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STUDIES ON HEAT RECOVERY FROM CELLULOSIC TEXTILES FINISHING WASTEWATER

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Abstract

Due to high energy costs and the rising consciousness of energy issues in the textile industry, saving energy became a significant problem. Since a large amount of the energy required in textile finishing is needed in the form of steam for various processes, recovering wastewater heat has great potential for cost reduction. In this research, it was studied the heat recovery from cellulosic textiles finishing wastewater, based on a case study in a textile company. After examining the wastewater collection system (in terms of both flow and temperature), heat recovery solutions have been identified. To recover the waste heat, we decided to install a heat pump that functions as a heat exchanger and can be used to heat the industrial water used for supply technological steam generator. The paper presents the current circuit of steam production, as well as the modified circuit for the implementation of the heat pump. Heat Pump installation scheme is presented in detail, considering that wastewater cannot be entered directly into the pump. Economical and environmental advantages of implementing such heat pump have been analyzed.

Key words: cellulosic finishing wastewater, economic analyse, environment pollution, heat pump

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