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| Title | Current Trends and Future Trajectories: Polymer Modified Concrete in The Context of Bangladesh | | |
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| Abstract |  |
| Polymer-modified concrete (PMC) presents itself as a novel way to improve the characteristics of conventional concrete, tackling a variety of issues in the building industry. This paper explores the present dynamics and future potential of PMC, with a focus on Bangladesh, a fast-expanding country with unique environmental, economic, and infrastructure needs that call for the use of cutting-edge building materials. The benefits of polymer modification, such as increased durability, flexural strength, and resistance to environmental conditions including corrosion and chemical assault, are highlighted in this paper’s thorough analysis of current advancements in PMC technology. The flexibility of PMC to local conditions is noteworthy, highlighting Bangladesh’s potential for sustainable building methods. The study looks at PMC applications that are now being used in active construction projects. It presents examples and results from real-world projects and addresses possibilities and obstacles associated with PMC adoption, such as cost-effectiveness, availability of raw materials, and levels of technological skill. The report examines possible research directions, technology developments, and policy consequences that might affect PMC’s broad acceptance in Bangladesh to anticipate future trajectories. This includes things like optimizing mix design, integrating recycled polymers, and creating uniform standards for PMC usage in buildings. In the end, this study provides a thorough overview of PMC in Bangladesh and provides insightful information on its relevance, difficulties, and prospects. This knowledge enables those involved in the building sector to make well-informed choices that will improve the resilience and sustainability of infrastructure projects in the area. | |