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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**

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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

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APPLICATION OF POLYETHYLENE PLASTIC IN CONCRETE BLOCK (GREEN CONCRETE BLOCK)

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Application Of Polyethylene Plastic In Concrete Block (Green Concrete Block)

Innovation Idea:

Efforts to address the problem of plastic waste in Malaysia include the introduction of bans on certain single-use plastic items and the promotion of recycling programmes. However, these efforts have limited success due to a lack of enforcement and limited public awareness about the issue. Previous researchers have explored various methods of incorporating recycled plastic in concrete to address environmental concerns by reducing plastic waste and to use fewer natural resources such as coarse aggregates for material in concrete. This is because the mining of natural resources can lead to harmful impacts on the environment and human health. Therefore, this study proposes an innovation, i.e., Green Concrete Block, that will solve several issues regarding the plastic waste management in Malaysia and the impacts of mining activities towards the environment and human health. The aim of this research is to develop a concrete block using a mixture of concrete with Polyethylene plastic as a material that can help to reduce the rate of use for coarse aggregate in the mixture, while achieving minimum compressive test result adhering to the specification mandated by *Jabatan Kerja Raya* Malaysia. The research questions in this this research include: 1. What is the improvised design of the green concrete mixture in ensuring sustainable development in the construction industry?, 2. How does the performance of the green concrete mixture affect comfort and environmental sustainability?, 3. What is the pattern of the green concrete mixture design?, and 4. How to market the green concrete mixture product to the targeted potential users.

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

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Prof. Madya Dr. Nur Hisham Ibrahim
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