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The effects of using agricultural waste as partial substitute for sand in cement blocks

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Abstract

The disposal of agricultural waste is a serious environmental problem. Use of agricultural wastes in the production of cement block may reduce the global environmental pollution. This study analyzes the feasibility of using agricultural waste like rice husk, sawdust, peanut shell, rice straw and coconut shell as a partial sand replacement in the manufacture of cement blocks. The experiments have been conducted to determine the physical, strength and durability properties of cement block. Test results show that cement blocks with agricultural waste were satisfied the strength requirement according to the ASTM standard but durability is the major issue for these blocks. Cement block with coconut shell and peanut shell shows reasonable strength and durability properties.

Keywords: aggregate, workability, compressive strength, flexural strength, durability

1. INTRODUCTION

Environmental pollution increases with increasing population due to waste generation and unlimited consumption of raw materials. Open dumping of agricultural wastes is becoming a major issue. Because open dumping destroying the aesthetic appearance of nature and harmful to public health. To

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