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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
College of Built Environment
Universiti Teknologi MARA Perak Branch
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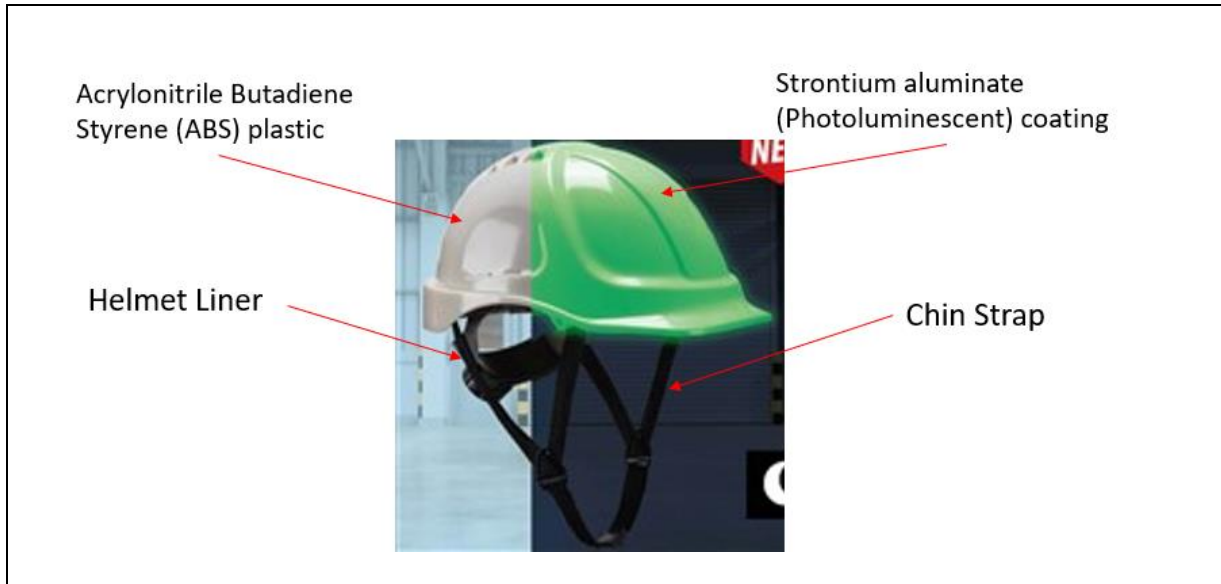


THE POTENTIAL USE OF GLOW-IN-THE-DARK SAFETY HELMET FOR ENHANCED WORKER SAFETY

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The Potential Use Of Glow-In-The-Dark Safety Helmet For Enhanced Worker Safety

Innovation Idea:

Nighttime construction work poses significant safety risks due to poor visibility, increasing the likelihood of accidents and injuries for both workers and drivers. This study addresses the need for enhanced worker safety during night shifts and proposes the development and marketability of glow-in-the-dark safety helmets. The research questions focus on the construction of a prototype using an improvised design, the importance of demonstrating the helmet's performance, and the development of commercial viability. The study aims to produce a safety helmet that glows in the dark, improving comfort, visibility, and productivity for construction site workers. The study highlights the limitations of conventional safety helmets in low-light conditions and the higher risks faced by night-shift workers. By incorporating photoluminescent coatings, glow-in-the-dark safety helmets emit light after exposure to natural or artificial sources, significantly improving worker visibility in poorly illuminated areas. The advantages of these helmets include increased visibility, reduced risk of head injuries, improved safety awareness, and enhanced worker morale. The paper also emphasises the marketability of glow-in-the-dark safety helmets, particularly in industries such as construction, manufacturing, and utilities, where worker safety is paramount. Compliance with safety regulations and the integration of innovative technologies further contribute to their appeal. The study concludes by recommending the implementation of Active Glow Technology to enhance the helmet's functionality and user experience. Overall, glow-in-the-dark safety helmets represent a significant advancement in workplace safety, addressing the critical need for improved visibility in low-light environments and providing a viable solution to enhance worker safety in nighttime construction activities.

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