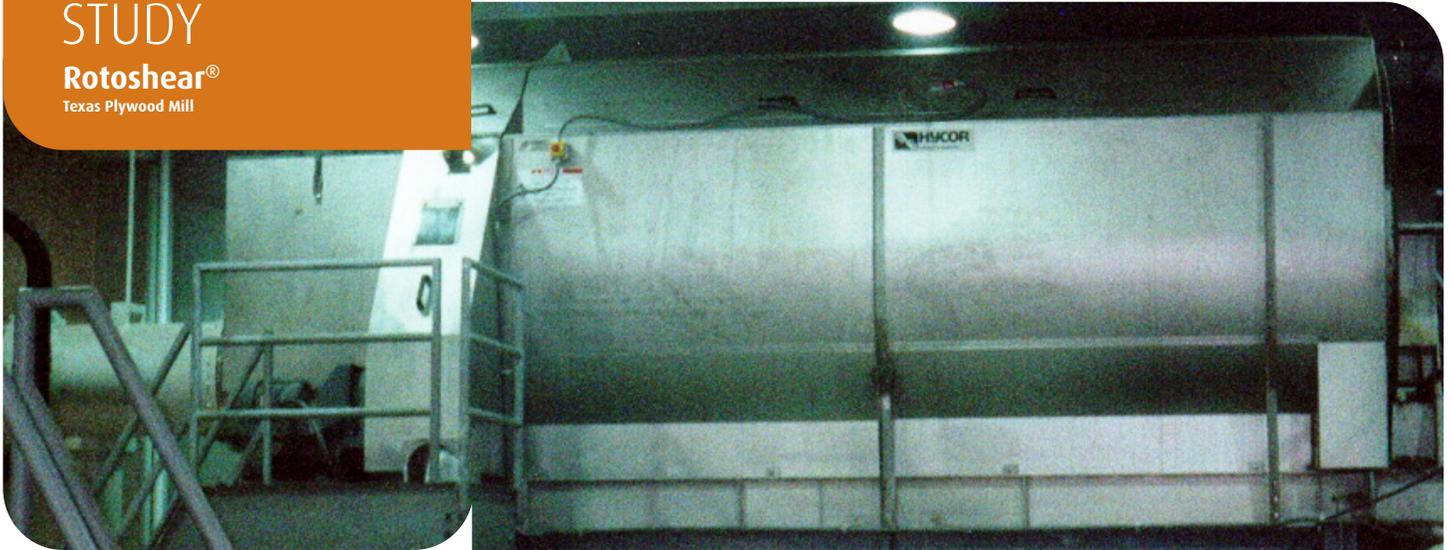


CASE STUDY

Rotoshear®
Texas Plywood Mill



Rotoshear® screen improves log vat water recycling system

Overview

This Texas plywood mill is a major forest products supplier that processes Southern Pine. It cuts logs into uniform lengths, debarks, and conditions them by soaking them in hot water vats prior to removing or “peeling” the wood veneer down to the core of each log. The veneer is processed into plywood for the building industry. The remaining log cores are trimmed to 2x2’s and the broken veneer pieces are chipped and sent to a pulp mill.

Problem

Part of a new log conditioning system design involved a vat water recycling system. The vat water is 180° F and recycling would result in substantial savings from fresh water and energy used to heat the water.

The problem was finding a reliable screen that could handle the soft pine with its long, stringy fibers, and the tramp material, including sand, dirt and bark chips (some as large as 4x10”) that are typically released from the soaking logs.

Static screens were rejected because they blinded and required operator supervision. In addition, one screen would not be able to handle the high loading, and the mill wanted to save space and avoid the high cost of a flow splitter box and duplicate piping.

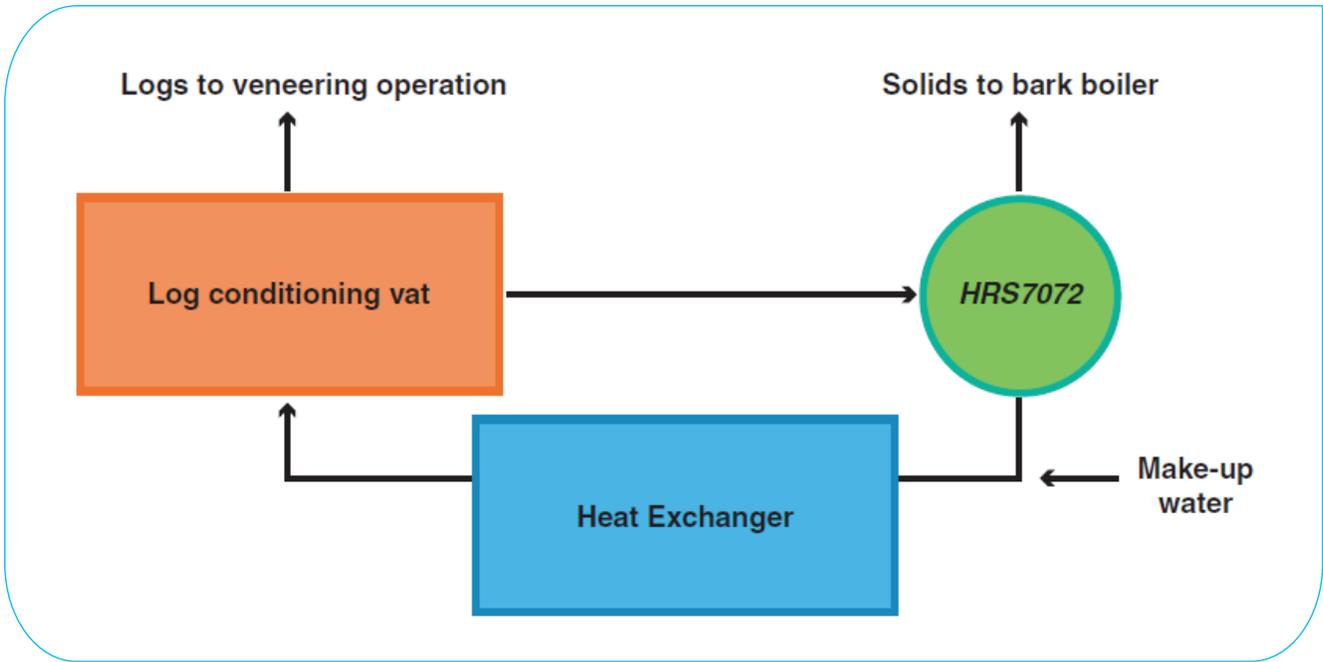
An externally-fed rotating screen had been designed into the project, but it did not operate well. Wood fibers blinded the screen and pushed the doctor blade away from the cylinder, creating a solids bypass. The mill needed to find a better screening solution before they could put the recycle system into operation.

Solution

The mill installed a Model HRS6072 Rotoshear® unit on a satisfaction guaranteed basis. Equipped with .060” screen openings and extra high flites within the cylinder, the Rotoshear® unit handled the heavy surge solids. Filtrate from the Rotoshear® screen is recycled back to the log conditioning vats, with only make-up water and a small amount of caustic (to control the pH) added as needed.

Results

With the Rotoshear® screen in place, the recycling system operates efficiently and reliably on a once-daily batch dump cycle. The municipal treatment plant also benefits from the system and the mill no longer receives complaints about discharged fibers blocking pumps and pipes. One to three cubic yards of solids are captured daily. Although solids dryness has not been formally analyzed, the mill notes that the solids are “amazingly dry.” In fact, they are dry enough to be collected daily and used as fuel for the bark boiler, and this also saves the plant money. ■



Design Data

Plywood mill, log conditioning, water recycling, batch dumps 800 GPM, 180° F

1600 ppm, wood fibers, bark chips, sand and dirt

(1) HRS6072 x .060" with extra high internal flights



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