

## Experimental Studies on the Corrosion Effects of the Concrete Made with Tannery Effluent

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**Abstract :** An acute water scarcity is prevailing in the dry season in and around Perundurai (Erode district, Tamil Nadu, India) where there are more number of tannery units. Hence an attempt was made to use the effluent from the tannery industry for construction purpose. The mechanical properties such as compressive strength, tensile strength, flexural strength and the special properties such as chloride attack, sulphate attack and chemical attack were studied by casting various concrete specimens in form of cube, cylinders and beams, etc. It was observed that the concrete had some reduction in strength while subjected to chloride attack, sulphate attack and chemical attack. So admixtures were selected and optimized in suitable proportion to counter act the adverse effects and the results were found to be satisfactory. In this research study the corrosion results of specimens prepared by using treated and untreated tannery effluent were compared with the concrete specimens prepared by using potable water. It was observed that by the addition of admixtures, the adverse effects due to the usage of the treated and untreated tannery effluent are counteracted.

**Keywords :** corrosion, calcium nitrite, concrete, fly ash

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