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Research area: Process aims

Pulp production // Recovered paper treatment

Key words:

Deinking, water circuit quality, water based inks

TITLE:**Deinking potential of recovered paper depending on water circuit quality****Background/Problem area**

Deinking mills are forced to reduce their fresh water consumption with a resulting higher load of various contaminants in the process water and/or getting higher contamination levels in their mills due to lower recovered paper quality. This has an influence on achieving the targeted brightness since more bleaching chemicals are now required to recover the optical properties. Several reasons could explain this trend: (i) process water quality is altered (more coloured dissolved and colloidal molecules), (ii) conventional ink particles are less efficiently removed due to unknown interactions disturbing the flotation behaviour (iii) ink particles are being smaller due to the development of new printing processes including water based inks or getting larger due to more oxidative inks, (iv) peroxide in the pulping phase or during the bleaching treatments is less efficient due to the water loop closure.

It is therefore necessary to understand first the main causes and mechanisms of the impact on DIP quality and reduced water consumption. Based on those findings investigations on solutions are performed to overcome the problems including optimization of bleaching and possibilities of efficient process water cleaning at minimum cost.

Objectives/Research results

The objective of the work is to determine the main reason explaining poorer DIP quality or poorer deinking potential based on the impact of process water quality. Poorer DIP quality results in higher bleaching chemical consumption or has to find preventive process water treatment possibilities to stabilize optical DIP characteristics.

Application/Economic benefits

The project will increase the knowledge of the facts how to clean the water circuits in an economic way by evaluating chemicals, cleaning technology and dosage points of chemicals.

Project period: 01.05.2010 – 31.12.2011**Remarks**

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