

# impressive

ISSUE 3/2014

## Atronet – top performer in drainage and start-up

New press felt with special compression

## Clarity for papermakers

How to precisely determine the source of vibrations

## Primoselect conquers the forming section

The market is convinced



## Specific customer satisfaction

### Interview with Hadera Paper

We often ask ourselves what specifically excites our customers, what are we doing right, what do we need to pay attention to... But the answers are more helpful

than questions, so we asked Hadera Paper from Israel, a long-term Heimbach customer, about their experiences.

**Read the whole interview on page 08.**

## The Second Dryers Club

Dryer section seminar once again fully booked



# Primoselect

The future for forming fabrics

**Primoselect** is a unique fabric concept, available for all paper grades:

- **flexible design** to fulfil every requirement,
- **production is optimised** in terms of runability, dryness, energy consumption and efficiency,
- robust machine side for **better stability and longer life**,
- more open structure and low caliper to **improve drainage**,
- **easy to clean**, increased retention, less sheet breaks,
- **less fibre and water carry**.



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**Welcome to the third impressive of 2014!**

We are already half way through the year, with many challenges successfully overcome in the last six months. Time for a well-deserved short break. And if you still need some reading material we can warmly recommend this issue of impressive which contains many interesting topics.

In this issue we address the question of what inspires a Heimbach customer to become a Heimbach customer in the first place: In an **interview** with Yaron Dor, Plant Manager at Hadera Paper, Israel, we hear why Heimbach has been his first port of call for over ten years when it comes to paper machine clothing for his machines. At this point I'd like to express my personal thanks to Mr. Dor for his informative answers.

Get to know **Atronet**, Heimbach's new press felt with its special compression layer. Our engineers have specifically developed this new product for the manufacture of graphic papers and lighter packaging produced on high-speed machines.

You will learn what was presented at the second round of the **Dryers Club**, the Heimbach seminar on the dryer section held in Cologne and Düren. Once again we were delighted that the seminar was fully booked also with the positive feedback we received from our customers.

Our colleagues from the TASK Service Division also present the new **Test Kit** for vibration measurement – an interesting topic for all papermakers who wonder why their machine is "humming".

We have also taken a look at Primoselect, the flexible forming fabric with cost-saving advantages. Read in our market report what Primoselect has already brought to our customers.

Have fun browsing. My very best wishes.

Greetings from Düren

Managing Director

# atronet.

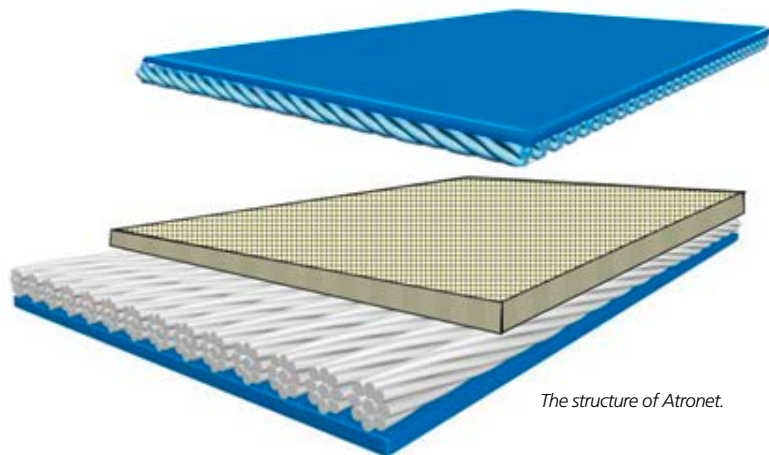
## Perfection in a press felt

*The challenge: How do you improve a product that is already as well established as Atrocross? The objective: A press felt that further optimizes dewatering and start-up characteristics! The result: Atronet – specialized in the production of graphic and lighter packaging papers on high-speed machines!*

Your Heimbach specialists approach development with a keen sense of customer needs, plenty of ambition, the spirit of research and an abundance of expertise. Atronet, Heimbach's new press felt with a special compression layer, came about under the leadership and guidance of Josef Kosse, Product Manager Pressing, Drying & Belting,

### The new layer has multiple uses.

The compression layer is placed between the support structures. It can be incorporated in the top module with both yarn and monofilaments arranged in the cross direction. "Customers report **significant start-up improvements** with Atronet" said Kosse explaining an important customer benefit. "In practice the layer also exhibits **high values in regard to the total dewatering performance.**" Another important aspect for papermaking is the quality of the CD profiles: "Customers report **highly homogeneous CD moisture profiles** over the entire life time. And the significantly increased relaxation behaviour and improved self-cleaning effect should also be mentioned: Two aspects that are reflected in **significantly increased residual strength values**" said Kosse, who is delighted with the results shown to date.



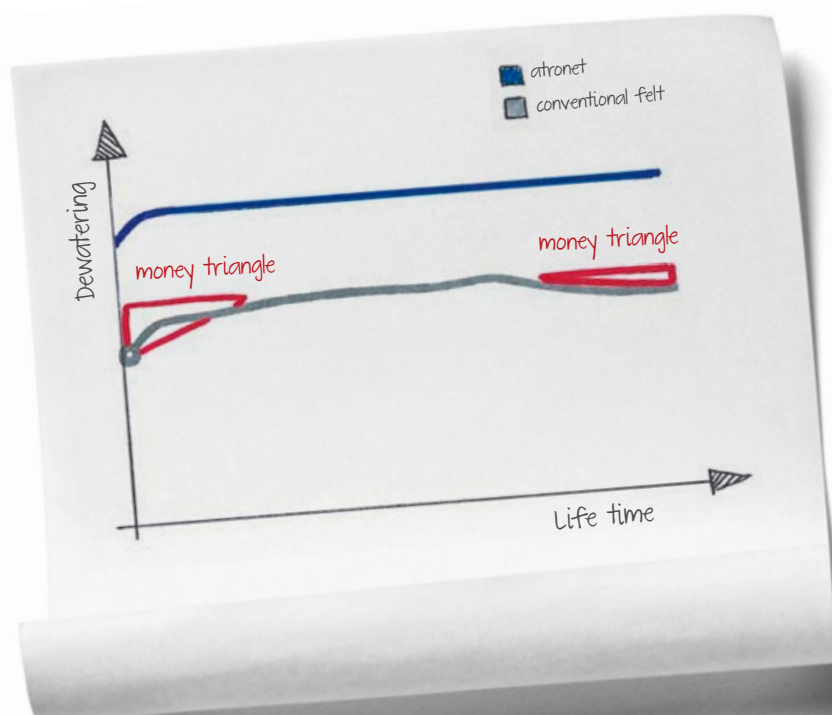
The structure of Atronet.

### Atronet eliminates cost triangles

But it is not only the technical aspects that characterize this felt as a first class product. Customers also benefit in financial terms from an innovative new concept: "With Atronet customers can now use a felt which **not only eliminates the first 'money triangle' in the start-up phase, but also the second at the end of the run time.**" An important economic benefit, points out product manager Kosse.

Figures prove that Heimbach customers appreciate these benefits: "We began supplying Atronet in 2012. Just one year later the customer demand had increased

tenfold, and this trend continues to grow" stresses Kosse on the development of the market. "We consider this to be a further confirmation of our claim that **all Heimbach products are precisely tailored to our customer's needs.**" And the development drive will continue, since stagnation can only lead to regression: "We are already working on new developments and look forward to presenting Heimbach customers with the newest members to the Atronet family in the near future." It will be very interesting to see what innovation Kosse and his team will present next. We'll keep you posted!



*Atronet eliminates money triangles which occur when applying conventional felts.*



Josef Kosse, Product Manager Pressing, Belting & Drying.

"More than  
just a job!"

## "Paper is my passion" Josef Kosse is working for your progress

Josef Kosse is a real "paper man". As a Product Manager Pressing, Belting & Drying he is instrumental in the development of Heimbach products for these sections of the paper machine. In this vital role the trained papermaker has already contributed his expertise, for example, with the **new Atronet press felt**. And if Kosse is not busy with product innovations he is to be found working as a consultant in the successful "Dryers Club" series of seminars (see also the separate report on page 11/12). Josef Kosse has worked in the paper industry in various positions for almost 15 years. Before joining the Heimbach family in 2012 he

worked in Germany, China and England in paper production, machine commissioning and as a senior foreman.

### A life in paper production

For Kosse, who has continued his training throughout his career to become a master of papermaking, paper and everything that goes with it is more than just a job: "Paper is my passion," he says and adds "paper and its production are exciting and varied. There is always something new to learn. I enjoy placing my practical experience at the service of our customers."





Ralf Schuster demonstrates on the Heimbach pilot machine.

## What to do when the machine hums? Locate vibrations with Heimbach's test kit

*Our new device for the measurement of machine vibrations is barely larger than a standard smartphone. Machine vibrations can now be reliably and flexibly located by Heimbach TASK personnel – even in areas that are difficult to access.*

Vibration measurements are useful to accurately determine if a fault already exists, but can also be used very beneficially for predictive and preventive maintenance. In this way damage to a unit or machine elements can be recognized at an early stage enabling any subsequent damage to be minimized or ideally avoided altogether.

### **Precise and highly accurate measurement**

With the handy pocket size Heimbach test kit measurements can be taken flexibly and easily; piezo-electronic accelerometers detect the vibrations as raw data. Measurements on rolls are recorded triaxially (in nip, longitudinal and transverse directions). These data **are wirelessly transmitted to the evaluation unit** where they are processed by a PC, which has been rebuilt as an FFT analyser. Prerequisite for the measurement is a stable production run without changes of grammage and speed. For the final evaluation mechanical details (such as the size, design and type of

bearings used, roll diameter, number of gear teeth) are required which are made available by the customer.

### **Recommended course of action for the customer**

"The time that customers invest in the early detection of potential disturbances **always pays off in the end**," reported Dipl.-Ing. Ralf Schuster, Heimbach TASK expert for vibration measurement. Schuster, who has performed such measurements for over 17 years, knows what is important: "Many machines are equipped with on-line measurement systems. This is useful to gain an initial feel for the



Fig. 1:  
The Heimbach TASK test kit at a glance:  
Below left is the "clock generator", which is used for offline synchronization.  
Top left and in the middle of the table are the three transmitters of the telemetry system, with which the specific values are determined (transmission range: approximately 150 m). Also shown is the "triaxial acceleration recorder" including two "contour magnets" used to inspect the x, y and z direction of the roll.

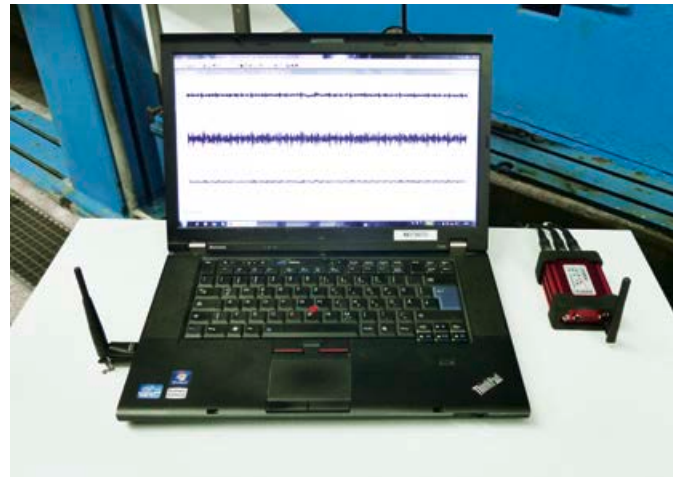


Fig. 2:  
Mathematical preparation: The overall vibration of the roller is detected as a time signal via telemetry transmission. A PC is upgraded as a receiver for telemetry. The special software acts as an FFT analyser.

disturbance. However, **detailed knowledge and experience** is crucial when it comes to developing a recommended course of action for the customer."

To illustrate this we can cite an actual case study: When vibration occurred in a paper machine the frequently cited "hum" could be heard but it was impossible to precisely locate its source. After completing vibration measurements it was established that the vibrations always occurred at a speed of 480 m/min. "This enabled **the customer to be given hard facts**: The customer knew that to conserve the part concerned the machine should not be run at this speed. If it was essential that the machine continued to run at 480 m/min it would be necessary to modify the part to alter its natural resonance" Schuster said of this classic practical example.

#### Focus on customer benefits

The timely identification of a "weak link in the chain" enables customers to **schedule planned downtime and keep production losses to a minimum**. In addition to this clarity which is the basis for secure production planning, Heimbach customers also point out that the early elimination of vibrations often highlights two aspects: On the one hand it provides **better paper quality**, on the other **machine speeds can be increased** – even before the disturbances have become noticeable.

If you would like to gain some clarity and insight into your machine just give us a call on 0 24 21/8 02-469. Or send an e-mail to: [ralf.schuster@heimbach.com](mailto:ralf.schuster@heimbach.com).

## INFOBOX

### Case study

#### Problem:

Felt wear and vibration

#### TASK experts recommendation:

- Check drive shaft, its angle and alignment
- Check on parallel alignment between roll and gear box
- Check on parallel alignment between couch and pick-up roll

#### Result:

The inspection using mobile measuring equipment indicated a misalignment of the bearing. After corrective measures the vibrations and increased felt wear ceased.



Plant Manager Yaron Dor.

"Paper machine clothing from Heimbach is ideal and helps us to fulfil our commitment of foremost paper quality."

## Quality and service are the decisive factors

### An interview with Yaron Dor, Plant Manager at Hadera Paper.

*We are delighted that Heimbach can boast of many satisfied customers. Yaron Dor, Plant Manager at Hadera Paper Ltd., took time out to tell us why that is the case. Hadera Paper is the leading manufacturer of paper and paper products in Israel.*

#### impressive

*Mr. Dor, as plant manager you know your key company production figures inside out. Can you enlighten us a little?*

#### Yaron Dor

Yes, of course! We run a total of three paper machines: Our PM4 for printing and writing papers produces 140,000 tons/year. We produce fluting and test liner on our PM2, a fourdrinier machine with top former. PM8, a duoformer, was commissioned in 2010. We use it for production of lightweight fluting as well as test liner. Capacities are 100,000 and 250,000 tons/year respectively. Our business operations primarily serve the Israeli market.

#### impressive

*How long have Hadera Paper purchased products from Heimbach?*

#### Yaron Dor

Oh, for quite some time; we have **been working with Heimbach for ten years.** Both PM8 and PM2 run to 80% only with clothing from Heimbach – and that applies to all three sections. This key indicator clearly shows that we are **more than satisfied with Heimbach products.**

#### impressive

*In your opinion what are the reasons for this long cooperation with Heimbach? Why do you value this partnership so much?*

#### Yaron Dor

There are many good reasons, but the two most important factors are the **product quality** and the **service.** **Fabrics from Heimbach are ideal and help us** to fulfil our commitment of foremost paper quality. Hadera papers can only be the best on the market if the machine equipment is very good. As well as this qualitative aspect Heimbach also stand out by providing **excellent service.**



By that I mean both the product-related advice provided by Heimbach staff and the technical assistance (editor's note: Heimbach TASK). Heimbach quickly provides the answer whenever we need assistance and expertise in our daily business or because of a disruption.

### impressive

*In your opinion what sets Heimbach apart from other suppliers?*

### Yaron Dor

Let me explain by referring to a short example. At the very beginning of our relationship we had a serious problem with the pick-up felt on our PM2. The felt had to be replaced after a run time of only around three weeks. Heimbach **quickly had a customized solution** ready for us (editor's note: Atromaxx). And this solution was not

only delivered quickly, it has also developed into the Hadera standard. Today the earliest that we have to change Heimbach pick-up felt is after 45 days, **and that is a quantum leap in economic terms.**

### impressive

*Let's change the subject. As you are aware, the entire paper industry is under enormous cost pressure. What aspects are the focus of your attention when buying paper machine clothing? Is the key aspect the "bare" price or the potential saving offered by the product?*

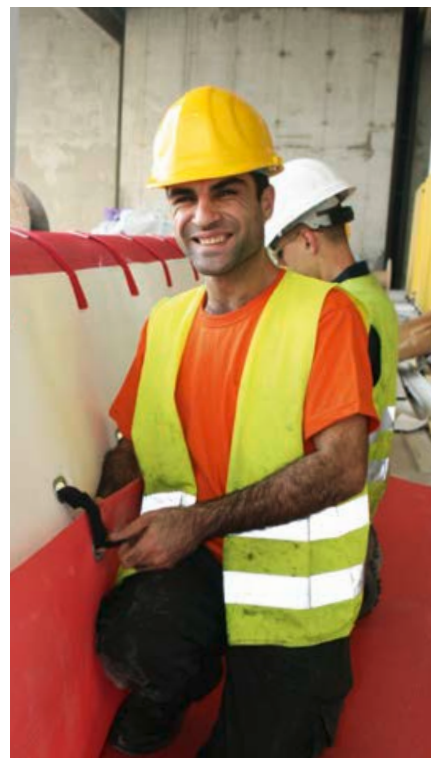
### Yaron Dor

I can give you a very clear answer to this question. We expect our suppliers to provide us with products that save **energy and increase machine efficiency.** In this respect a long run time is sometimes more

important than the pure price per square meter. The potential for savings is therefore the most important aspect and **Heimbach is a reliable partner** who we know will help us to achieve real savings.



Interviewee Yaron Dor (li.), together with Yoram Selinger (Heimbach representative in Israel) and Michael Dick (Regional Sales Manager Heimbach) during a site inspection of the new building for the Hadera-PM8.



Hadera employees during the installation of Heimbach dryer fabrics



*Yamabelt is drawn into the PM8.*

## Yamabelt survives the crash

We quote the following email from Hadera with more than a little pride: "In the course of starting our machine we noticed that the Nipco roll had been damaged due to an oil leak. None of us could explain how the belt could possibly survive this damage – not even the machine manufacturer. The crash happened after 36 million nip cycles. After dismantling and re-installation in the press Yamabelt ran a total of 121 million nip cycles to set a new record."



Founded by American investors in 1951 the company started production under the name "American Israeli Paper Mills Ltd." with a single paper machine to serve the Israeli market. Today, more than 60 years later, the Hadera Paper Group is a high performing industrial company with diversified business divisions.

### Facts about Hadera:

- Israeli market leader for paper and paper products,
- Revenues: NIS 3.2 billion (New Israeli Shekel),
- 3300 employees,
- 14 Production and distribution facilities,
- Production output: 350,000 tons/year,
- Winner of various environmental awards.

### impressive

*Can you actually quantify what financial savings have been achieved through the use of Heimbach's products at Hadera Paper to date?*

#### Yaron Dor

I can say this quite openly, especially since I am also very pleased with the result: **We save between 50,000 and 100,000 euros a year by using Heimbach products.** And this pure numerical value only refers to savings that can be verified in practice. But I do not wish to express my satisfaction only in monetary terms, because advice and service are always customer orientated, too – which is just as important.

### impressive

*Last question: What are the future plans at Hadera Paper and how can Heimbach support you in your aims?*

#### Yaron Dor

In a few brief words: The production of lightweight packaging papers with less energy consumption – that is our very specific goal. We are absolutely convinced that Heimbach as our leading supplier will help us to overcome this challenge.

### impressive

*Thank you very much for your statements.*





*Participant appraisal:  
"The division and balance between lecture and workshop was very good and varied. The Heimbach staff in attendance were both friendly and courteous."*



## All available places taken once again Full-house at the Dryers Club

*In spring this year the Heimbach Dryers Club met for a second time offering a successful blend of theory and practice. On 19 and 20 March nearly 50 customers from Germany, Austria, Switzerland and the Netherlands gathered together in Cologne and Duren to enrich their knowledge on all aspects of the dryer section.*

In the pleasant ambience of the Cologne conference hotel by the Dom cathedral day 1 was filled with content-rich presentations: Speaking on behalf of Heimbach, Josef Kosse spoke about the **demands on modern dryer fabrics** with regard to elongation, load bearing and air/water carrying. Yvonne Raschka discussed the **effects of different designs** on cleaning results and finding the root cause of problems by analysing wear patterns.

### Experts from all fields

Experts from Heimbach's cooperation network contributed to significantly expand the range of topics: In his presentation Dr. Ulrich Weise of fipptec gave tips on triple cost savings "through good, **close web air flow**." Christian Schwandt from Joh. Clouth talked about the potential influence of doctor and doctor holder on the energy balance in the dryer section. Christoph Waßmer of CTP-Solution explained how to keep the drying cylinder and dryer fabric effectively and continuously clean by **passivation**.

### A variety of topics delivered with practical understanding

"During our lectures we wish to transfer **practical knowledge and background information** that may not be universally

known," explained seminar leader Werner Raschka in regards to the composition of the theoretical part. Henning Schwieger from Kadant also gave practical suggestions on how to identify **potential savings** by reducing specific steam consumption. His colleague Wolfgang Ende took a close look at the subject of "cleaning dryer fabrics using high-pressure" and demonstrated how, using 600 bar pressure, energy and water could be saved whilst at the same time increasing the efficiency of the paper machine. This intense day intense day of theory came to a relaxed end with a dinner in the traditional Brauhauskeller "Kappellchen". One of the participants complained tongue-in-cheek "A little less food would probably be better for the figure – still, my compliments to the kitchen!"





**Participant appraisal:**  
*"The organization of the whole seminar was excellent. Nothing was left to chance. Consultants were always on hand to answer questions."*

### **Congratulations!**

Once again, the highest score in the "Dryers Quiz" was presented with an award: Bernd Betzler of Palm Wörth won a voucher on behalf of his company for 5 individually assembled tool boxes containing special equipment for dryer section maintenance.



### **Roll up your sleeves and get stuck in**

Day 2 saw the practical work in Heimbach in Düren: In small, user-friendly groups and under the guidance of Heimbach product managers fabric seams were closed, holes stitched, edges sealed or installation and seaming aids tried out. The main objective of these workshops was to give tips useful in practice, share experiences and to freshen up knowledge.

### **"The practical part was very useful."**

We were pleased to read this statement from a participant and Werner Raschka concluded on this that "it is an incentive to continue to build future seminars based around the benefits for participants."  
 "Some companies were on the guest list for

the second time, which confirms the quality of the seminar," added Regional Sales Manager and co-host Jochen Arnold.

### **Participant survey confirms success**

In a participant survey conducted after the seminar more than **80% rated the event as "good" to "very good"**. The selection of topics was also praised as was the mix of theory and practice.

The organization and guest service also came in for ample praise, for which we thank you all very much. Participants also expressed their desire for additional content and special topics that we would like to address in the next Dryers Club, which is now a certainty.

### **Thank you!**

A big thank you to our partners whose commitment once again contributed significantly to this successful event:

- CTP GmbH, Schwabmünchen,
- fipptec/EV Group, Dresden,
- Joh. Clouth GmbH & Co. KG, Hückeswagen,
- Kadant Johnson Deutschland GmbH, Langenfeld.

# primoselect.

## Results from the long distance runner

*Now tested in practice for over a year and becoming increasingly popular with Heimbach customers: Primoselect, the patented solution for the forming section. Maximum drainage capacity, reduced energy consumption, long life times and increased productivity – four reasons why this successful Heimbach product has developed into a real “long distance runner” on the market.*

Whether packaging papers, graphic application or tissue, Primoselect has proven **equally successful in all three paper grades**. Many classical problems such as high wear, low dryness or increasing energy consumption can be minimized by the use of this new forming fabric; the **first application experiences** are clear proof of this (see: infobox).

### Thin but tough

Although Primoselect is designed as an ultra-thin fabric to provide exceptionally high drainage capacity, in practice it also proves itself to be **tough and stable over its’ entire life time**. A closer look shows Primoselect to be significantly more durable than SSB forming fabrics thanks to the unique design – with a **caliper that can be as low as 0.50mm** (see photo below). This enables papermakers to achieve **measurably improved efficiency**.

### Flexible design

Tailored entirely to suit individual production needs, Primoselect adapts to the given requirements: Whether the focus is on **saving energy, life time, efficiency or dry content** – Heimbach experts work together with our customers to find the optimum design for a specific application staying true to the motto “together we select”.

### A real all-rounder

Primoselect is giving top performances on **graphic grades**: The advantages are already proven on high speed machines producing SC, newsprint or fine paper. We also see evidence that papermakers increasingly trust in the novel concept for the production of **packaging paper and tissue**. Customers are clearly satisfied with the results and have particularly highlighted the following factors:



*Primoselect – now also patented for key markets.*

- less water and fibre carrying,
- cleaner running and hence reduced sheet breaks,
- higher dry content, which also provides a significant energy-saving potential.

### Tested in practice

Results of the first Primoselect.HD: In this particular case, the customer was experiencing sheet breaks and reduced fabric life time due to heavy internal abrasion of the bottom wire. In response Primoselect.HD was installed in the bottom position, combined with Primobond.F in the top position. The basis for this application choice was that **low caliper** and internal void volume should reduce water and fibre carry, whilst the **unique single binder concept** would be more resistant to internal abrasion forces, and therefore prevent further problems. Conclusion: **Both fabrics ran as clean and dry as expected**, water or fibre carry was eliminated. As anticipated, the bottom wire did not suffer any internal wear and demonstrated exceptional life potential. It was further noted that the fabric was highly resistant to elongation with the tension roll unmoved from its original position after four days. These results mean that Primoselect.HD fulfils expectations and most important, proves to be a **flexible all-rounder**.



*Thinner than a paper-clip: Primoselect in comparison.*

## INFOBOX

### Example 1: 1st Start-up

Former type: Voith Duoformer CFD

Speed: 1.150 m/min

Width: 6,30 m

Paper grade: Corrugating Medium, Testliner

- + 2 % dry content after the couch roll
- no water or fibre carry
- good former cleanliness
- no misting
- good guiding
- low stretch

### Example 2

Former type: Multi Fourdrinier

Speed: 500 m/min

Width: 2,90 m

Paper grade: Packaging

- improved CD profiles
- enhanced former cleanliness
- stable, clean running fabric over full life
- increased dryness after the forming section
- longer life

### Example 3

Former type: Fourdrinier/Gapformer top

Speed: 700 m/min

Width: 5,00 m

Paper grade: Packaging

- good start-up
- even CD profiles
- no misting
- significant energy-saving potential



### Record life time

Former type: Gapformer

Paper grade: Newsprint paper

Inner/outer position: Primoselect

During the first successful trial Primoselect achieved the full life and had a high residual potential on the inner position. Recently Primoselect has even achieved a **“double record”**: **Average life time exceeded by 50% – and this with the machine running at record speed!**





# Atromaxx

Multi-axial design – for maximum dewatering

Press felts tailored to your needs:

- accurate module adjustment for **each application**,
- **reliable and long life times** with consistent machine performance and paper quality,
- faster start-up and **highly efficient dewatering**,
- highest **uniformity** to ensure the lowest marking potential,
- **fewer sheet breaks** and less downtime,
- efficient use of energy due to **higher dry content**.

[www.heimbach.com](http://www.heimbach.com)

wherever paper is made



## Impressions from "Dryers Club"



### IMPRINT

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