

Pinch analysis of a sugarcane wax extraction and purification process / Nuttawee Owat, Wanwisa Skolpap

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Abstrak

ABSTRAK

This work analyzes heat integration of sugarcane wax extraction in purification plants. It focuses on the development of sugarcane wax extraction from the mud of sugar mill presses, using supercritical as a solvent and ethanol as a co-solvent, with further sugarcane wax purification of 25 kg per day. To improve heat recovery for the designed heat exchanger networks (HEN), pinch analysis was applied to achieve optimal, total, external hot and cold utility demands at the optimum minimum temperature difference of C. Generated HEN alternatives were selected based on an incremental net present value (NPV). Compared to the current HEN design, the most cost-effective HEN could decrease total annual costs by a factor of 1.2.