



FORSCHUNG

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MESSTECHNIK

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Paper Technology Specialists
Services in the paper value chain

Services offered by the PTS Pilot Plant

Using spray starch to increase bursting strength and the SCT value

Objectives and Methodology

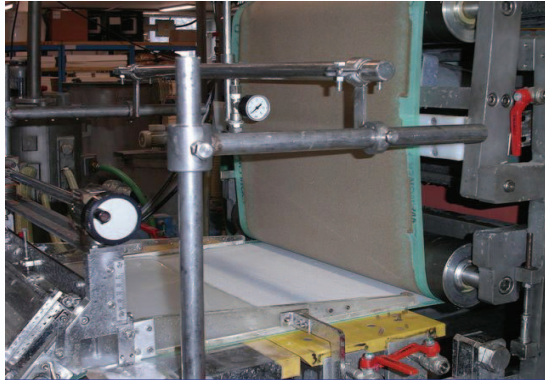
Objectives

- To evaluate different spray starches with respect to their impact on bursting strength and the SCT value of a duplex paper
- To select suitable starches for large-scale testing and preparation of application recommendations

Methodology

- Produce the duplex paper using circuit water and fibre from a paper mill
- Spray the starch onto the fibre mat before the couch under varying conditions
 - coating thickness
 - location/direction of spraying
- Examine the samples and evaluate them

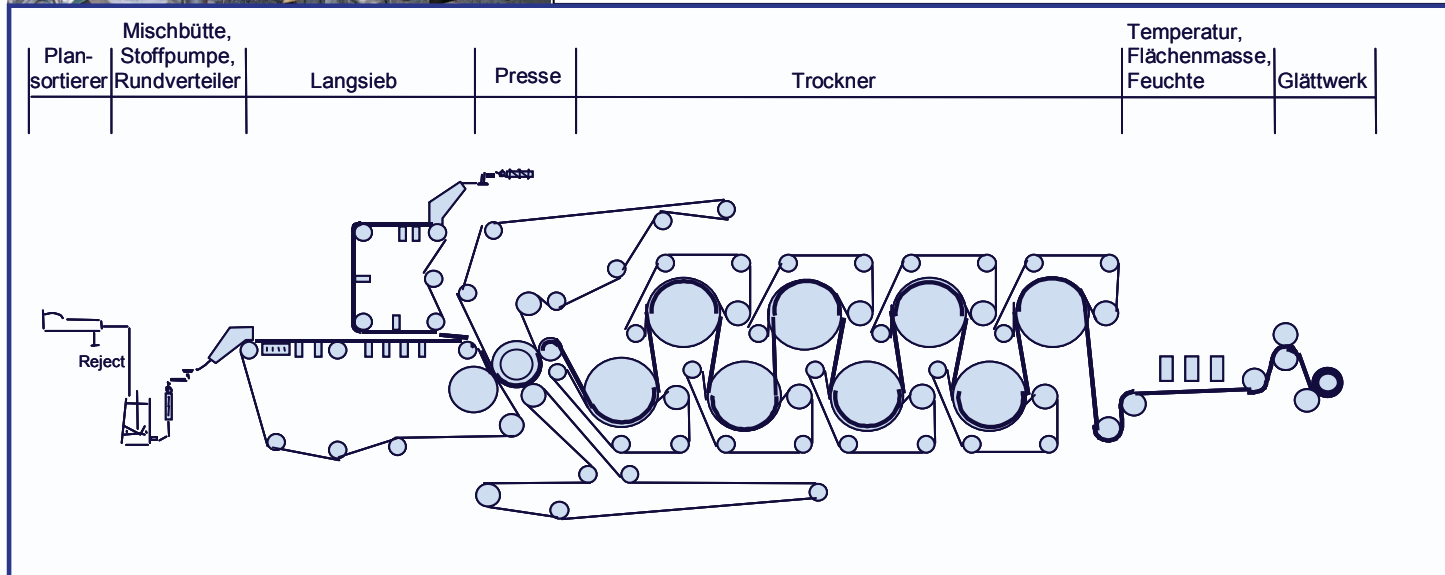
Test bench

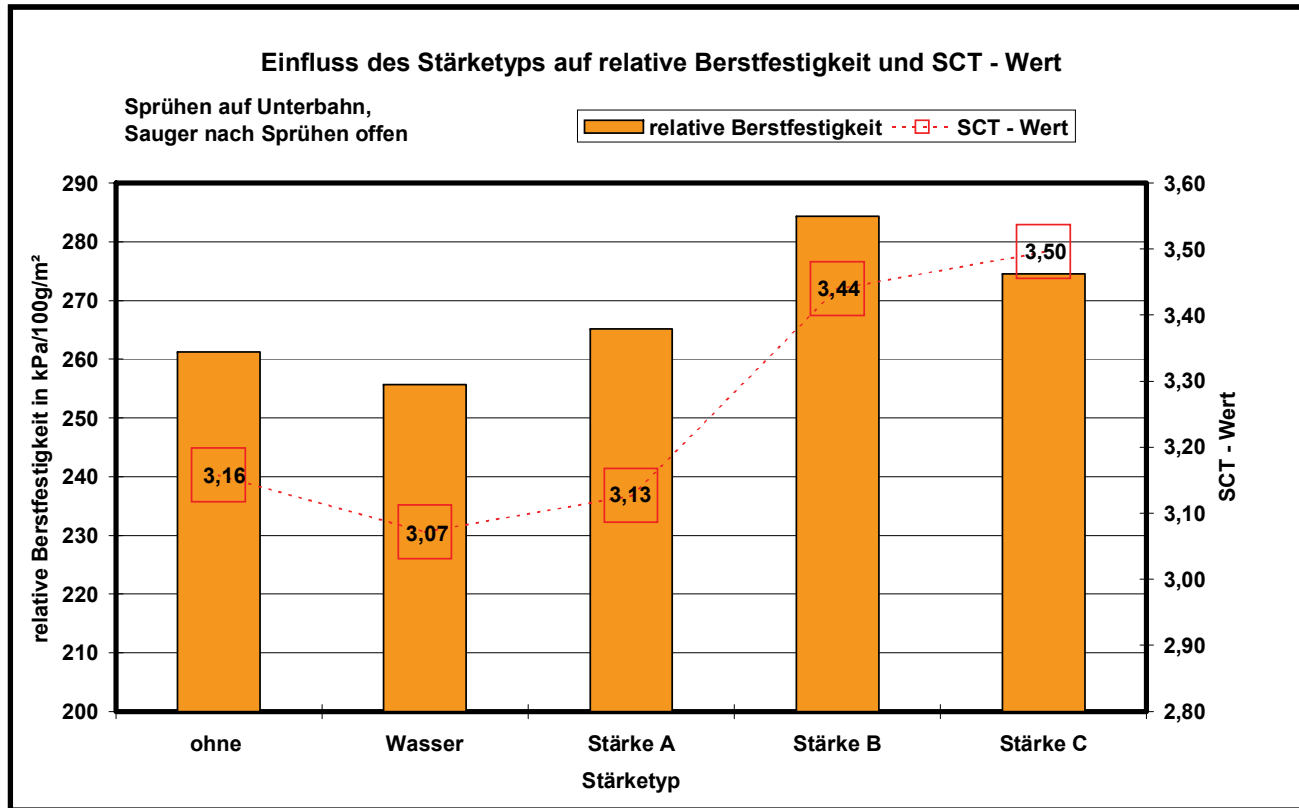


Raw materials per test location

- 1 m³ paper mill circuit water
- 4 kg fibre stock
- process chemicals/fillers

based on the fibre stock volume





1. Spray starch A does not bring about any improvement in strength with the fibre stock/process chemical system used
2. Spray starches B and C will be recommended for large-scale testing

Benefits

- Practical evaluation of spray starches with respect to their impact on strength properties and preselection for further development and/or large-scale testing.
- Testing of a large number of developmental products under comparable conditions within a short time with little investment owing to the small amounts of sample material
- Inference of application recommendations with regard to
 - amount required
 - solids content of the fibre mat during spray application
 - direction of spraying (felt side/wire side)
- Cost reduction for large-scale testing

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