

# AFT Case Study

SC8

- **Improved Stickies Removal**
- **MacroFlow™ Cylinders**
- **AFT EP™ Rotor**

AFT MacroFlow™ screen cylinders represent the state-of-the-art in screening technology. The advanced wedgewire design provides both the increased open area afforded by a continuous slot – and superior strength relative to a resistance-welded wedgewire construction. AFT MacroFlow™ screen cylinders are also distinguished by the industry's largest selection of wire sizes, which enables each application to be optimized.

In this case study, an AFT MacroFlow™ cylinder was supplied to a mill making newsprint and uncoated publication papers. The mill was strongly motivated to reduce the amount of stickies in their pulp because of the runnability problems that stickies can create in the papermaking and printing processes. The AFT MacroFlow™ cylinders had the same slot width as the mill's traditional cylinders, but the improved wire shape increased stickies removal efficiency from 95.2% to 97.7%. The combination of an AFT MacroFlow™ cylinder and AFT EP™ Rotor increased efficiency to 98.5%.



## The Background

The subject mill is located in Germany, and produces over 600,000 TPY of newsprint and uncoated publication papers. The mill furnish is predominantly deinked newsprint, which is supplemented by small amounts OCC and groundwood.

An evaluation of AFT technology was made in the secondary screen of one of the mill's deink lines. The mill had been operating a 0.15 mm (0.006") wedgewire screen cylinder in this Voith GR20 screen. The stickies removal efficiency for this screen was 95.2% in the baseline measurement.

While the removal efficiency was relatively high, the quality of the wastepaper furnish has declined over time. The mill was thus strongly motivated to increase efficiency in order to compensate for the increased level of incoming debris. Stickies cause various problems, such as deposits on the papermaking fabrics, which lead to runnability problems and machine downtime. Their removal is critical.

## The Solution

AFT reviewed the operations of the mill, and supplied an AFT MacroFlow™ cylinder with 0.15 mm slots (like the existing cylinder) - but with a different contour shape. Efficiency increased from 95.2% to 97.7% at an equivalent mass reject rate. AFT maintains the largest inventory of wedgewires in the industry – which lets us select the contour height and slot spacing for optimal screen performance for each screen in each mill. To provide a further increase in efficiency, the mill installed an AFT EP™ Rotor and efficiency rose to 98.6%.

## The Benefits

Installation of an AFT MacroFlow™ cylinder and AFT EP™ Rotor caused efficiency to increase from 95.2% to 98.6%. In other words, the residual quantity of stickies flowing from the accept flow of the screen decreased by 71%. Measurements taken over a period of weeks have confirmed that the accept stickies level has dropped below the long-term stickies levels. The mill has thus decided to install AFT MacroFlow™ cylinders and AFT EP™ Rotors throughout the deink system so that they can benefit from the higher efficiency in reduced stickies-related problems on the paper machine.

