

Contribution to the development of tiles made of paper board sludge

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Abstract. Growth of any country rest in the consumption of industrial wastes for its infrastructure amenities. Countries like India positively desires a vital utilization of industrial waste resembling paper sludge in the construction industry to make various building materials. Also, it is the duty of all civil engineers or researchers to attach them in mounting new materials from the waste dumped as land fillings. In every construction project, about 70% of cost accounts for the procurement of materials. If this, can be minimized consequently the cost of construction will certainly be condensed. Research has established that the waste paper sludge can be reused in the construction field for a probable scope. The construction diligences munch through a massive quantity of non-renewable resources. On the additional dispense, more waste paper board sludge ends up in landfills or dumpsites than those recycled. Consequently, waste paper sludge for use as a construction material composes a step towards sustainable development. Keeping this in mind an endeavor has been made to utilize paper board sludge acquired from the paper board industry and used with several pozzolanic and cementitious materials for a specific purpose. The addition of paper sludge has been varied from 0% to 20% by weight of cement. The tests done with the samples expose that four samples showed significant outcomes with remarkable strength and durability properties which guide to move for the next phase of research for producing lightweight tiles.

Keywords: waste management; paper board sludge; sustainable materials

1. Introduction

The treatment process of any system (water supply, wastewater, industrial wastewater treatment, etc.) needs a stringent plan, design, construction and implementation for its efficient outcome. The end process of these treatment processes leads to the generation of sludge due to the addition of chemical, organic and mineral ingredients. The reaction between the source water to be treated and the ingredients added for its treatment as per the design will decide the quantity of sludge generated in the respective treatment plant. The sludge generated in the treatment plants was stored in the sludge yard. Moreover, the accumulation of sludge over the periods in the sludge yard leads to a concrete solution for its disposal. The disposal system of the generated sludge

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