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EXPERIMENTAL INVESTIGATIONS OF SETTLING CHARACTERISTICS OF KARACHI TANNERY WASTES AND OPTIMUM DESIGN

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Abstract:

A study was carried out in a specially designed settling column to investigate the settling characteristics of effluents arising from Karachi tanneries. The Jar-tests were also conducted to determine the optimum dosage of coagulants such as potash alum and ferric chloride to maximize the removal of suspended solids (S.S) from the wastes. For alum, the optimum dosage was found to be 150 mg/l, whereas with ferric chloride it was 30 mg/l. Experiments carried out in the Settling column with the optimum coagulant dosages showed that the coagulation with ferric chloride was much better than with alum, as it removes about 84% S.S from the wastes compared to 70% removal obtained in case of alum.

Design curves in term of percent removal of S.S vs. loading rate and detention time were constructed using data obtained from settling column. These curves can be used in designing the settling tanks employed in the tannery wastes treatment plants.

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