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# EXPERIMENTAL STUDY ON THE AERATION OXYGENATION INTO PRINTING AND DYEING WASTEWATER USING JET AERATOR

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## Abstract

This study focused on the use of jet aeration to treat printing and dyeing wastewater. The related environmental factors influencing the dynamical efficiency of a jet aerator were investigated. Results showed that an ideal linear relation existed between dynamical efficiency and working pressure ($R^2 > 0.98$), with dynamical efficiency decreasing gradually as the working pressure increased. When the gas–liquid ratio was approximately 0.6:1 to 1.4:1, more bubbles were formed by the gas–liquid mixture in the jet aerator. Dynamical frequency increased steadily when gas–liquid was mixed uniformly and the injection depth was deeper than 6 m. The treatment performed with the hydraulic retention time (HRT) lasted 3 h, and the dissolved oxygen was maintained above 3 mg/L.

*Key words:* aeration oxygen-rich, environmental factors, jet aeration, textile wastewater

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