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Cawangan Perak



# **BUILDCON2023**

**COMPILATION OF PROJECT INNOVATION IDEAS  
SEMESTER MARCH – AUGUST 2023**

*EMBRACING SMART CONSTRUCTION TRANSFORMATION*

## **BUILDERS' CONVENTION DAY 2023**

**Department of Built Environment Studies and Technology  
College of Built Environment  
Universiti Teknologi MARA Perak Branch**

**BUILDCON 2023**  
**COMPILATION OF PROJECT INNOVATION IDEAS**  
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**Organised by**  
Department of Built Environment Studies and Technology  
College of Built Environment  
Universiti Teknologi MARA Perak Branch  
Malaysia

# **BUILDCON 2023**

## **COMPILATION OF PROJECT INNOVATION IDEAS**

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#### **Editors**

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## LIGHTWEIGHT GYPSUM BRICK

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Lightweight Gypsum Brick

### **Innovation Idea:**

Construction industry is one of the industries that is thriving forward these days across the globe. In order to remain competitive and relevant in this field, various innovations and alterations are necessary to create improved patterns and formulas for an enhanced version of existing products. In this research study, it is about a study of how a lightweight brick reacts when its mixture which is sand, replaced with waste gypsum. The aim of this study is to minimise sand mining and reduce the disposal of waste gypsum, thereby ensuring the success of the replacement to be used in the industry. The expected outcome of this research

is overall success. However, there might be slight variations in precision due to difference in machinery and the expertise of skilled labours. The research problem is that some machinery is not completely suitable for some tests. For example, the cylinder holder for tensile test is not available in the laboratory. As for the methodologies used in this study, the sand proportion in the mortar mixture is replaced with waste gypsum to minimise the use of sand in the brick, making it more lightweight. The objective of this idea is to foster a better understanding of how waste materials can be repurposed for a greater purpose. Simultaneously, it aims to reduce the need for riverbank mining, thus preserving aquatic habitats. This research has the potential to bring about significant change in the industry, especially with the expertise in handling such materials.

Surat kami : 700-KPK (PRP.UP.1/20/1)

Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim  
Rektor  
Universiti Teknologi MARA  
Cawangan Perak



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Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

“BERKHIDMAT UNTUK NEGARA”

Saya yang menjalankan amanah,

**SITI BASRIYAH SHAIK BAHARUDIN**  
Timbalan Ketua Pustakawan

*nar*

*Setuju.*

*27.1.2023*

PROF. MADYA DR. NUR HISHAM IBRAHIM  
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