that the work in this innovation project was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This topic has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

In the event that my innovation project report, be found to violate the conditions mentioned above, I voluntary waive the right of conferment of my degree and agree be subjected to the disciplinary rules and regulations of Universiti Teknologi MARA.

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ABSTRACT

Sustainability can be defined as the capacity to support or maintain a process constantly across time. Sustainability aims to stop the depletion of natural or physical resources in business and policy contexts to be accessible in the long run. The topic of sustainability has become popular in the recent decade since environmental issues have become more apparent throughout the day—for example, climate change, global warming, and natural disasters. In the construction industry, modularity in construction building structures, such as the Industrialised Building System (IBS) method, is being pushed around the world as one of the methods to support the sustainability effort. Other than that, the supporting mechanicals to run the building is also being improved over time in terms of occupant comfort and energy usage. Therefore, this study focuses on building ventilation. Various innovative approaches to ventilate buildings, issues and problems with building ventilation are reviewed before the proposal of innovation. Therefore, the proposed innovation is the Integrated Displacement Ventilation System Precast Wall Panel. The proposed innovation promotes sustainability through several elements. The first element is the construction method which uses precast wall panels. The second element is using a highly efficient fan for the ventilation to best utilise the energy. And lastly, the encouragement of using natural air for sustainable living. The proposed innovation is described in detail regarding its assembly, performance, and marketability potentials.

ACKNOWLEDGEMENT

Alhamdulillah, praise to Allah, the Most Merciful and the Most Graceful. I am pleased to acknowledge the roles of several individuals who were instrumental in completing the proposed research. First and foremost, I would like to convey my gratitude to my supervisor, Ts. Dr. Dzulkarnaen Bin Ismail assisted me in pursuing this project and taught me throughout the fabrication development of this report. I truly appreciated working in a research environment that stimulates original thinking and initiative, which he has created. His knowledgeable guidance, innovative ideas, and enduring tolerance are deeply appreciated. On the other hand, I would like to acknowledge the significant input of Assoc. Prof. Ts. Dr Siti Akhtar Binti Mahayuddin, and Ts. Sr. Dr. Asmat Binti Ismail coordinated many discussions and lectures that helped shape this project from the beginning of brainstorming ideas to the structural writing of this report.

In addition, I would also like to thank my family for supporting me financially and always giving me moral support to finish this final report. Finally, this report would not materialise without my classmates' support and guidance from class AP256 6B. My classmates have been very helpful in giving opinions and advice with open arms since the day we met. It was a pleasure working with them, and I appreciate their ideas, help, and participation for all these years.

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