



Experimental Investigation on Developing Low Cost Concrete by Partial Replacement of Waste Sludge

A.K.Priya^{1*}, M.Nithya², M.Rajeswari³, P.M.Priyanka⁴, R.Vanitha⁵

^{1,2,3,4,5} Assistant Professor, Civil Engineering, KPR Institute of Engineering and Technology, Coimbatore, Tamilnadu – 641407, India

Abstract: In India huge tones of waste materials were generated from industries per annum and also it is estimated as 300 million tones. The toxic waste creates disposal and health hazard problems to environment and humans. Paper industry produces huge amount of solid waste in the form of sludge. This research work deals with the sludge from paper mill and the recycling of sludge into useful products. Paper mill sludge takes huge area for dumping the waste on the land in the form of landfill. Some paper mills incinerates the sludge by creating air pollution problems. To reduce and prevent the pollution problem by paper mill sludge, it is used for replacement of building material and make waste as profitable material for construction purpose. Lime sludge from paper mill were used to produce low cost concrete by blending various ratios of cement. Experimental investigation on strength of concrete and optimum percentage of the partial replacement by replacing cement via 10%, 20%, 30%, 40% and 50% of lime sludge were identified.

Keywords: Health hazard, Paper mill sludge, Construction, toxic waste, Cement.

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