
Installation of a process water treatment plant at mill Schwarza

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The paper mill Adolf Jass Schwarza GmbH produces 480,000 tons of lightweight corrugated base paper per year at the Rudolstadt / Thuringia site. 100% recovered paper is used as the raw material for the production of corrugating medium and testliner.

The wastewater is purified by an external two-stage biological wastewater treatment plant and discharged into the river Saale. The treatment plant has an approved cleaning capacity of 40 t COD/d and is equipped with 4 Paques IC reactors, 2 aeration tanks and 2 secondary settling tanks.

Due to the changing composition of waste paper, the COD burden on water cycles has risen massively in recent years. The installed cleaning performance of the wastewater treatment plant was no longer adequate for these pressures. This led to persistent problems regarding the degradation performance of the anaerobic reactors and subsequently to the heavy load on the aeration tanks on the part of the wastewater treatment plant as well as to extremely disadvantageously changed water systems in the paper mill.

Due to excessive regulatory requirements for an extension of the wastewater treatment plant Jass was forced to find an alternative solution. From this requirement arose the idea to reduce the COD load of the circulation water system by means of a process water treatment plant directly in the paper mill and thereby relieve the wastewater treatment plant.

Following a positive regulatory vote on the approval procedure, the partners for planning and implementation were found in May 2017 with the plant manufacturer Econvert Water & Energy and the planning office TBP Upcon GmbH.

The heart of the process water treatment plant is an Econvert IR® reactor with a degradation rate of 20 t COD/d. The reactor is preceded by a 400 m³ acidification tank. Clear filtrate is taken from the stock preparation cycle as feed water, anaerobically cleaned in the process water treatment plant and returned to the stock preparation injected with air oxygen. The bio-gas produced in the IR reactor is biologically desulphurised via an Econvert Dsulph® plant, dried and energetically utilized via existing CHP.

The process water treatment plant has been in trial operation since October 2018..
