

Effective Partition Wall for Green Building with AAC Block

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Abstract: *The construction industry is evolving to incorporate sustainable practices, with green building concepts at the forefront. This project focuses on using AAC (Autoclaved Aerated Concrete) cavity blocks as a material for constructing effective partition walls in green buildings. AAC blocks are precast, lightweight, and eco-friendly materials that offer superior performance in terms of thermal insulation, soundproofing, and environmental impact compared to traditional bricks and blocks.*

The objective of this study is to evaluate the feasibility and effectiveness of AAC cavity blocks as partition walls. The research involves analyzing their physical and thermal properties, construction process, and long-term benefits. Tests for thermal insulation, soundproofing, and load-bearing capacity were conducted to compare the performance of AAC blocks with conventional materials. Results demonstrated that AAC cavity blocks significantly reduce heat transfer, enhance energy efficiency, and improve indoor comfort, making them an ideal choice for sustainable construction.

In addition, the project highlights the economic and environmental benefits of AAC blocks. Their lightweight nature reduces transportation and labor costs, while the use of industrial by-products like fly ash minimizes environmental degradation. The findings from this study reinforce the potential of AAC cavity blocks to align with green building principles, providing a sustainable and cost-effective alternative to traditional materials.

Keywords: AAC blocks, cavity walls, green buildings, sustainable construction, thermal insulation energy efficiency, acoustic performance.