



Technical Article Series

Chesapeake installs high speed dewatering sieve for bark removal at pulp mill.

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Chesapeake Installs High Speed Dewatering Sieve For Removal Of Bark At Its pulp Mill In West Point

West Point, V A...

A bank of four high capacity dewatering sieves handling 3200 gallons per minute of degrittied flume water has been installed at the Chesapeake corporation pulp mill here. Chesapeake, an integrated forest products company is a major manufacturer of pulp and paper products, including unbleached Kraft paperboard and paper and bleached hardwood market pulp. They also convert paperboard into packaging products and timber into lumber and plywood products. The system has been in operation for the past three years and according to Senior Project Engineer, a. Stephen Boynton, "after a trouble-free start-up it has provided large quantities of dewatered bark as low cost fuel for the boiler."

Degritting System

Logs come into the flume water transportation system at the mill with sand, grit and loose bark, all of which tend to build up in the flume water causing excessive wear and abrasion on the mechanical conveyors-especially on the jackladder where the logs are removed from the flume and the chain is submerged in the flume water. The degritting system involves pumping the water from the bottom of the flume, running it through hydrocyclones removing the grit and sand in the underflow. The lighter material, essentially bark, discharges with the accepted flume water from the hydrocyclone overflow and feeds the Kason Cross-Flo™ high speed dewatering screens, where the bark is removed and discharged onto the logs going up the jackladder.

Close-up on Cross-Flo Operation:

The Kason Cross-Flo has an adjustable slope screening deck that provides precise control over product discharge and the degree of clarification. It features an extended acceleration/orientation ramp that performs three separate functions.

1. When handling fibrous materials, the adjustable deck aligns the fibers in the direction of the flow before they reach the transverse slotted screening surface. This permits wider spacing of the profile wires, creating more open area and hence, higher capacities.
2. It controls the feed velocity to the profile wire deck, enhancing the "Coanda" effect, (see Fig. 1) which in turn increases dewatering capacity.
3. The adjustable deck provides for smooth non-turbulent flow from onto the dewatering sieve panel.

The unique design of the Cross-Flo sieve involves no moving parts, and all wetted components are fabricated from type 304 stainless steel.

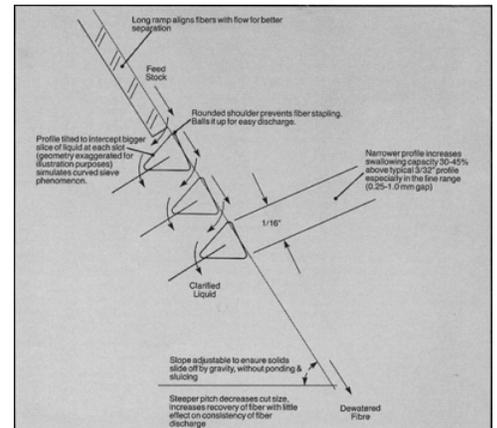


Fig. 1 Unique sloped profile wire screen speeds dewatering and minimizes binding.



Bank of four Kason "Cross-Flo" sieves screens bark out of the flume water system at once Chesapeake Corporation.