20 Eye opening operating results of the new Flash Mixing Reactor for efficient use of wet end additives

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Abstract

The new Flash Mixing Reactor for wet end additives questions old practices and opens possibilities to improve cost efficiency in wet end chemistry and sheet quality characteristics. The core of the technology is the very fast flash injection mixing in chaos type of mixing phenomena, but also open-minded and old practices questioning approach to create new, and straight forward action to make things in large production scale fast with active, result oriented clients.
The innovative and revolutionary process to flash mix chemicals very close to forming section is granting the mill e.g. with chemical savings that are surprisingly big. Single mill cost savings e.g. 1 Million EUR per line/a.

The first installations of TrumpJet® Flash Mixing Reactors on liner board, fine paper, coated fine paper and LWC production will be presented.
The results show how chemicals work together efficiently in less than a second very close to the headbox. Based on application, strength starch, sizing agent are relocated close to the headbox and mixing of retention aid additives takes place in a common fast single reaction.
Chemical savings are considerable; with starch even up to 50 % and based on influence of strength starch, retention aid system can be simplified with savings from 40 to 100%. In addition environmental efficiency and sustainability in water and energy consumption is reported.