

AFT Case Study

FB2

- **Improved Capacity**
- **Increased Plate Life**

AFT Finebar® plates represent a breakthrough in low consistency refiner plate technology. An innovative, patented technology is used to create significantly finer patterns than conventionally manufactured refiner plates - with exceptional strength and durability. Proven benefits in pulp quality, energy savings and plate life have been achieved for a wide range of fiber types and pulping processes.

AFT FINEBAR® refiner plates were supplied for at a subject mill to overcome problems of poor throughput and short life of the cast refiner plates. Installation of AFT FINEBAR® refiner plates lead to significant improvements in plate life, as well as solving the previous throughput problems.



The Background

The subject mill is a German integrated pulp and paper mill producing up to 480.000 MTPY of different high quality coated and uncoated printing and writing grades. The mill has two operational paper machines, a de-inking plant and a groundwood plant. The basis weights of printing and writing grades range from 39 to 70 g/m².

The mill was operating three Voith 42" single disc refiners. Due to constraints in cast refiner plate technology, the mill was unable to fully load the refiners resulting in limited capacity of the refiners and a short plate lifetime.

The Solution

AFT Finebar® refiner plates were installed to all three Voith 42" refiners. The unique AFT Finebar® manufacturing technology enables a use of low intensity refiner plate patterns with customized inlet and bar design. This combination enables better fiber capture at the bar edges and improved transport through the refining zone. Additionally, the very high metal purity combined with the lower intensity patterns dramatically increases the plate life time.

The Benefits

After installation of AFT FINEBAR® refiner plates, mill experienced several improvements in their refining system:

- The throughput of the refiners was increased by 50%
- The plate life was increased from previous 6 weeks to 6 months.
- Shive reduction was improved
- Pulp strength characteristics were improved

Significant increase in capacity enabled the mill to shut down one of the three 42" Voith refiners. With power requirement of 1.100 horsepower, the annualized savings @ energy cost of \$0.03/kWh is \$215.000 /year.

Currently, AFT FINEBAR® refiner plates are used as a preferred plate in the groundwood reject refining stage.

