

Ultis™ 63888 Dry² Strength Technology Provides \$30/ton Savings

SITUATION

A paper mill in Europe was struggling to meet sheet strength specifications and exhausted most solutions and considered installing a size press. This mill produces corrugated medium and liner on a two ply fourdrinier from 100% recycled furnish.

The mill had issues with low Mullen (burst) strength and Corrugated Medium Test (CMT). To reach the required strength specification, they increased the basis weight resulting in slower machine speeds and higher board weight reducing their customer's box/ ton yield.

SOLUTION

To increase strength and reduce basis weight, Ultis 63888 Dry² Strength Technology, was evaluated. Ultis utilizes a dry format chemical additive to improve strength.

The optimum feed strategy including the retention and drainage aid programs are shown in Figure 1. Ultis 63888 was added without any change to the existing retention and drainage program.

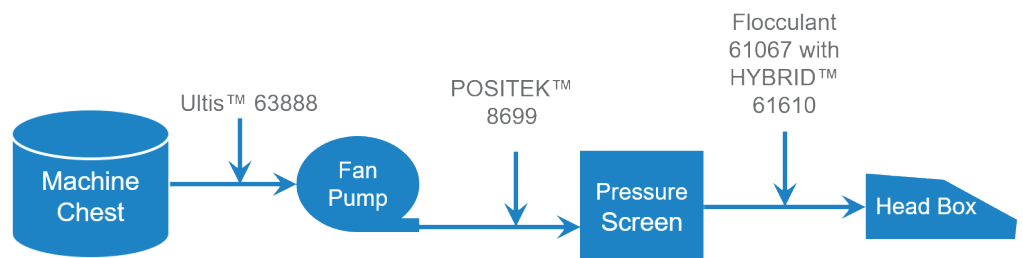


Fig 1: Schematic of the Paper Mill stock system

ENVIRONMENTAL IMPACT

Basis weight reduction of 4%

Eliminated the need to install a size press



ECONOMIC RESULTS

Increase in profitability of \$5/ ton

Net Savings of \$25/ ton



Shown in Figure 2, there was an immediate response to the changes in dosage.

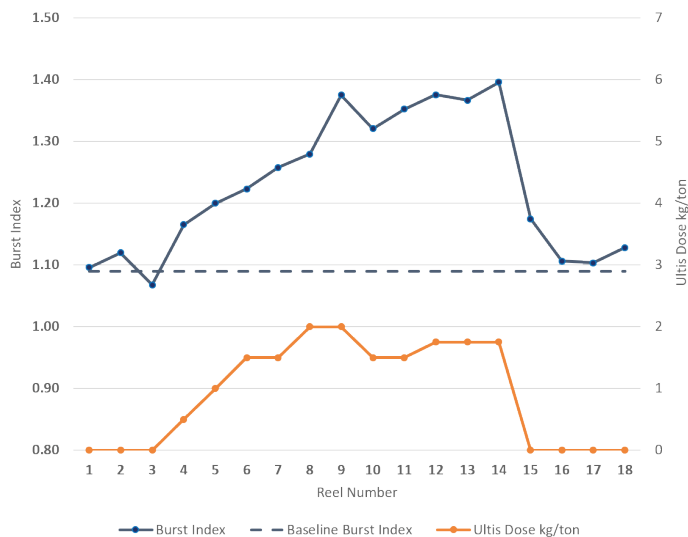


Fig 2: Analysis of burst index improvement vs. Ultis 63888 dose

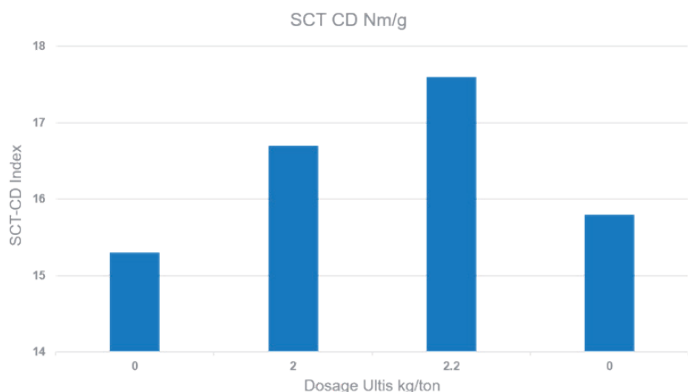


Fig 3: CD STFI/SCT increased 15%

CONCLUSION

Nalco Water Ultis 63888 Dry² Strength Technology and feed strategy with the Wet End Chemistry program, improved the Mullen burst by 19.5% and allowed the mill to reduce basis weight by 4%. This reduction in basis weight and the delay or avoidance of installing a size press resulted in a financial benefit of \$30/ ton.

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