A Comparitive Study on Removal of Colour by Using Natural Adsorbent in The Treatment of Textile Water and That Treated Water Used in Concrete

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ABSTRACT

About 2 000 000 billion litres of water is consumed globally every year. The amount of potable water available is reducing due to pollution of various water bodies. The textile industry waste water is one of the sources of pollution. There are problems associated within handling dye waste water, with the treatment process, and with several environmental problems that also occur. On the other hand, about 700 million litres of potable water is used for the production of concrete. Using the waste dye water in concrete reduces the overall water consumption and at the same time it provides a solution to dye waste water disposal problem, making it beneficial in socioeconomic as well as environmental terms. This study explored the possibility of 100% replacement of potable water with textile dye waste water in concrete. The preliminary study indicated that strength of concrete made using potable water and textile dye waste water (untreated water) are comparable .One of the greatest problems that the world facing today is that of environmental pollution. Environmental effects consists five basic types of air, water, soil, noise and light. Environmental pollution is the contamination of the physical and biological components of the earth to such an extent that normal environmental processes are adversely affected. Additives used during the dyeing process include harmful substances such as alkalis and acid. Wastewater from textile dyeing also affects plant life in the water, because many dyes have substances that decrease photosynthesis, the process by which plants get nutrients. Among all the dyes using in industries textile industries placed in the first position in using of dyes for coloration of fiber it has been projected that textile and manufacturing industries are using more than 10,000 commercially available dyes and the consumption of textile industry is more than 10,000 tones/year and about 10 – 15% of these dyes are discharged into waste streams as effluents during the dyeing process so this method helps in removal of colour by using natural adsorbent material in the treatment of textile water and that treated water will be used in concrete.

Keywords: *concrete, raw effluent, adsorbtion material, tertiary treated outlet*