

**UNIVERSITI TEKNOLOGI MARA  
PERAK BRANCH**

**INNOVATION OF ECO-WASTE CONCRETE  
WALL PANEL USING HYBRID FRUIT WASTE  
BINDER**

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

**Department of Built Environment Studies and Technology**

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## **AUTHOR DECLARATION**

I declare that the work in this innovation project report 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 voluntarily 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**

Malaysia's construction industry undergoing a transition from traditional methods to the Industrial Building System. Nevertheless, thermal comfort must be considered with the use of conventional concrete that has high thermal conductivity. Despite that, the main aim of this study was to identify the cooling impact of Eco-waste concrete wall panels using a hybrid fruit waste binder. The development of the concept of innovative products is towards environmentally friendly which waste is applied in the production of products. A literature review is an approach used to identify issues and problems on existing wall panels. Further, the research design was quantitative, where the data are collected through laboratory tests and fieldwork. Additionally, data collection methods focus on document review, observation, experimentation, and prototype to solve the research questions and achieve research objectives. The results obtained indicate that the innovation product successfully provides thermal comfort to the occupants. With the results achieved the innovation product has marketability potential.