

Structural Performances of Rubberized Concrete Wall Panel Utilizing Fiber Cement Board as Skin Layer

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Abstract : This research delves into the structural characteristics of distinct construction material, rubberized lightweight foam concrete (RLFC) wall panels, which have been developed as a sustainable alternative for the construction industry. These panels are engineered with a RLFC core, possessing a density of 1150 kg/m³, which is specifically formulated to bear structural loads. The core is enveloped with high-strength fiber cement boards, selected for their superior load-bearing capabilities, and enhanced flexural strength when compared to conventional concrete. A thin bed adhesive, known as TPS, is employed to create a robust bond between the RLFC core and the fiber cement cladding. This study underscores the potential of RLFC wall panels as a viable and eco-friendly option for modern building construction, offering a combination of structural efficiency and environmental benefits.

Keywords : structural performance, rubberized concrete wall panel, fiber cement board, insulation performance

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