

## Application note

### Improved surface starch application saves energy

- Energy savings
- Starch savings
- Reduced downtime
- Stable quality

#### CUSTOMER BACKGROUND

The machine produces 250 000 t/year of testliner and fluting out of raw material containing OCC and mixed waste. Both fluting and liner are surface-treated with starch which is applied with a film press. The native starch used is converted in an onsite starch cooking plant.

#### CUSTOMER CHALLENGE

The starch consumption has been high and varied widely between different production runs. At the same time there were big variations in strength properties. This led to high energy and starch cost and to problems in the corrugated plant. Also the runnability in the after-drying section has been low because of the high starch intake.

#### SOLUTION

An audit by BTG revealed improvement opportunities both for the surface starch application as well as in the wet end. A collaboration project was started with the mill and during the first phase mechanical improvements in the surface starch application were implemented. A lot of data was collected in preparation for the second phase. Predictive modeling and in-depth analysis revealed further optimization opportunities which are currently being worked on in a step by step approach.

#### RESULTS

Mechanical improvements of the surface starch application on average allowed for a 10% reduction of starch usage which lead to:

- 500 000 € savings in starch
- 1 400 000 € savings in energy
- 75 % less after-dryer breaks resulting in 5 hours less downtime per month (Figure 1)



Figure 1: Starch consumption and after dryer breaks during optimization