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## **Study Paper on Use of Eco Bricks**

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**Abstract:** A common effluent treatment waste water sludge being largest industry in India faces problem of sludge disposal. In this attempt is made to reuse common effluent treatment waste water sludge in solid blocks. Common effluent waste water sludge is used to replace base material by weight up to 15%. Blocks are casted by adding sludge after drying at 100°C to 150°C for 24 hrs. Common effluent treatment waste water sludge can be added up to 15% as it can give compressive strength above 8.33 N/mm<sup>2</sup> and water absorption ratio can be obtained as less than 0.50 %. Thus reuse of common effluent treatment waste water sludge in solid block is better option so that problem of ultimate disposal of common effluent treatment waste water sludge can be solved up to greater extent. The overall objective of this study is to find an alternative solution for the disposal of large volume of sludge produced in the wastewater treatment plants. This large quantity of sludge is related to scarcely of land area and high population density represent the sludge problem. Many researchers worldwide have been trying to explore new and suitable solutions to solve part of sludge problem. One track of these solutions is to use sewage sludge in construction field. The current study presents the usage of sludge in concrete mixtures and in manufacturing interlock brick samples.

Keywords: Bricks.

## REFERENCES

- Jamshidi A., Mehrdadi N., Jamshidi N. DEC 2011, "Application of Sludge as Fine Aggregate in Concrete", Journal of environmental studies, Vol. 37, pg. 59
- [2]. Thaniya Kaosol Feb 2010, "Reuse water treatment sludge for hollow block Manufacture", Energy research journal, Vol. 1, pg.131-134
- [3]. Cheng, Chiang, Badr, Raut 2013, "Development Of Bricks From Waste Material", Australian Journal of Basic and Applied Sciences
- [4]. Shrikant S Jahagirdar, S. Shrihari, B Manu 2013, "REUSE OF TEXTILE MILL SLUDGE IN BURNT CLAY BRICKS", International Journal of Advanced Technology in Civil Engineering, Vol. 2, pg. 96-99
- [5]. Mamta Rajgor, Jayeshkumar Pitroda April 2013, "Stone Sludge: Economical Solution for Manufacturing of Bricks", International Journal of Innovative Technology and Exploring Engineering, Vol. 2, pg. 16-20
- [6]. Mary Lissy P N, Dr. M S Sreeja Aug 2014, "Utilization of sludge in manufacturing Energy Efficient Bricks", Journal of Mechanical and Civil Engineering, Vol. 2, pg. 71-73
- [7]. Krishna Priya Nair, Vivek J M, Prof.Shibu K- May 2013, "Suitability of Sludge as a Building Material", International Journal of Scientific & Engineering Research, Vol. 5, pg. 23-28
- [8]. G. Reddy Babu, N. Venkata Ramana June 2013, "Durability of Bricks Cast With Industrial Sludge", Journal of Mechanical and Civil Engineering, Vol. 6, pg. 43-46
- [9]. Concrete Technology by M. S. Shetti
- [10]. Environmental Engineering II by M R Gidde & Dr. R K Lad
- [11]. IS: 516-1959 for "Methods of tests for strength of Concrete"
- [12]. IS: 3495 (P-1 to 4) for "Water Absorption Test"
- [13]. IS: 12894-2002 for "Compressive Strength of Concrete"