

## Voith Fabrics and Rhein Papier – Synergy is winning in Hürth

### How teamwork is helping break new records



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**What motivates people at Rhein Papier Hürth? First, it's the desire to be the fastest in the world. Next, it's the goal of being the efficiency winner. And most of all, it's the drive to achieve superior quality.**

In the business of high-speed newsprint, the Rhein Papier team must consistently perform at a higher level with little margin for error. They must also develop special relationships with suppliers and push to achieve higher quality while finding greater efficiencies through synergy between clothing and machinery.

As Rhein Papier Hürth operations manager Dirk Schwarze puts it, "Just like in

*Formula One racing, you start with a superior car. Then there are the tires. If the driver is to reach peak performance, it's the tires that will deliver that incremental winning edge. It's the same with the paper machine and machine clothing. And we are trying, with the help of our suppliers, to reach a new level on a machine that already holds the world record for newsprint speed."*

**Fig. 1:** Fabrics changing.

The fundamental goal for the Rhein Papier Hürth team is a balance between high production efficiency and achieving key properties sought by the company's printer customers. Schwarze sees quality and efficiency as going hand-in-hand and relating closely to machine clothing, chemicals and other factors that effect machine performance.

*"Our Balance Program is an intensive effort designed to slightly modify clothing and machine parameters with the goal of producing fewer breaks on printing presses and improved print quality,"* said Schwarze. *"We've asked suppliers like Voith Fabrics to be part of our team to reach a maximum quality level."*

### **How much difference can clothing make?**

Says Thilo Schuler, Paper Machine Process Engineer at Rhein Papier Hürth, *"With our goals for lightning speed and efficiency, slight changes and improvements are a must for us. Voith Fabrics has developed good fabrics. But, we are seeking peak performance, which can only come through incremental customizing."*

To this end, Voith Fabrics is working with Rhein Papier Hürth toward a higher level of optimization through the Balance Program. This entails on-going monitoring

and collecting data as well as making small adjustments to achieve peak machine efficiency.

According to Fernando Blanquez of Voith Fabrics' technical service group in Germany, the scope of their work includes dewatering, vacuums, chemical aids, mechanical setup of the machine, fabric data, design, weft and yarns. *"In addition, we look at technical data from the lab to analyze density, thickness, smoothness and virtually all important paper properties,"* he said.

Thilo Schuler comes to the essential point, *"If you change a retention aid in a small way, the program shows you what's important about the change, or that a particular change mattered little. We all know that the goal is to continually nudge performance to a higher level and modify it to meet quality targets. Getting costs down for Rhein Papier is good, but not at the expense of performance on the printing presses."*

Martin Serr, Voith Fabrics' head of sales for Germany and Switzerland, sums it up this way, *"The better we can define the existing situation, the more we improve the possibilities of influencing the quality of the paper. When we understand in depth how their machine reacts with various adjustments, including the influence of clothing, we will help Rhein Papier Hürth and pioneer the next generation of clothing."*

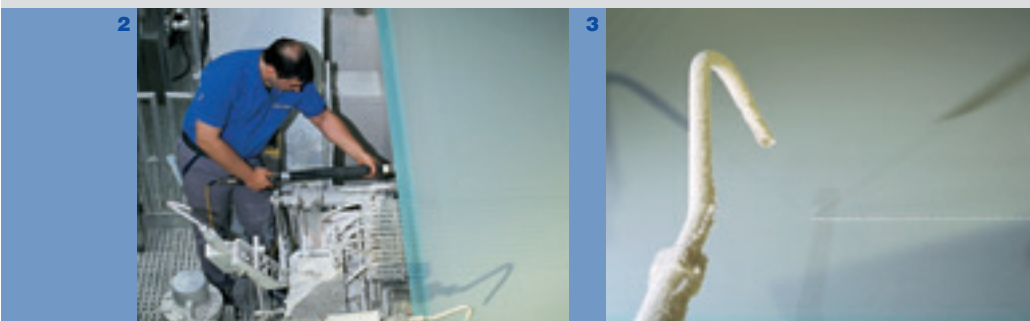
Schwarze emphasizes the importance of key suppliers like Voith Fabrics on the Rhein Papier team.

As he puts it, *"We depend on our suppliers to be part of our Balance Program. I see no distinction between Voith's fabrics and Hürth people. Much like in Formula One racing, we're all in the pit together and all contributing to winning the race on a repeat basis."*

### **Secrets at risk? Rhein Papier Hürth thinks not**

Schwarze suggests that Rhein Papier Hürth is allowing a great deal of data to be gathered by Voith, which includes part of Rhein Papier's know-how. He said the company understands and accepts the risks of bringing a supplier so closely into the papermaking process. *"If we are going for the best, a real, trust-based partnership is a necessity,"* he said.

*"You gain a lot when you don't have to have eyes on so many things,"* Schwarze continued. *"For our customers to gain we must continuously improve our product quality. That means learning something about the clear links between the properties of the sheet and machine parameters. We want more ways to zoom in on quality enhancement. We want our products and papermaking to be more stable. Then we can really advance."*



**Fig. 2:** A waterflow test of the forming fabric.

**Fig. 3:** The waterjet trimming the width of the paper.

**Fig. 4:** Hürth PM 1 and Voith Fabrics team members.

### Advances since startup

Rhein Papier started up PM 1 on July 4, 2002 and maintained very high speeds over the initial six weeks – about 1,560 m/min. Then came the time to work out some machine programming bugs, including the reality of some unplanned shutdowns. From September on the primary focus continued to be on increasing speed, followed by efficiency.

From September through November 2002, speed was increased each month by 50 meters. By the end of 2003, Rhein Papier Hürth had reached 1,810 m/min at 82% efficiency, and 85% efficiency at slightly lower speeds. On March 21, 2003, PM 1 reached the world record speed of 1,912 m/min. As of February and March 2004, the machine was running at 87.3% efficiency with an average speed of 1,800 m/min.

Schwarze acknowledges that over the last 18 months, the machine has experienced

some down moments. But he sees them as a thing of the past. October through April 2004 proved to be long periods of excellent production. He sees 2004-05 as the year of efficiency, aiming in the area of 90%.

### Success

According to Schwarze, at the time of startup in 2002, the company had customers with different needs. *“While all customers made newsprint, they printed in different ways, and that means different properties in the sheet,”* he said.

From a customer viewpoint, “paper quality” is currently the center of Balance Program. Rhein Papier believes its 100% DIP sheet already meets most customers needs without filler or the addition of virgin fiber.

To help further improvements in sheet quality, Rhein Papier Hürth has expanded its team beyond machinery and clothing to include a chemical supplier to add insights into the process. The chemical supplier now takes part in papermaking at Hürth, as well as trials on a Voith Paper trial machine. Based on observations made on the trials, Hürth is better able to determine how particular chemicals, application points and dosages influence the sheet, as well as clothing and adjustments of the dewatering elements in the machine themselves.

Stiffness and high specific volume are important properties on the quality side. Runnability and efficiency are demands on the commercial side. *“If you look at the sheet, one of the important properties is stiffness for the large format newspapers,”* said Schuler. *“If you loose stiffness the newspapers flops over. Also in the converting plant, the grabbers that transport the inserts can work poorly with a low stiffness paper.”*

This quality focus by the different team members – Rhein Papier, Voith Paper, Voith Fabrics and other suppliers – leads to success on the quality side, as well as reaching the commercial goals.

### Spirit of teamwork

Schwarze is an advocate of real teamwork, not just the talk of teamwork. In his words, *“The spirit here is to speak in an open way, so that understanding allows us to solve problems. All of our efforts need to give the operator the feeling that we’re all working in the spirit of the customer. Motivation makes the best paper. Teamwork includes solid support from our suppliers.”*

Says Voith Fabrics’ Serr, *“At end of the day, the performance of the product running on printing presses is paramount to all of us. Our customer’s customer is really our customer, too. If they are happy, we all have a reason to celebrate.”*



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