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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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Organised by
Department of Built Environment Studies and Technology
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Malaysia

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SUPER ABSORBENT FLOOD BARRIER FOR RESIDENTIAL

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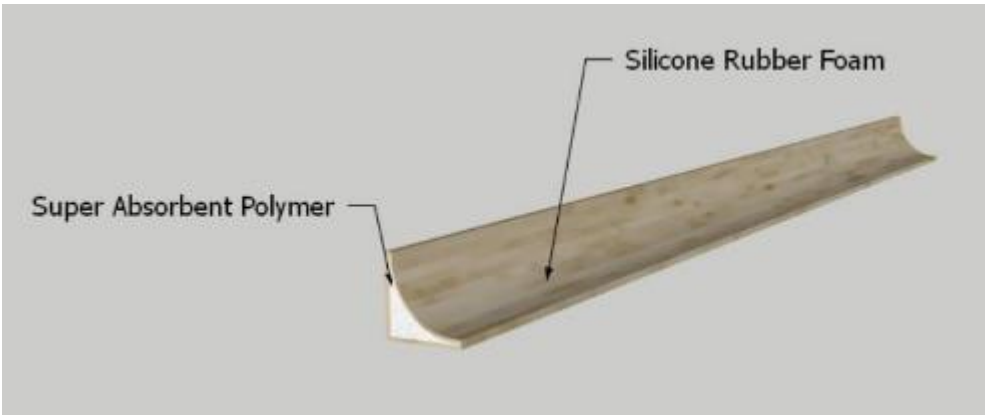

Super Absorbent Flood Barrier For Residential

Innovation Idea:

Given the substantial impacts of flooding, such as disruption, financial loss, health risks, and property damage, the challenge lies in identifying and developing effective flood prevention technologies. These technologies should successfully mitigate these adverse effects by preventing floodwater from entering homes and buildings, consequently reducing damage and associated risks. The aim of this research is to develop a Super Absorbent Flood Barrier for residential areas that can prevent floodwater from getting into residential areas or homes. In conducting this study, a comprehensive and multifaceted approach was adopted, centering around online articles, document reviews, and observational methods. Furthermore, the investigation incorporated real-time monitoring, comprehensive data mining, industry trend tracking, and cross-reference checks. The findings of this study show that since flood occurs relatively often, more affordable flood control is needed in flood-prone areas. The study also found that it is feasible to integrate SAP into silicone rubber foam. The compartments created within the foam successfully contain the SAP, allowing the silicone rubber foam to expand as the SAP absorbs water. The study indicated that this product has practical value and can be installed in various flood-prone areas. Its lightweight, easy-to-handle nature, and effectiveness make it an accessible tool for homeowners and small businesses. By reducing flood damages, this innovation can contribute to significant cost savings for homeowners, businesses, and government bodies. Furthermore, the development and production of these flood barriers could stimulate economic growth by creating new jobs and driving demand in the manufacturing sector. Utilising SAPs in flood control can also have environmental benefits. By preventing floodwater from infiltrating homes and buildings, it could reduce the need for resource-intensive repair and reconstruction, thus contributing to sustainability.

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