

Fall 2006

Sneak Preview:

## Diagnosing Refiner Plate Failure Modes in TMP

To improve the performance of your pulping process, it is essential to correctly diagnose the causes leading to plate failure. Only then is it possible to select the proper design and alloy materials for TMP refiner plates.

Given the rigors of thermo-mechanical pulping, plate failure is often the result of a combination of factors working together to influence the ultimate performance and life of the plates.

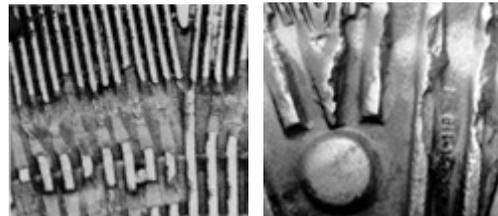
It is important to note, plate failure is influenced by the unique conditions of your mill.

Plate failures fall under two categories, Process Variable and Normal Operating Conditions. Typical plate failure modes associated with process variables are serration, bar wear, and plate or bar breakage. Failures due to normal operating conditions include cavitation, corrosion, and bar edge rounding.

Though plate failure is usually a combination of several of these failure modes, it is important to identify the primary cause of plate failure, given your specific set of operating variables.

***To discuss ways to eliminate or reduce refiner plate failure in your TMP process or request a complete copy of "Diagnosing Refiner Plate Failure Modes in TMP" call 1-262-544-1890.***

**Over the past few years, J&L continued to make further developments on diagnosing refiner plate failure modes in thermo-mechanical pulping. Now, you can get a sneak preview of the data we uncovered!**



*Bar breakage is common in high consistency refining usually due to tramp material. Evidence of tramp material can often be found in the breaker bar area. Damage to the breaker bars (right) indicates tramp material entered the plates. Bar breakage can also be related to plate design, especially poor transition zones (left). Heat generation due to clashing can cause cracking which can lead to bar breakage. Proper material selection for a given set of conditions can greatly affect bar breakage.*

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