

New fiber test equipment for the press section

Tracking down moisture with FiberXPress

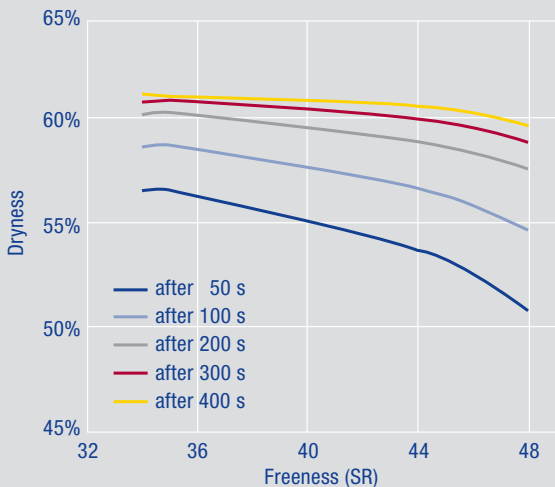
Thanks to the result of the analysis of FiberXPress, the dewatering capacity of a press can be increased and thus the costs decreased.

A high dry content after the press section is always important, because this enables a higher operating speed with greater production output accordingly. Furthermore, it reduces specific steam consumption in the dryer section and consequently saves operating costs.

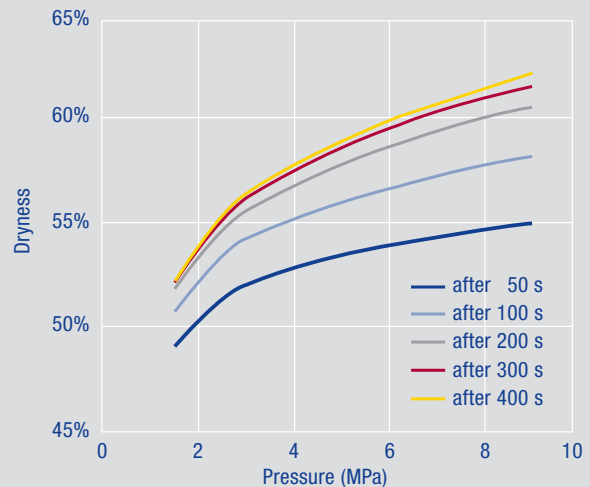
Press-like test conditions

The new FiberXPress test unit, developed by Voith Paper Automation, analyzes stock, usually taken from the mixing chest, in view of its water removal capability in the press section. To this purpose the stock is

FiberXPress enables conclusive analysis of e.g. the effect of freeness in stock preparation, or of different press nip loads on dewatering performance



Dryness (DC) vs. freeness
Recovered paper – FbM 1,500 g/m²
Temperature 21 °C – DC at press intake 20% – 6.3 MPa



Dryness (DC) vs. freeness
Recovered paper (SR 44) – FbM 1,500 g/m²
Temperature 21 °C – DC at press intake 20%

pressurized up to 10 MPa in the FiberXPress pressure chamber, thereby simulating mechanical dewatering in a press. The FiberXPress enables on-site visualization of dry content development as a function of time, and the effects of varying pressing duration, nip pressure and temperature can be analyzed precisely.

Better dewatering possible

Since this new development was focused above all on realistic simulation of press conditions, FiberXPress

test results enable well-founded recommendations for press optimization. It may, for example, be a good idea to change the press configuration, use a different type of press roll, or increase line force in the nip. The effects of using a different furnish can also be simulated with the FiberXPress under laboratory conditions and evaluated. In any case, analysis with the FiberXPress always shows clearly how to improve press dewatering performance and save operating costs accordingly.

The required pressure is built up with compressed air in the upper chamber of the FiberXPress. Water pressed out of the stock drains into the weighing scale dish underneath. Stock dewatering performance is assessed by analyzing the dried fibers and the extracted water



Customer Comment



Ir. Drs. A.W.M.B. (Ton) van Haasteren
Technologist Paper and Board Thermodynamics Smurfit Kappa Paper Production Technology



Ir. L.P.M. (Loud) van Kessel
Senior Process Engineer Smurfit Kappa Roermond Papier B.V.

“We found FiberXPress an extremely useful tool for showing up fiber dewatering performance. It is much more advanced than conventional test methods, based for example on water retention capacity or freeness. The test parameters are controlled more precisely and can be varied over a wider range. This enables a better approximation to the papermaking process, with more conclusive results accordingly”.

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