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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
SEMESTER MARCH – AUGUST 2023



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

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UTILISATION OF PALM OIL FUEL ASH ON PRECAST CONCRETE WASTE

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Utilisation Of Palm Oil Fuel Ash On Precast Concrete Waste

Innovation Idea:

This study focuses on addressing the environmental and economic implications of precast concrete piles in landfills by proposing an innovative approach: the utilisation of precast concrete construction waste in conjunction with Palm Oil Fuel Ash (POFA) to create concrete paving blocks. The main objectives of this research are to assess the mechanical strength and durability of these novel paving blocks and to develop a concrete mixture that replaces Ordinary Portland Cement (OPC) with precast cement as a binder, thereby reducing CO₂ emissions associated with OPC cement. Through assembling, testing, and comparison with similar existing products, the prototype of the innovated concrete mixture was examined. The findings from this study hold significant potential to produce an alternative and cost-effective building material in Malaysia, leading to reduced dependency on natural resources. Moreover, the application of POFA in pavement block manufacturing offers a promising solution for waste management challenges in both the construction and palm oil industries, highlighting its relevance in sustainable development and circular economy practices. By addressing waste reduction and environmental concerns, this research contributes to advancing environmentally friendly practices in the construction sector, ultimately promoting sustainable development in Malaysia and beyond.

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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Setuju.

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