



UNIVERSITI
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MARA

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**

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Organised by
Department of Built Environment Studies and Technology
College of Built Environment
Universiti Teknologi MARA Perak Branch
Malaysia

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RECYCLE CERAMIC WASTE FOR MORTAR CEMENT

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Recycle Ceramic Waste For Mortar Cement

Innovation Idea:

This study focuses on recycling ceramic waste for cement mortar to reduce the use of sand in mixing mortar for brickwork. The results of the study show that ordinary cement mortar has a low level of strength compared to the innovative ceramic waste mortar product. Therefore, the purpose of this study is to reduce the use of sand in brickwork and recycle ceramic waste (i.e., ceramic tiles found on construction sites and factories). The idea of recycling ceramic waste to produce material for cement mortar mix was based on the analysis of literature review and design thinking. The implications of this study are profound, ceramic waste mortar can increase the level of brick adhesive strength and reduce the rate of waste disposal on construction sites and in factories. In addition, there are several adverse effects of improper ceramic tile waste disposal, including soil pollution, depletion of natural resources, and negative impacts to the ecosystem. The accumulation of such waste in landfills exacerbates the challenge of global waste management and poses a great threat to the environment. Various avenues are explored and innovative and environmentally friendly solutions are used to deal with ceramic tile waste. Various recycling technologies and reuse approaches, such as the production of ceramic aggregates, replacing sand with ceramic powder in concrete mixing mortar is discussed as viable alternatives to minimise waste accumulation and conserve commonly used resources.

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

Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim
Rektor
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Sekian, terima kasih.

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Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

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Setuju.

27.1.2023

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