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## Four: the winning number!

### Successful start-up of the world's most modern LWC paper machine with Voith Fabrics



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**From beginning to end of this gigantic project, 4 was the magic number. On July 4, 2004 LEIPA's PM 4 started up without a hitch, thanks to 4 decisive factors: the Leipa, Voith Paper and Voith Fabrics teams, plus a brilliant idea. The idea of building an LWC paper machine using up to 100% recovered paper – a world premiere.**

For Voith, the start-up actually began 18 months earlier, with extensive research to check the feasibility of this machine concept. The Voith Paper VPM 4 test machine in Heidenheim was converted accordingly, and Voith Fabrics adapted the machine clothing in all three sections to the new requirements.

#### **From test machine to print shop**

The quality of the paper produced on VPM 4 was repeatedly checked using the latest analysis equipment. Towards the end of the preliminary project phase, paper samples were sent for printing and afterwards analyzed in the laboratory for print-

**Fig. 1:** LEIPA-Schwedt PM 4 – the world's most modern LWC paper machine.

**Fig. 2:** PM 4 machine hall on the LEIPA-Schwedt site.

**Fig. 3:** Happy teamwork between LEIPA and Voith Paper Technology. From left to right: Josef Reinartz, Voith Paper, Manfred Schäfer, LEIPA-Schwedt, and Martin Serr, Voith Fabrics.



ability. This extensive project sequence ensured full satisfaction not only for LEIPA-Schwedt, but also for its customers – the print shops. *“Voith’s effort in this project, already before it began, was enormous”*, said Manfred Schäfer, PM 4 production manager. *“Comprehensively and in full detail, all interrelationships between the machine concept, raw material and fabrics were investigated to ensure optimal cleaning, optimal service life and optimally consistent paper quality even before the actual installation work”*.

Thanks to these efforts, PM 4 was started up four weeks earlier than planned, and produced saleable paper right from the beginning.

### A special challenge for fabric suppliers

As shown in recent years, fabrics are decisively important for the successful start-up of modern paper machines. Voith Fabrics has gained a lot of experience in this connection. For example, all significant new machines and rebuilds in Germany during the last two years alone started up with Voith Fabrics as a supplier – both for graphic grades and for board and packaging papers.

*“Modern paper machines are a special challenge for fabric suppliers”*, confirms Schäfer, *“the latest machine concepts are not easily adaptable to suit the fabrics”*.

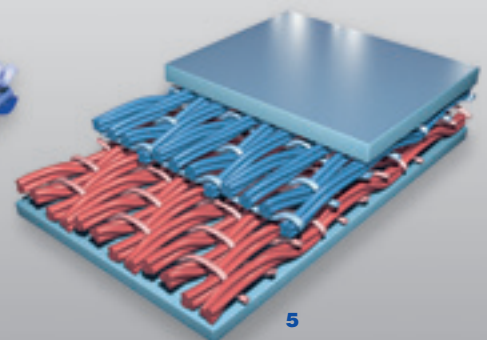
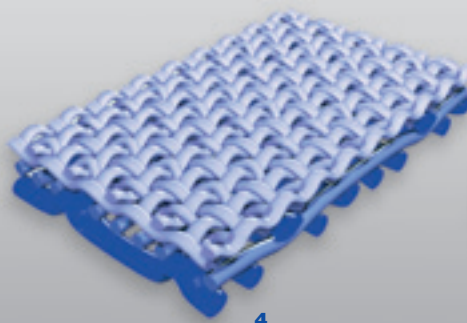
*That is why I am so glad we chose Voith Fabrics, who took over everything for us without problem”*.

### PrintForm H in the former

LEIPA’s PM 4 started up with structurally integrated SSB wires in the TQv former. Voith Fabrics PrintForm HC inner and outer wires more than satisfy all the main parameter requirements for a modern forming wire. The combination of numerous sheet support points and minimal wire thickness make excellent paper quality at high production speeds possible, without interference by entrained water. *“Voith Fabrics is first class not only with regard to the former wires”*, comments Schäfer, *“but also in consistent production quality and adaptability to new challenges. Voith is extremely reliable in my experience.”*

### PrintFlex O in the press

The tandem-NipcoFlex press was started up with PrintFlex O double layer felts, which are also well proven with Rhein



Papier in all positions. PrintFlex O felts have excellent start-up behaviour, with stable drainage characteristics over their entire service life. Their good conditioning behaviour and constant permeability have ensured a consistent moisture cross-profile. Currently, felts from four different suppliers are being tested in the press section.

Voith Fabrics has already received follow-up orders for both presses. *“We are still in the test phase”,* says Schäfer, *“and we shall certainly not keep all four suppliers. Decisive in the end is the overall concept – forming, pressing and drying have to be mutually complementary and harmonious.”*

#### PrintTech Q in the dryer section

The first four dryer groups were started up with Voith Fabrics PrintTech Q2 and PrintTech QC. Once again, these high-speed fabrics proved themselves with outstanding web control, dependable press-to-drying transfer, and easy cleaning. Their abrasion resistance and run-

ning stability were continuously improved, so that operation today is characterized by exceptionally long service life and outstanding reliability. *“I have to rely totally on the dryer fabrics and related service”,* emphasizes Schäfer. *“I gladly delegate felt change scheduling to the supplier – in whom I place my complete trust. It takes time to build up such confidence, but after more than thirty years in this business, I know the quality and reliability of Quantum or PrintTech fabrics.”*

#### A strong team

For Voith, the success of this project is a matter of prestige. *“We are well aware that at the present time the eyes of the world are focused on LEIPA’s PM 4”,* says Martin Serr, Voith Fabrics marketing manager Germany, Austria, Switzerland. *“The experience and know-how we acquire working together with the Voith Paper teams will also help to boost production for our other customers. At the next start-up at the latest, we again can say: four’s the winning number!”.*

#### Manfred Schäfer

Production Manager PM 4  
LEIPA-Schwedt



Right though the PM 4 project, Manfred Schäfer has repeatedly praised the good teamwork with Voith.

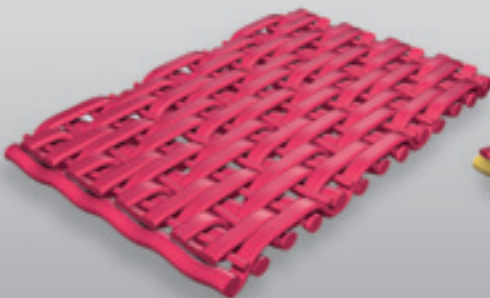
*“Problems occur with every new project, but the way the supplier solves them is decisive. And that is what really impressed me about Voith. They always took our needs very seriously and worked out solutions together with our team. Furthermore, it is an enormous advantage when the supplier brings along his own felts for start-up. In short, the service provided by Voith Paper and Voith Fabrics is exemplary – both with regard to speed and quality. Together, we have mastered all the challenges of this project. And that is what I call teamwork!”*

**Fig. 4:** Voith Fabrics PrintForm H – structurally integrated SSB forming wire.

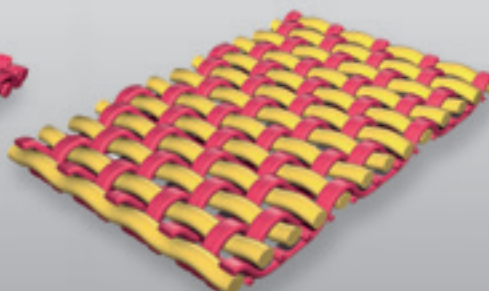
**Fig. 5:** Voith Fabrics PrintFlex O – double-layer press felt for demanding start-ups.

**Fig. 6:** Voith Fabrics PrintTech Q2 – dryer fabric for high-speed paper machines.

**Fig. 7:** Voith Fabrics PrintTech QC – dryer fabric with high resistance to dirt and abrasion.



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