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Experimental Study of Manufacturing of Precast Paver Blocks from Local Municipal Solid Waste

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Abstract: *The project aims to revolutionize paving block production by utilizing plastic waste instead of cement, potentially reducing costs compared to traditional concrete blocks. In India, where millions of tons of plastic waste are generated annually, finding ways to repurpose this waste into paving blocks could significantly decrease environmental plastic pollution. Our experimentation involved mixing plastic waste with quarry dust, coarse aggregate, and other materials to create the paving blocks. Through testing and analysis, we assessed the effectiveness of these blocks. Ultimately, our goal is to offer a practical solution to both mitigate plastic waste and make paving blocks more economically accessible. Plastic waste poses significant environmental challenges due to its non-biodegradable nature, causing pollution and harm to ecosystems. Despite efforts in plastic recycling, much of it still ends up in landfills or incinerators due to quality concerns with recycled materials. Similarly, construction and demolition waste (C&D Waste) contribute to landfill overflow, but it also holds potential for manufacturing precast paver blocks. It can even replace a portion of aggregates in concrete without compromising its strength. By exploring these avenues, we strive to address both plastic and construction waste issues while offering sustainable solutions in paving block production*

Keywords: block production

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