

OSMO – Contract for treatment of flexo ink water

At the end of 2006 OSMO Membrane Systems GmbH carried out a contract for Rondo Ganahl in St. Ruprechts for a combined membrane plant for the treatment of printing ink wastewater.

Success at Rondo Ganahl thanks to experience and expertise

To reduce the considerable quantities of wastewater that have to be disposed of externally, a combined membrane plant has been installed by OSMO. By means of ultrafiltration and nanofiltration the previous amount of wastewater has been reduced to around 15% of residual concentrate. The NF permeate created is of discharge quality and is reused in production, and the remaining amount is disposed of at considerably lower cost.

Reduction in pollutants and in costs

The main purpose of membrane plants is to treat printing ink wastewater arising in production for colour dyes, and extract the residual printing ink so as to reuse this in the printing process. OSMO plants have been successfully employed with

paper bag manufacturers and corrugated cardboard processing firms throughout Europe for over 10 years.

The ultrafiltration used works according to the cross-current principle with a cut-off point (pore size) of approximately $0.01\ \mu\text{m}$ ($1\ \mu\text{m} = 10 - 6\ \text{m}$). This means that all components of the ink water that are larger than the cut-off point can be filtered out, and the ink water can be reconcentrated until printing ink consistency is attained, i.e. a solid content of around 35%. Under good conditions ("homogeneous treatment") this concentrate can be reused as printing ink.

For the purposes of a cost-effectiveness analysis, a rule of thumb borne out by experience is that around 10% of the amount of printing ink used annually enters the wastewater due to ink changes and washing processes. This means that where 100 tonnes of printing ink are used per year,

around 10 tonnes of recycled ink can be recovered. As well as the massive cost savings, there are also sustainable improvements in terms of the environment.

The contract was awarded to OSMO due to its many years' experience and good references for plant installation in the printing sector. The prefabricated plant parts were delivered at the beginning of March and assembled by MAW on site, and here too good use has been made of cooperation within the group.



Ultrafiltration system