



PROCESS WATER OF PAPERMAKING: MODEL BUILDING AND CHARACTERIZATION

Dan Belosinschi, Elena Bobu*

“Georghe Asachi” Technical University of Iasi, Department of Paper Engineering, 71 Mangeron Blvd., 700050 Iasi, Romania

Abstract

Actual trends in papermaking concern on the use of recycled fibers and minimizing effluent volume by closing water circuit. Beside environmental and economic advantages, both trends can lead to serious problems in papermaking processes due to contaminants introduced with recycled fibers and their accumulation in closed water system. A key factor to avoid disturbances in the papermaking is to prevent the accumulation of detrimental compounds. In this respect, first it is necessary to find out methods to obtain and characterize process water model for different papers grade. This paper presents preliminary experiments for building and characterization process water model using 100% OCC (old corrugated containers) fiber furnish. The results have shown that proposed model clearly evidences the accumulation of dissolved and colloidal substances (DCS) and suspended solids (SS) by water recycling. Methods used for quantification of individual compounds have shown significant differences in accumulation rate, depending mainly of their hydrophilic / hydrophobic character.

Key words: papermaking, process water, dissolved and colloidal substances

* Author to whom all correspondence should be addressed: e-mail: elbo@ch.tuiasi.ro