



Borregaard

CASE STUDIES

BORRESPERSE[®] PAPER FOR STRENGTH INCREASE

BORRESPERSE PAPER AS STRENGTH ENHANCER ON FILM PRESS

BACKGROUND & OBJECTIVE

With increased recycling, the fibres lose quality and no longer match the typical strength values for corrugated medium. Thus, the customer's objective was to increase strength while keeping the entire production within specifications.

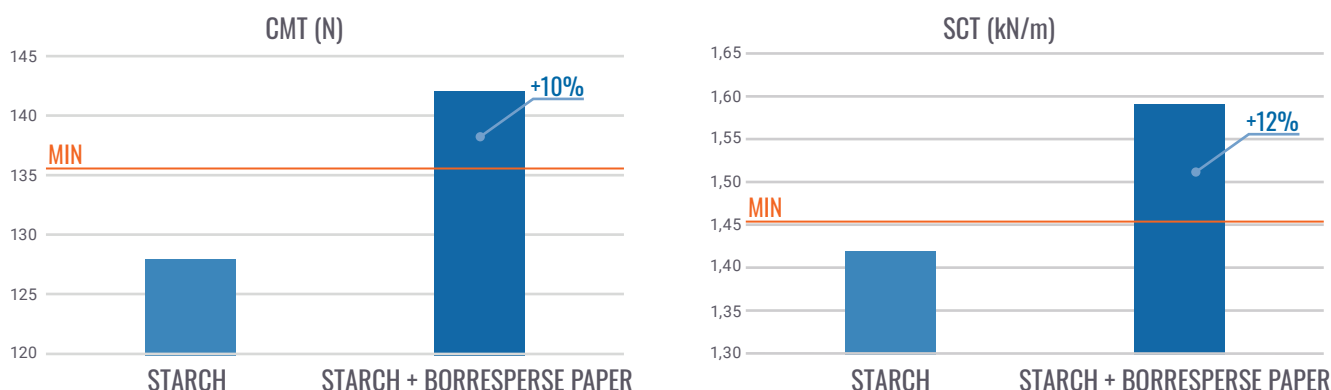
TRIAL CONDITIONS

The customer had a paper machine using a modern large and fast film press (speed over 1200m/min). The challenge was to achieve the desired strength, particularly for low grammage paper (<math><100 \text{ g/m}^2</math>). Starch cooked enzymatically was used at the maximum concentration possible (15-16%), above which the viscosity was too high. The paper was striped, and starch splashed out. The strength parameters measured were CMT and SCT (cross direction).

Borresperse Paper was applied at increasing ratios step by step, enabling the solids of the film press to increase without any splash at the machine nor stripes on the paper. Even the starch concentration could be increased over the traditional maximum and boosted further with continued smooth operation with the addition of Borresperse Paper.

RESULTS AND CONCLUSIONS

Borresperse Paper dosed with starch at increased concentrations enabled an average increase of 10% on CMT and 12% on SCT bringing the strength safely over the desired minimum.



[Click here](#) for more information about how to use **Borresperse Paper**



BORRESPERSE PAPER AS STRENGTH ENHANCER ON SIZE PRESS

BACKGROUND & OBJECTIVE

With increased recycling, the fibres lose quality and no longer match the typical strength values for corrugated medium. Thus, the customer's objective was to increase strength while keeping the entire production well over the minimum values in the specifications. Otherwise, the only solution would be downgrading or recycling off-quality reels of produced paper.

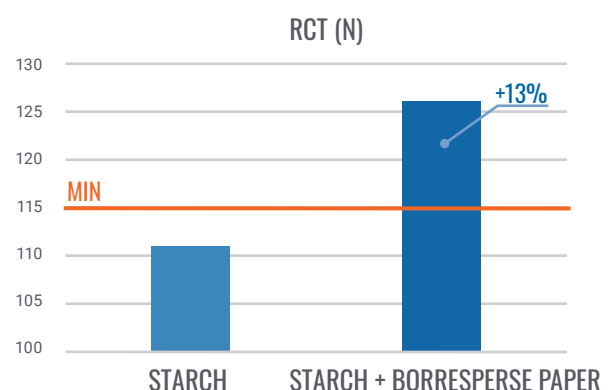
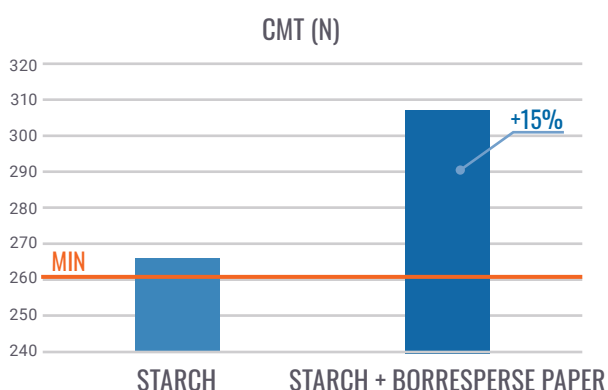
TRIAL CONDITIONS

The paper mill had a fast pond size-press operating close to 1000 m/min and low solids on the pond, being quite limited relative to the maximum for this parameter. The surface sizing agent was oxidized tapioca starch at 5% solids. Increasing solids to 7% was not possible due to starch splashes at the PM. The customer wanted to focus on the CMT & RCT parameters.

Borrespere Paper was applied at increasing ratios step by step, enabling an increase in the solids at the size press without any splash at the machine. Borrespere Paper also provided for increasing the starch concentration to the regular maximum, with total solids even higher.

RESULTS AND CONCLUSIONS

Borrespere Paper added with starch at increased concentrations achieved an average increase of 15% on CMT and 13% on RCT. Consequently, the strength was safely over the desired minimum.



[Click here](#) for more information about how to use **Borrespere Paper**



BORRESPERSE PAPER FOR COST OPTIMIZATION ON FILM PRESS

BACKGROUND & OBJECTIVE

A paper factory contacted us to get support for process optimization to enhance technical and economic values. Primarily, Borresperse Paper was added to extended production runs to optimize the chemical mix of additives. All possible technical factors influencing the optimal run of the machine were re-set and evaluated.

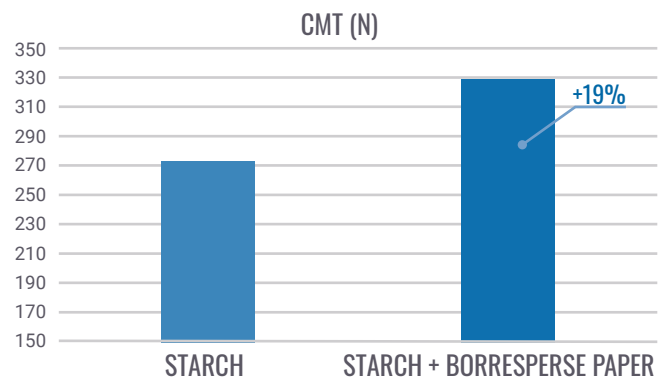
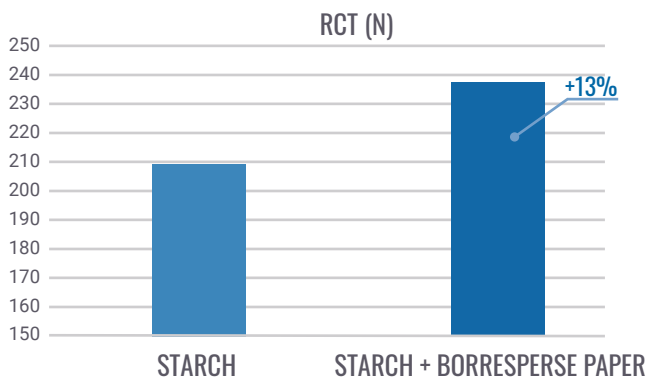
TRIAL CONDITIONS

One of the most challenging paper grammage grades was tested with Borresperse Paper. The mill produced 150 g/m² grade with starch and wet-end cationic starch. Strength properties met the specification, but strength increase and cost savings were demanded.

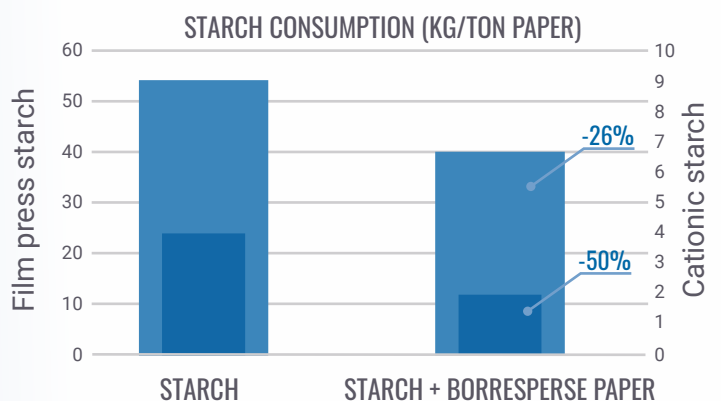
Please refer to this page for more details on the application.

RESULTS AND CONCLUSIONS

Borresperse Paper was tested on a long run while technological factors were gradually re-set. Our product delivered increased strength and cost savings for 150 g/m² papers, as can be seen in the following charts.



Borresperse Paper delivered considerable strength increase and savings of cationic starch and starch on film-press. The promising results provide room for further savings and improvements.



BORRESPERSE PAPER

NATURALLY STRONG

TECHNICAL SUPPORT



Our competent technical and commercial team is available to evaluate your process and help you optimise the application of Borresperse Paper products, from installation to production.

Please [contact us](#) for further information.

ABOUT US



Borregaard operates the world's most advanced and sustainable biorefinery. Utilizing natural and sustainable raw materials, we produce advanced and environmentally friendly bio-based products that replace oil-based products. Our world-wide network of production facilities, technical centres and sales offices assures the very best local service and competence where you need it. Providing our customers with the most dedicated technical assistance is essential to success. Therefore, we invest considerable resources for research and development. We continuously strive to develop wood based renewable products for existing and new applications and through this effort we can offer sustainable products that contribute to sustainable development in a wide variety of industries.

