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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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Department of Built Environment Studies and Technology
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KAPOK FIBRE AS A SOUND INSULATION FOR SOUNDPROOFING WALL PANELS

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Kapok Fibre As A Sound Insulation For Soundproofing Wall Panels

Innovation Idea:

Nearly half of people aged 12 to 35 may be exposed to dangerous levels of sound. Around 40% of that age group may be exposed to potentially harmful levels of sound. Noise pollution can come from a variety of sources, including but not limited to vehicles, neighbourhoods, electrical appliances, TVs and music systems, public address systems, trains, aeroplanes, and power plants. The main underlying factors of noise issues are overcrowding, rapid urbanisation, extensive development, and the construction of apartments and houses with inadequate sound absorption. Noise pollution has a significant impact on the quality of life and constitutes a serious health and social problem. The objectives of this study are to: 1) create a sound insulation, i.e., kapok fibre, for soundproofing wall panel design ideas, 2) assemble the prototype of kapok fibre as a sound insulation for soundproofing walls in building, 3) demonstrate the performance of the kapok fibre as a sound insulation for soundproofing walls in building, and 4) demonstrate the entrepreneurship skills in kapok fibre as a sound insulation for sound proofing wall that can be marketable. The Sound Level Meter was used to determine the noise level. Results show that the sound level of the normal concrete wall panel is higher, i.e., 66.33dB, compared to the Kapok Fibre wall panel which was only 49.2dB. The highest reading for the concrete wall panel was 67.9dB, while the highest reading for the kapok fibre wall panel was 54.4dB. However, the study concludes that the sound experiment needs to be conducted in a standard room rather than on an example wall panel with dimensions of 500mm length, 150mm width, and 200mm height.

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Sekian, terima kasih.

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