

impressive

ISSUE 1/2021

Finding out exact speeds

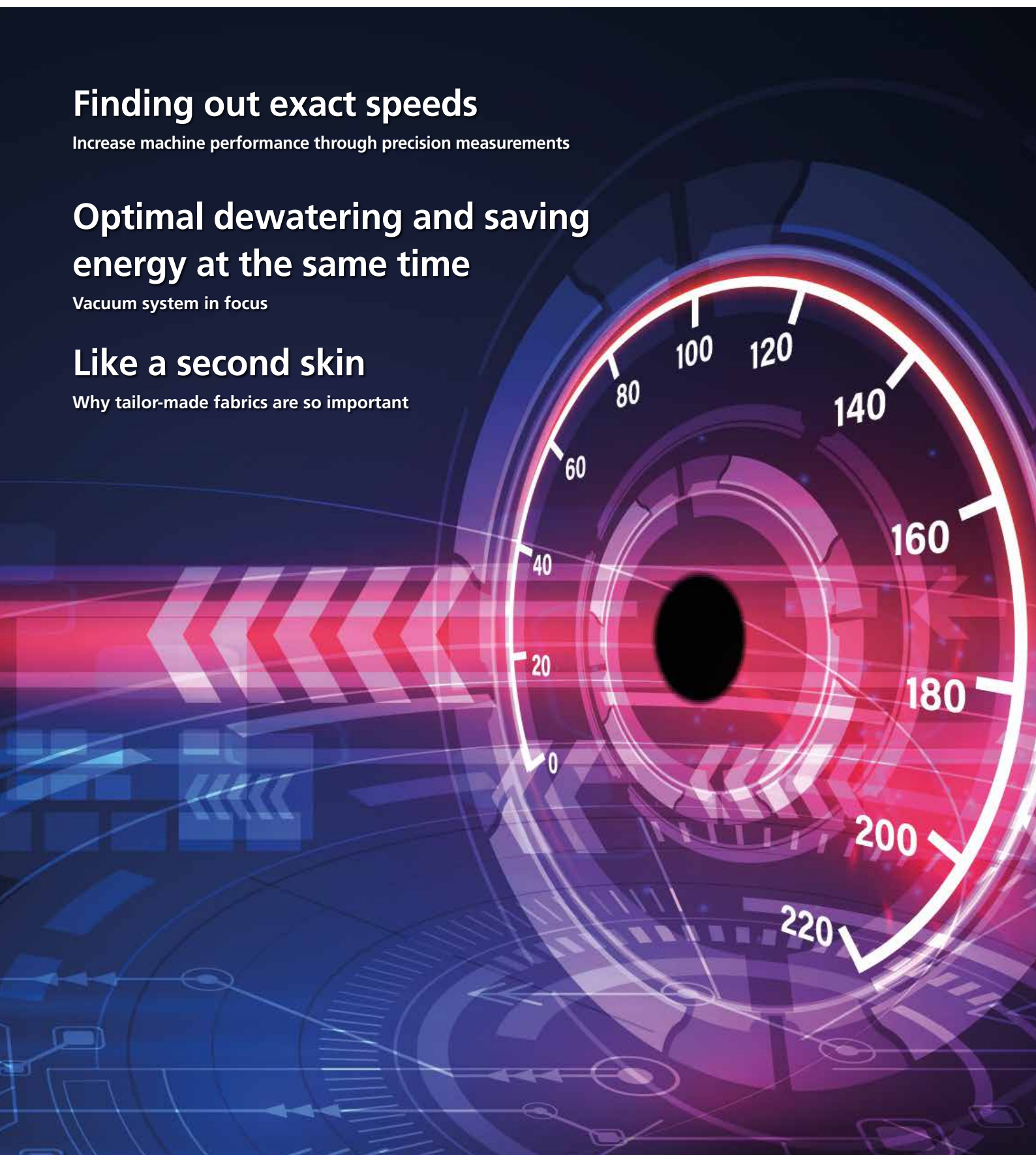
Increase machine performance through precision measurements

Optimal dewatering and saving energy at the same time

Vacuum system in focus

Like a second skin

Why tailor-made fabrics are so important



Our new CEO: A paper professional with every fibre

Marco Esper has been strengthening the management team of Heimbach GmbH since last October. At the turn of the year, the former top executive from Voith Paper also took over the Chairmanship of the Management Board as CEO and heads the Paper Machine Clothing Division. In this interview we learn why he is positive despite Coronavirus, what challenges he is looking forward to and, last but not least, why a piece of paper can be thicker than the universe.



Marco Esper

What is the first thing that comes to mind when you think about paper?

Interestingly, that would be my childhood. My father also works in the paper industry. Like many boys I was curious about what my Dad was doing at an early age. He was always happy to tell me about it in detail. This is how a child's interest eventually turned into a real enthusiasm for making paper. After graduating from High School I went on to study Paper Technology. The subject has not let go of me since that time. So many possible uses, still so much scope for further innovations, especially with regard to the topic of the century – sustainability. So it is never boring.

No sooner had you taken over the reins at Heimbach, than the Corona crisis reached another high point. Have you ever regretted your move?

Absolutely not. If I had been concerned about taking on challenges, I would never have moved into the paper business. The industry has already mastered many crises.

In all honesty, that is still the most exciting thing about the job for me: having to prove myself over and over again. And with Heimbach I know: Crises will come and go, we will remain.

Where does this certainty come from? You have not yet been 6 months in Düren

(Smiles). Our customers never simply buy a product, they buy specialist know-how. Each piece of clothing from us is applied with precision and continuously monitored from the first consultation to removal from the machine. Papermakers benefit from an international network that works excellently across all products and locations. Heimbach experts share and pool their respective know-how in order to find the best possible solution for every application. The clothing is only part of a bigger picture – but a very crucial one. What not only impresses me immediately, but also wins me over: Through consistently implemented LEAN methods, we are able to continuously increase our productivity. We have already achieved a lot in this regard, and we are planning much more.

Corona was the biggest accelerator of digitalisation in 2020. How do you see it?

Charley Fiorina, the former boss of Hewlett Packard prophesied in 2009: „Everything that can be digitalised, will be digitalised“. Heimbach is orienting itself in this direction. We want to be a reliable partner for the paper industry when it comes to digitalisation. That is why we significantly expanded our digital infrastructure in 2020

and set further course for Industry 4.0. We have to continue consistently along this path (more on the subject of digitalisation at Heimbach on page 26).

Speaking of digitalisation: You have three children. How can we, in your opinion, interest the „digital natives“ in the paper industry?

Digitalisation and the paper industry are by no means mutually exclusive. I am convinced that our industry will continue to offer attractive jobs in the future. This is largely because paper will continue to be an important part of everyday life in the future. Whether we are talking about hygiene papers, books, packaging or new uses as a plastic substitute, I never miss an opportunity to get my children excited about this fascinating material.

Are there specific corporate goals for 2021 that you can reveal?

I don't just want to reveal them, rather to explicitly communicate them. We will position ourselves even more clearly as clothing experts and offer our customers holistic solutions for the constantly growing challenges. Heimbach is an independent partner, providing advice on an equal footing and breaking new ground with the customer – and this has to be on a sustainable basis.

Keyword sustainability: Surely Heimbach will work on reducing CO₂ emissions?

You bet. This subject is nothing new for Heimbach. Our internal processes have long been committed to sustainability. Of course, the Asian market is currently

the driving force, and we will increasingly serve our local customers from China. In general, we act responsibly and always follow the stipulation: produce close to the customer and avoid unnecessary transport. This not only reduces our emissions but also enables us to deliver much faster.

Being part of the paper industry means that you are often under pressure. How do you manage to switch off privately?

Even though I try to be available at all times, free time is important. I also say this to our employees. At the weekend I spend time outdoors with my family – I like hiking in the forest. I often go there in my Unimog to enjoy woodworking. I am a passionate craftsman.

Finally, is there something in the paper industry that can still amaze you, even after all these years in the business?

Funny you should ask. I only recently discovered on the internet* how to fold a single sheet of paper to the thickness

of the universe. The madness.

*www.gizmodo.com.au

Surely folding a piece of paper in half more than eight times is impossible.

Not at all. With enough strength, a sheet can be folded an infinite number of times. If you managed to do this 103 times, it would be thicker than the universe.

The answer is: exponential growth.

The thickness of the sheet doubles every time it is folded. The sheet is initially 0,099 mm thick. Fold 10 times and it is already 10 centimeters. And then things move very quickly. Fold 24 times and the sheet is 1,6 kilometers high.

With 30 folds you have already climbed 100 kilometers. The 42nd time takes you up to the moon.

Paper leaves us speechless once again. Thank you for talking to us and we wish you every success.



Marco Esper aims to promote the use of digital media





Finding out exact speeds

Running a paper machine today is no easy task. Or should we really be saying managing? In reality, every part of the system is checked and monitored for its efficiency. In tune with the motto „Higher, faster, further“, the search for ways to increase the speed of production is constant. At this point it is important to note: Exact speeds and their differences are essential factors in the pursuit of stable machine operation and a high quality product.

With a variety of measuring methods, TASK provides support in improving the performance of your machines. In concrete terms, this means: Firstly, a precise jet-wire ratio to provide the necessary fibre orientation. Secondly, rolls that do not slip. Third, group transitions that harmonise perfectly with one another.



Fig. 2: Speed measuring wheel

Each and every analysis begins with high-precision technology operated by qualified personnel. Different measuring devices are utilised for the individual sections of the paper machine. In this article we will provide you with two Case Studies illustrating in practise the sensitive equipment used and the accompanying TASK service.

Minor cause, major impact

Case Study 1

A customer contacted us, with the request that we check out their headbox. The fibre orientation in the sheet no longer matched the jet/wire speed ratio setting displayed in the PCS. While one colleague from our TASK group was gathering the required system data, the second team member was

installing our non-contact laser onto the headbox. This is a highly complex device that can only be used safely and precisely if it is set up correctly. In order to provide realistic values, the laser requires a minimum opacity in the jet to be measured – ie light opacity. If the jet is not opaque enough the laser beams will penetrate through it and no assertions can then be made.

„If the eye can see through the jet, so too can the laser“

In order to ensure fully accurate results in the course of the measurement the laser head must be precisely aligned in terms of distance and angle with the use of an adjustment aid (see Fig. 1, 8-10 page 7). A speed measuring wheel (Fig. 2) is used to determine the exact



Fig. 1: Laser head with adjustment aid on the head box

wire speed. The tricky issue here is that the wheel must be parallel to the forming fabric and there must be no slippage. The measuring wheel in use at Heimbach is rubberised, which ensures that slippage is avoided.

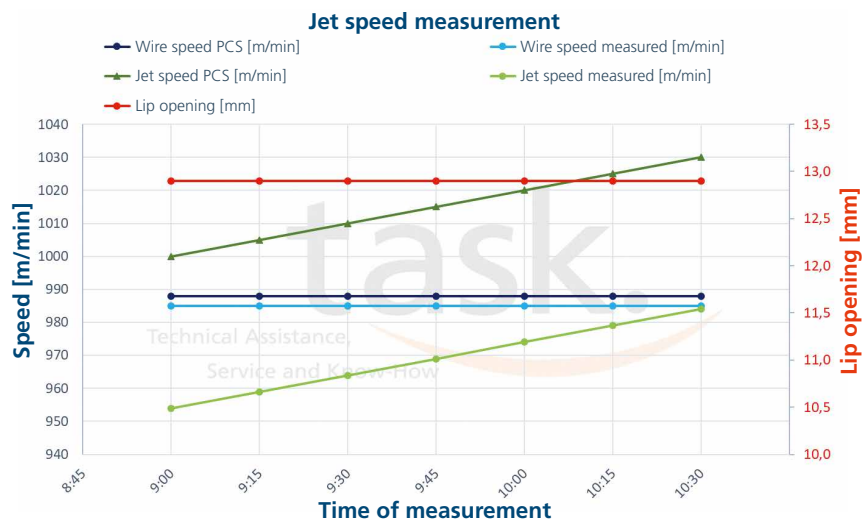


Fig. 3: Results of jet speed measurements in m/min

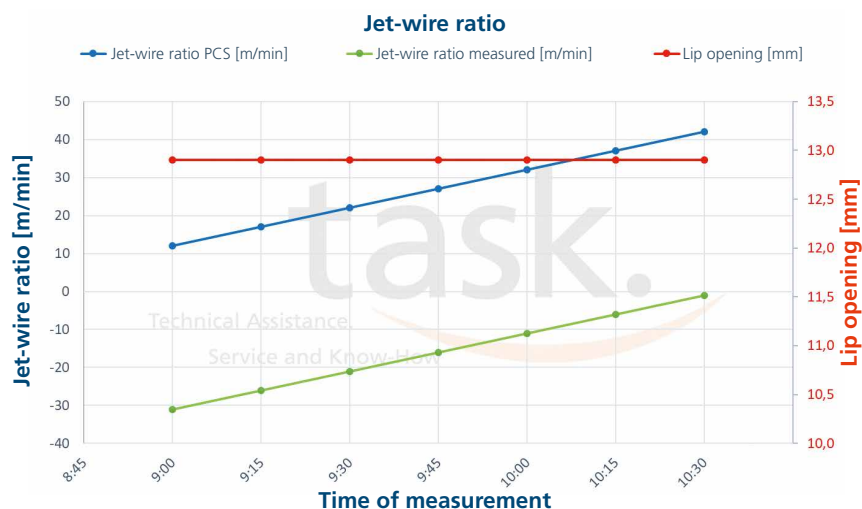


Fig.4: Effects of the jet speed on the jet/wire ratio in m/min

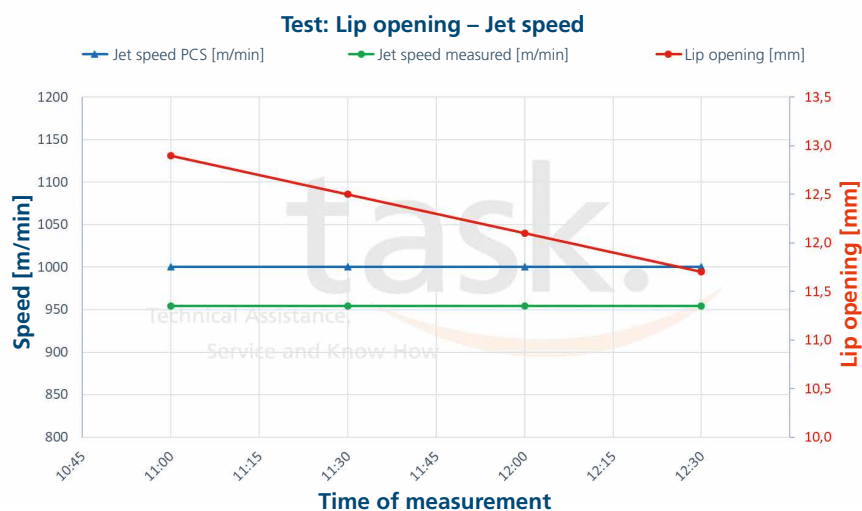


Fig. 5: Measurement results after changing the lip opening

In this specific example, the wire speed was 3 m/min slower than that indicated in the PCS at the point where the jet hits the wire (Fig. 3). Such differences between display and reality come mainly from the fact that the specified speed is taken from the forward drive roll in the forming section and the wire has already covered a certain distance from there to the head box. The wire was moving more slowly at the headbox than at the drive roll which would be in accordance with its usual stretching behaviour.



Fig.6: IR measuring probe to determine rotation frequency

To be on the safe side, the front face of the forward drive roll was also examined carefully under lights, or more precisely under the infra-red probe (Fig. 6). The IR probe allows exact determination of rotation frequency. In order to express this rotation frequency as a speed, further calculations have to be made taking into account the roll diameter.

A few days prior to the TASK visit there was a shutdown which included a change of forming fabric, which gave us the opportunity to request that the customer measured the exact roll diameter at this time. Certainly in the case of older rolls, it is important to take a closer look. Long term abrasion and contamination can have a significant influence on the speed of rotation. In this case, however, the figures that were obtained matched the diameters stored in the PCS. Once the laser was set up and providing reliable signals, our series of tests on the headbox could begin. During the first pass it was noted

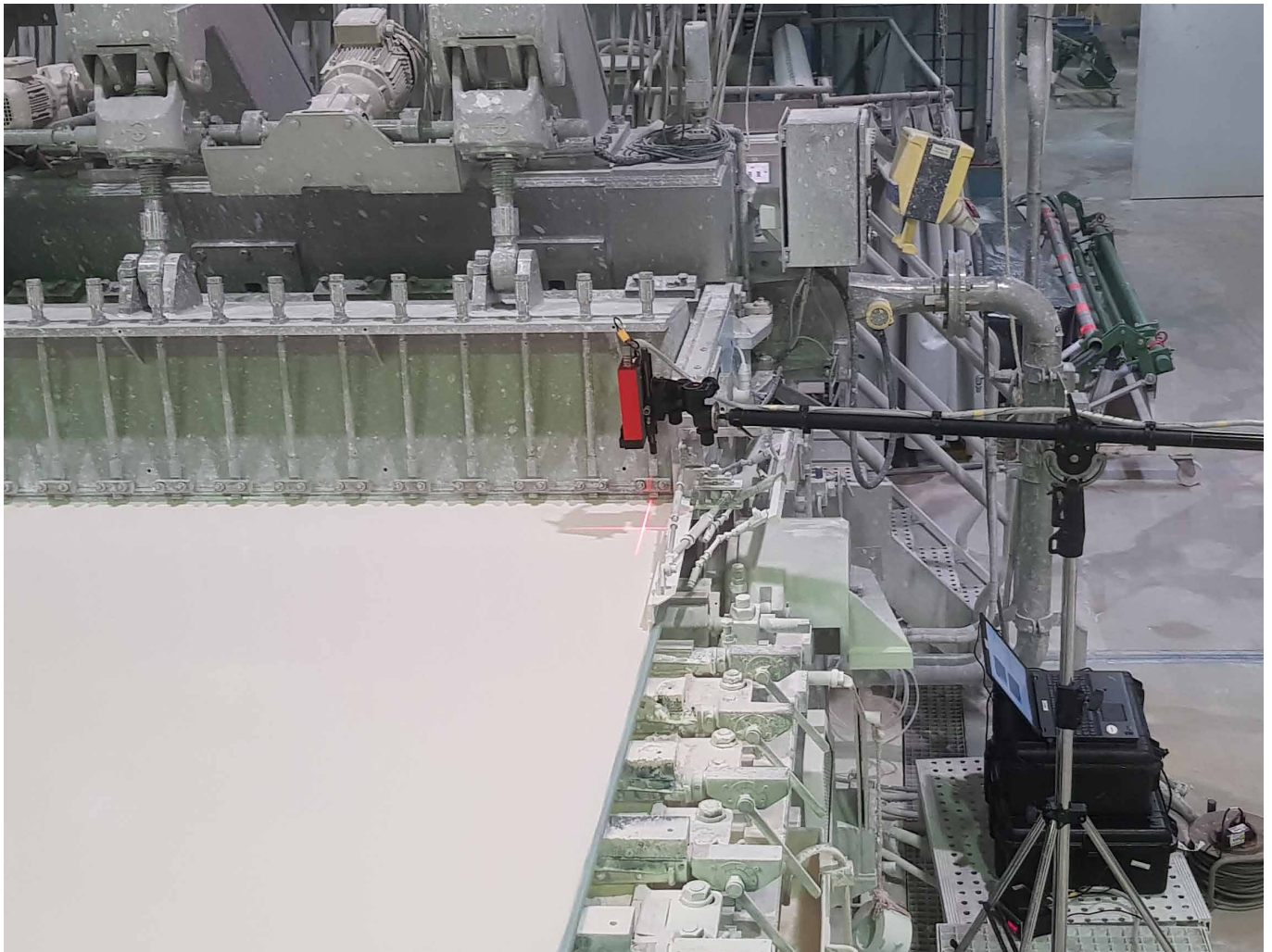


Fig. 7: Contactless laser on the headbox

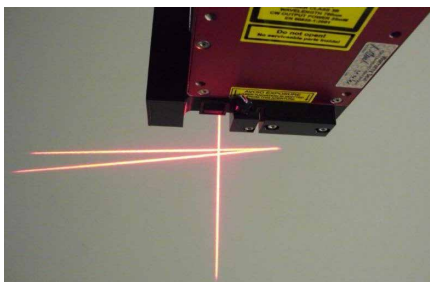


Fig. 8: Adjustment aid – wrong angle

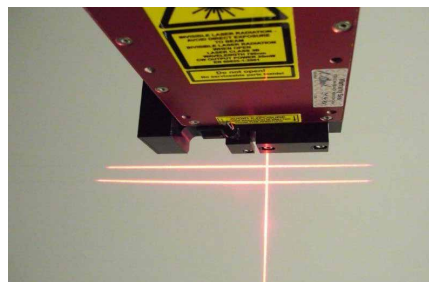


Fig. 9: Adjustment aid – wrong distance

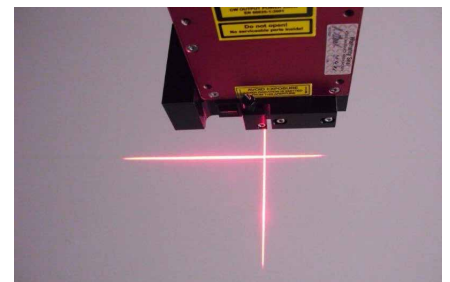


Fig. 10: Correctly adjusted

that the actual jet speed was 46 m/min slower than indicated in the system (Fig. 3+4). This deviation was repeated again and again. Additionally, the headbox slice lip opening was closed in three steps of 0,4 mm each to check the programmed dynamic pressure formula. The jet speed remained constant during

these tests (Fig. 5). The entire control loop was therefore working correctly.

This understanding, combined with the data that had been obtained previously, ultimately gave the customer valuable certainty: An offset programming of 46 m/min would be absolutely sufficient

to correct the jet/wire speed ratio. No sooner said than done. Following the adjustment, the paper finally achieved optimal fibre orientation, better formation and improved strength properties.

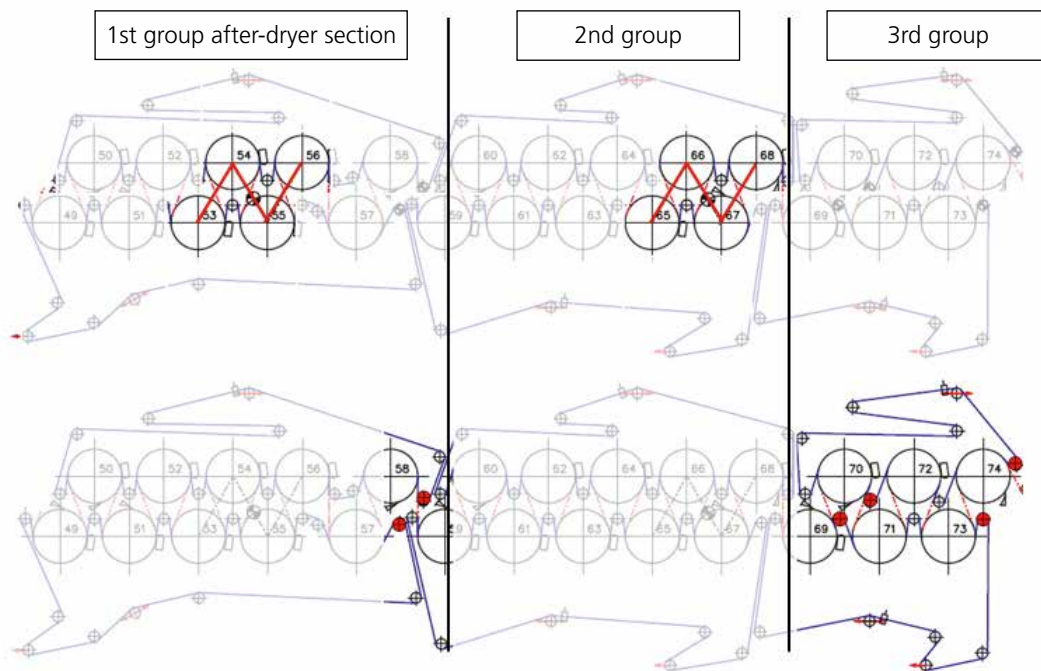


Fig. 11: Driven rolls and drying cylinders in the individual dryer groups

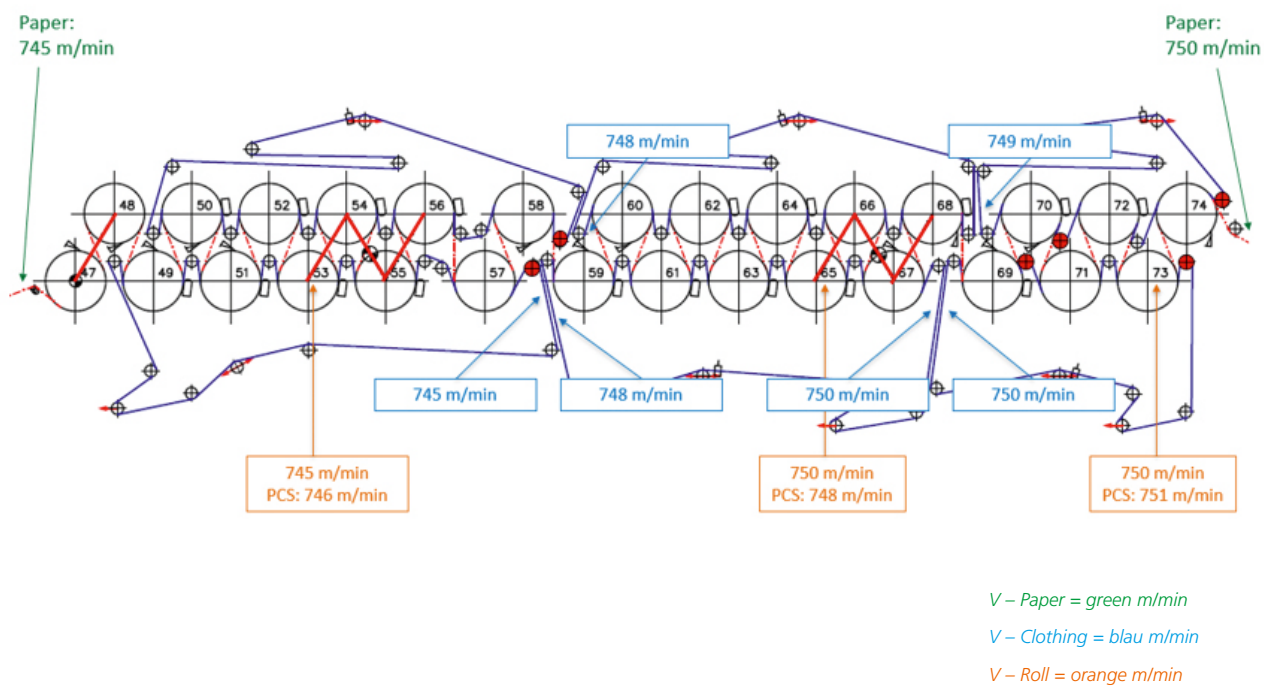


Fig 12: Measurement results and locations in the dryer section

Don't let it tear

Case study 2

In this case we were called because a customer was experiencing problems with increased breaks in the after-dryer section. The machine had been rebuilt several times over the years and had structural particularities in terms of its drive technology. In the first group the drive takes place via four dryer cylinders and two guide rolls, in the second group there are four dryer cylinders and in the third group there are four guide rolls (Fig. 11). This was of interest because two propulsion technologies were combined with one another in groups.

The measuring wheel used in the first example is not suitable to measure the speed of dryer fabrics. Depending on the temperature, the rubber coating could soften and the circumference would change. For this reason, the non-contact laser is used here, which is cooled with the help of a special device to protect it from over-heating...a cool thing in itself!

The measured speeds of the paper web and the dryer fabrics showed no abnormalities mand correlated with each other. There were no deviations from the display in the DCS. It was now clear to the TASK team that the cause of the problem lay elsewhere (Fig. 12).

So, in the next step, the rotation frequencies of the driven guide rolls and dryer cylinders were checked using the IR sensor. When making our calculations, the thickness of the dryer fabrics had to be taken into account at different positions as it runs between the sheet and the guide roll.

The results of all our measurements and calculations showed: Since the dryer fabric used was very thick, the sheet was transported faster on the guide rolls, for example, than it was on the dryer cylinders. The sheet had a speed of 753 m/min (see V2 in Fig. 13) when it hit the dryer fabric, which itself had only 748 m/min on its „speedometer“.

This speed deviation was enough to cause the paper web to tear. Theoretical speeds were calculated on site using a dryer fabric that was 50% thinner than the one in use on the machine. The ideal choice to meet this condition was a Secoplan.O from Heimbach, the thinnest design in our portfolio, which was offered to the customer. Result of the clothing change: Significantly fewer breaks in the after-dryer section!

Conclusion:

The progressive optimisation of a paper machine must go hand in hand with regular monitoring of speeds – so that endurance running does not end in a standstill. We are always happy to support you in this task.

Do you have questions or need help with your paper machine?

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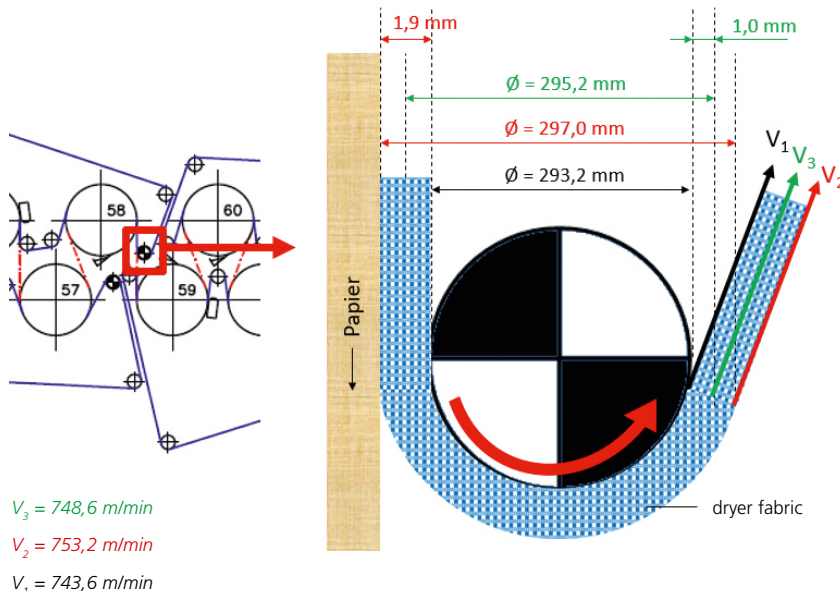


Fig. 13: Driven guide roll with speed calculated at the paper sheet and different fabric thicknesses



Optimal dewatering and saving energy at the same time

Saving both energy and water is a must for competitive paper and board production and solutions are always sought to consistently meet this challenge. Without a doubt particular attention must be paid to the vacuum system because energy alone accounts for 15 to 30 percent of the total running costs of a production facility. However, vacuum capacity is not only important for saving energy. In conjunction with clothing and machine configuration it can also provide optimal dewatering. In this interview Jussi Lahtinen, Sales Director Runtech Systems, explains how you too can benefit from this.

The name of Runtech has been synonymous with cost optimization in the paper industry for decades and vacuum systems play a central role in this. Before we go into the details, how did this success story begin?

More than 30 years ago the founder of our company Juha Karvinen wanted to prove that reduced vacuums in the UHLE boxes could significantly improve dewatering. After years of intensive development Runtech carried out the first Ecoflow installations at the beginning of the 1990s. This was long before the trend towards nip dewatering took off. In the meantime we have equipped more than 600 paper machines with our system.

Very impressive. At Heimbach too, dewatering is one of the central topics in the course of product development. How do water flows affect the overall result?

We quickly came to understand that the vacuum system must be flexible. Changing production parameters make it necessary to adapt machine settings, because speed also varies depending on basis weight and furnish. In addition the condition of the clothing changes over its lifetime – so it is not advisable to maintain the same amount of vacuum (kPa and/or air flow) at all times. The amount of water removed has to be measured as well as the vacuum level of the rolls and particularly of the UHLE box. Our objective was to produce a dry

vacuum system with variable air flow. The machine operators should have the opportunity to adjust vacuum levels according to actual need.

And what exactly determines the need?

In the case of flat boxes and UHLE boxes it is usually the dewatering volume based on Ecoflows. For pick-up rolls it is typically runnability, and for press suction rolls it may be runnability or dewatering. You often want to set a higher vacuum for the pick-up rolls during sheet pickup. After that the level can normally be reduced. This process can be automated and furthermore saves energy. If runnability problems occur the vacuum of the pick-up roll can easily be increased. The same applies to press suction rolls.

So this means that the amount of vacuum required is highly variable and can be reduced a lot in an ideal case scenario. Is that right?

Yes, exactly. Machinery builders often stipulate up to 65 kPa vacuum for press suction rolls. Sometimes, however, significantly less is required. For machines with a speed of below 1000 m/min, 40 to 45 kPa is usually enough for the press suction roll. This can make a difference of 100,000 Euros per year. Here too the ideal vacuum can be determined with the aid of the online measuring system.

A six figure saving sounds appealing. But isn't the installation of the vacuum system very complex?

Not at all. Our Turbo Blowers are units with variable speeds and capacity. The integrated high-speed motor is inside. The equipment is very compact and easy to install. In most cases we can replace the existing system with minimal piping and construction costs. Much of the installation is done during normal machine operation. We only need to shut down for the final connections.

Old system	kW
Multistage blower x2	
LRP x 2	
Altogether	2,700

New system	kW
EP600-D1 x 2	
EP600-S x 2	
Altogether	1,350

Fig. 1: Comparison of savings

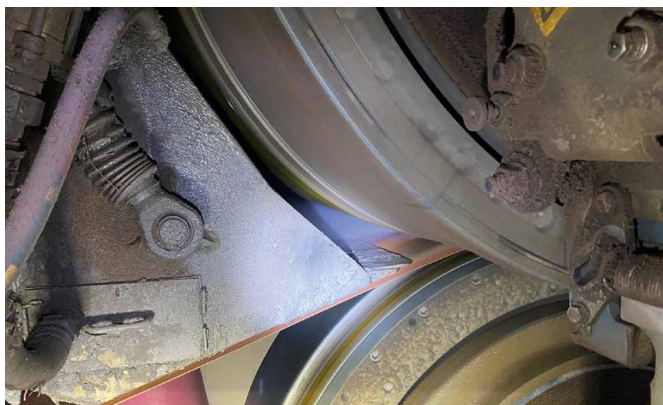


Fig. 2: Typical OEM save-all in easy position. Fast machine with high nip-dewatering, but a large part of the water is not captured. This leads to crushing, especially with old felts.

How much energy can be saved with such a conversion?

Normally we are in the area of 40 to 60 percent. A good example is DS Smith Kemsley PM6. Here we replaced the existing vacuum system with four Runtech turbos. The result is a reduction in the required energy of approx. 50 percent. According to production manager Stuart Ruck the newly installed unit also optimized the start-up of the pick-up felts and reduced it to only eight hours. So we can add higher production volumes to the energy that has been saved.

Let's go from roll to the press. How can the maximum be achieved here?

A large portion of our technologies is aimed at the forming and press section as well as the doctoring system. The latter plays an important part in terms of energy saving but is still frequently underestimated. Water is removed in the press nip or via the UHLE boxes. If there are no doctors at the press rolls or they are not optimally set, there is an increased need for UHLE boxes to provide dewatering. It would make more sense to think about nip dewatering instead. We build our doctors in such a way that UHLE boxes can be disengaged.

This, of course, pre-supposes that the felts used are appropriate for nip dewatering. Air Blade doctor blades can bring a big benefit, particularly on slower machines with speeds less than 600m/min. The centrifugal force of the roll and the kinetic energy of the water are very low under these conditions. With fast running machines achieving nip dewatering is much easier because water flies out automatically from the press rolls.

Do you have a concrete example of one of your conversion projects?

Smurfit Kappa Ania in Italy comes readily to mind. Both PM2 and PM3 have been rebuilt. The outcome of this was that the vacuum system now uses 9 GWh less electricity or, in other words, 700,000 Euros are being saved annually. Over and above this, production could be increased by two percent, so that after one year the rebuild has already paid for itself.

Brown paper manufacturers have been the winners in the sector for years now. Why is nip dewatering particularly desirable here?

Today's brown paper machines are extremely fast and highly productive. This means high demands on the dewatering elements of the press section and water flows.

In order to dewater here with a UHLE box you need enormous suction and vacuum capacity. This is no longer economically viable.

Operating a UHLE box alone requires 20 to 40 kW per metre of machine width (vacuum and press drivers). If you want to save here you would have to shut down any unnecessary units. Or even better, move over completely to nip dewatering. It is not only highly conducive to energy-saving, but offers many other benefits such as higher dry content, better CD profiles, fewer sheet breaks... and of course significantly lower steam consumption.

In your experience, how does the choice of felt affect dewatering performance?

A felt design that is tailored to nip dewatering guarantees much more stable performance values in the nip. Long felt lifetimes, fast start-up and an ideally tuned saturation window make the difference here. Atromaxx felts from Heimbach are the right choice for brown papers. With a higher machine speed the water has to be able to flow especially quickly. At a speed of 1,500 m/min and in a press position with two UHLE boxes, dewatering time is only 2.0 milliseconds.

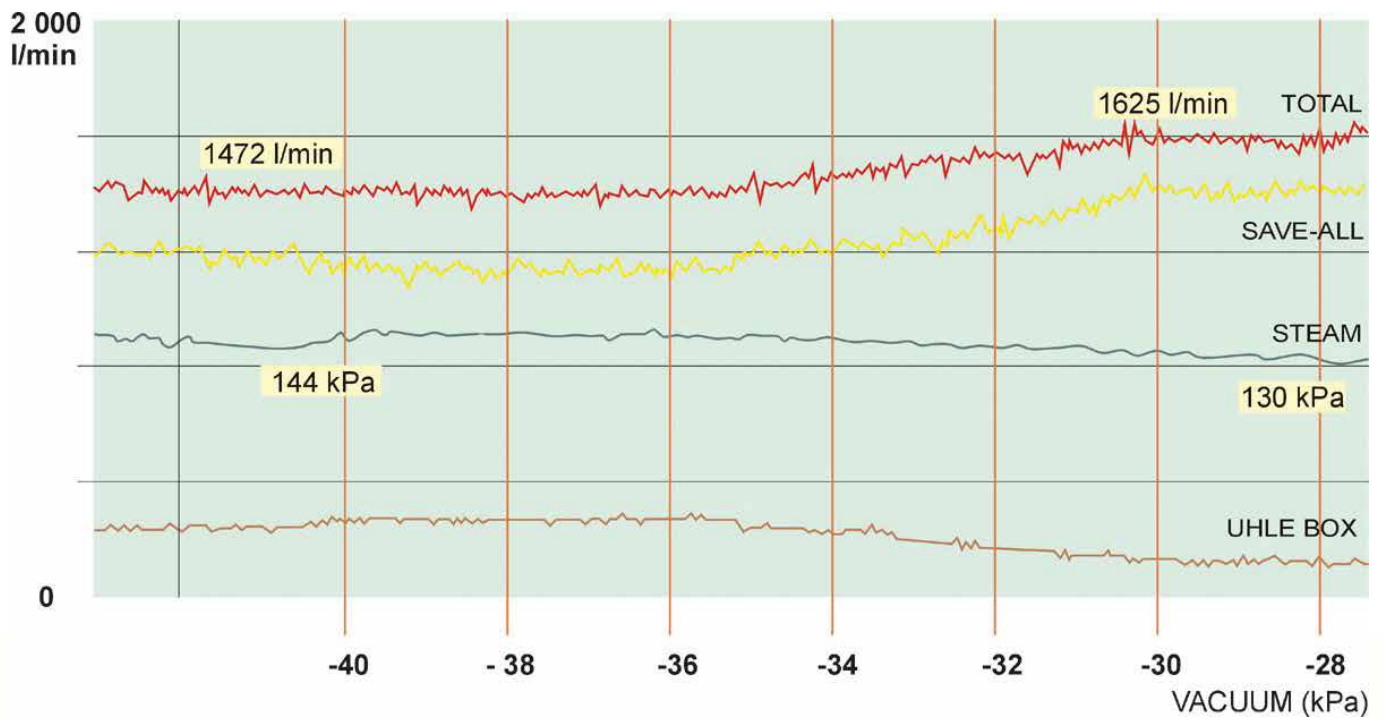


Fig. 3: The vacuum level of the UHLE box was reduced from 40 to 28 kPa. At the same time felt saturation rose and therefore the felt operated better in the nip. Total dewatering was clearly higher.

At such a speed it is virtually impossible to turn the water by 90 degrees and carry it through the UHLE boxes. Time is simply far too short for effective and economic dewatering. This is why we also recommend nip dewatering to our customers.

"Saving energy and dewatering optimization have been my passion for the past 15 years."

(Jussi Lahtinen)

"We have been working in combination with Heimbach with great success for over 30 years."

"It is always nice to convince customers on the subject of nip dewatering."



Fig. 4: Jussi Lahtinen (right), Sales Director Runtech, pictured with Project Manager Rob Gilbert after the successful installation in DS Smith Kemsley.

Last but not least the question how the rebuild of a vacuum system can affect sustainability?

I'm glad you're asking. Many companies have committed to reducing their CO₂ emissions by the year 2030. A saving of 1.5 MW in the vacuum system saves on average 4,000 tons of greenhouse gasses per year! If you optimise this segment, you are not simply investing for yourself. You add a further building block towards achieving your environmental objectives. After all, as they say, the energy we don't use is the best energy.

That's a nice way to end this conversation Mr Lahtinen. Many thanks for talking to us.



Runtech Systems was founded in 1996 by Kimmo Loippo and Juha Karvinen and has been part of the Ingersoll Rand Corporation (formerly Gardner Denver) since 2018. Within the pulp and paper industry Ingersoll Rand is known for its air compressors, blowers for waste water treatment, Nash vacuum pumps and Hibon blowers. Runtech's patented solutions include the optimisation of vacuum systems and heat recovery as well as doctoring systems for forming and press section.

Significant benefits with maximum nip dewatering

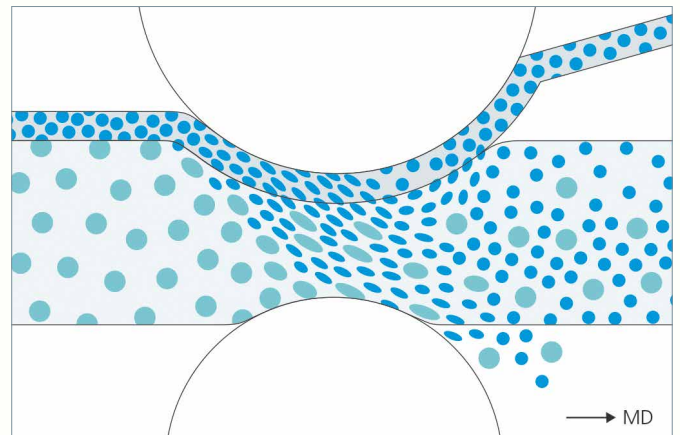
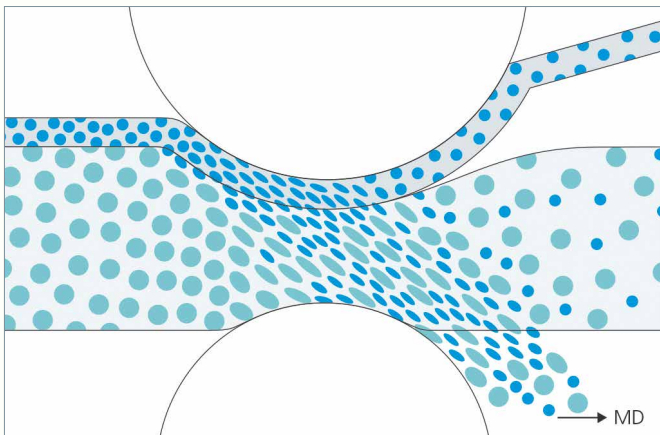
- higher dry contents after the press
- better profiles and runnability
- less felt cleaning agents ("self cleaning")
- saved energy by shutting off UHLE boxes
- longer clothing lifetimes
- less use of compressed water in vacuum pumps

Do you have questions or need help?

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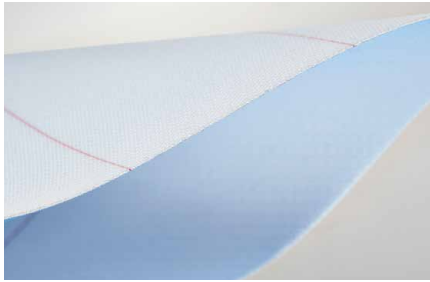
*"Only felt designs specifically
tailored to nip dewatering guarantee
maximum benefit."*

(Jean Kuster, Heimbach France)

*"Dry contents of more than 55% after
the press are not uncommon."*



References that convince



Outstanding forming fabric results re-confirmed

A highly successful trial with a Primoselect.SF+ forming fabric on a 7,50 m wide board machine in Sweden not only led to follow-up orders on this machine, but also to extended business in the same group. The decisive factor was improved cleanliness in the forming section, fewer breaks and a potential for longer fabric lifetimes.

an exclusive contract for the forming and press sections. In addition to this harmonious and successful product mix, the close knit and integrated support of field service and TASK was decisive. We are proud to be able to say that Heimbach clothing is able to meet the stringent quality and safety requirements of these papers, such as watermarks, security threads, magnetic coding etc. In addition to supplying for its own use, MONEDA also exports banknote papers to numerous countries across five continents.



First clothing for a new board machine in Vietnam

Heimbach has received an order for the supply of forming fabrics, press felts and dryer fabrics for the new PM2 at Viet Tri in Vietnam. The machine has a trim width of 4,20 m and a drive speed of 480 m/min. The machine makes packaging papers (100-200 gsm) with a production capacity of 120,000 tonnes per year, with start-up planned for Q1/2021.

„We have been using Heimbach clothing on PM1 and PM3 since 2017. The result has been trouble-free production and consistently high quality“, says Nguyen Van Hien, CEO of Viet Tri Paper JSC.

„In combination with local service support, Heimbach delivers measurable benefits for our production processes and was our first choice for the supply of clothing to our new PM2.“



Clothing package for highly sensitive banknote papers

Demanding paper grades require integrated solutions. With its new PM1, the Royal Spanish Mint operates the world's most modern machine for production of speciality papers (banknotes and security documents), located in Burgos. After successful trials with Secoplan.O in the dryer section, Heimbach was also awarded

Excellent Yamabelt Tissue performance in Metsä Krapkowiec

Heimbach has been selected to supply the shoe press of TM8 at Metsä Tissue in Poland! The machine produces hygiene papers in a weight range of 15-24 gsm at a production speed of 1900 m/min. A life over 90 days was the contractual obligation for the Yamabelt, and this has been almost doubled with a life of 161 days being achieved. At the scheduled machine stop the belt retained excellent properties with an MD tensile strength of 82% and up to 99% remaining pore volume. This suggests that an even longer life would have been possible. Our partner expressed his satisfaction by means of an order for a further 2 shoe press belts. We say many thanks for your trust.



Like a second skin

„Tailor made or off the shelf“. There is no doubt that dryer fabrics play a key role in controlling the consumption of energy on the paper machine, and in the quality of the final product. In just the same way that a tailor adapts every piece of clothing to an individual body shape, so dryer fabrics should not come off the shelf, but instead must be selected individually.

Wear potential, resistance to contamination, cleanability, hydrolysis resistance...all these properties must be taken into account from the outset. In this way, not only do you get dryer fabrics that are tailor-made, they fit the machine like a second skin.



For over 200 years, the Mecca for fans of the finest fabrics has been Savile Row in London. Prince Charles, Robert de Niro, Barack Obama and of course 007, they all have their wardrobe tailored here. Hardy & Amies, Gieves & Hawkes, Anderson & Shepard...with these legendary Men's outfitters the tailor-made suit is the result of intensive interaction with the customer. This is because every single body is unique, and the garment, precisely manufactured

to the millimeter, has the greatest degree of customisation. Why should it be the same with dryer fabrics? Because every paper machine is also unique in its specifications. In order to ensure that your machine always delivers the highest performance and works with maximum efficiency, every position in the dryer section requires a tailor-made fabric. Even machines with the same basic construction will usually require different designs.

Dryer section:

The driver for energy and quality

Whether on a paper or board machine, the dryer section plays a critical role from the perspective of efficiency. Consuming four times more energy than in the press section, and up to two hundred times more than the forming section this is where the largest share of production costs occurs. It is therefore all the more important that all components work in harmony with

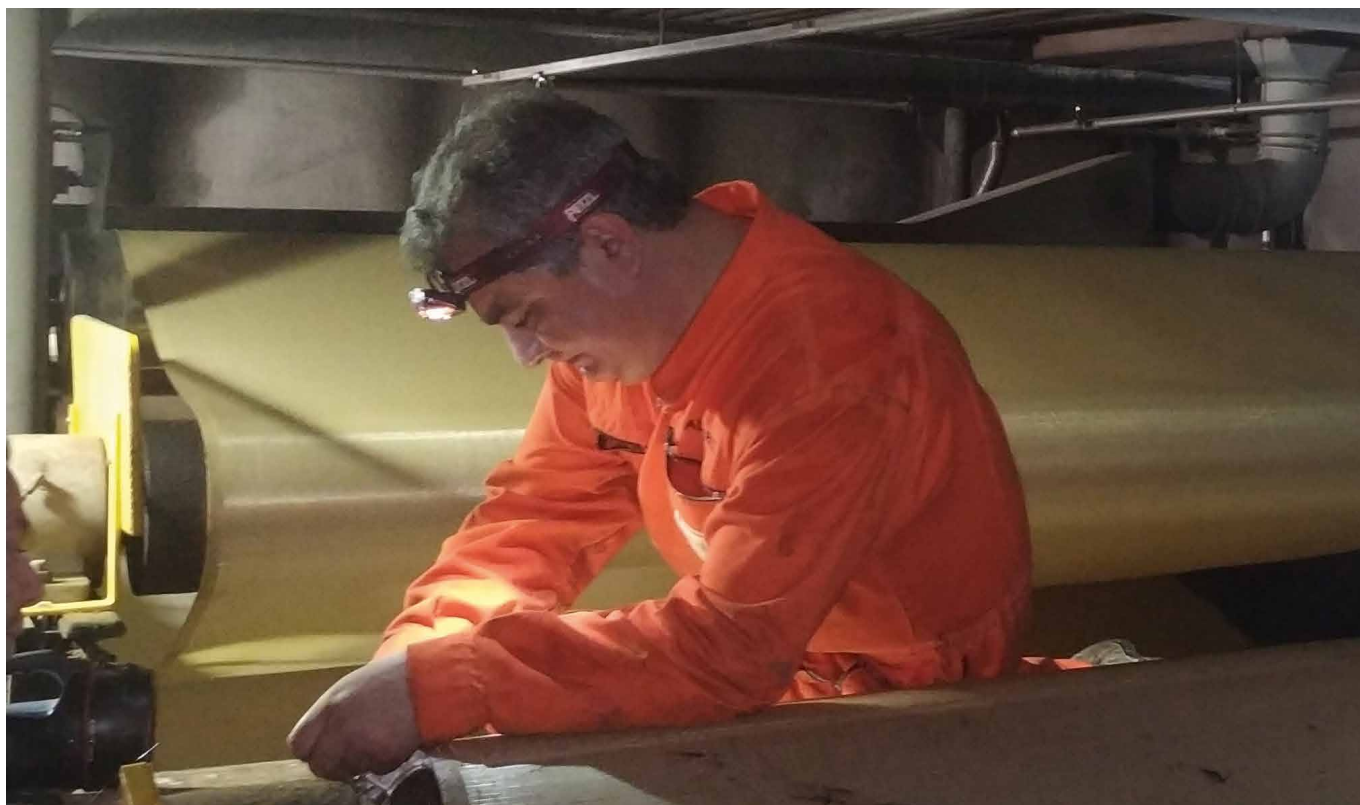


Fig. 1: Fabric inspection: vital for targeted application

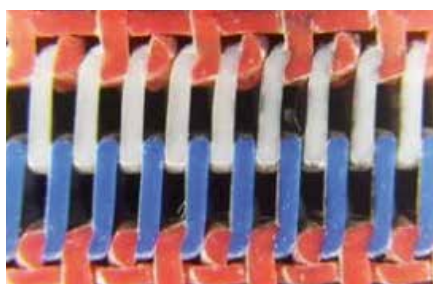


Fig. 2: High wear in seam area



Fig. 3: Specific damage on surface



Fig. 4: Stickies located between contact points

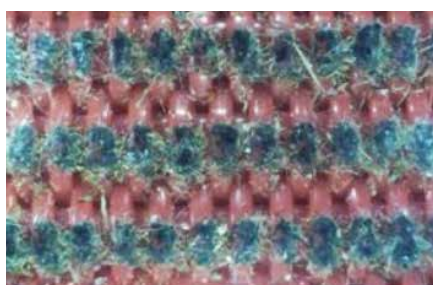


Fig. 5: Stickies located on fabric contact points

each other and that any savings potential is exploited to the maximum. In addition to this, essential properties of the final sheet are also established in this section.

At 60% dryness, almost all water molecules act as a weak chemical link in the cellulose chains. The dryer fabric becomes the focal point in transporting the sheet through the dryers and as the water molecules evaporate via heat transfer, the links between the cellulose chains are strengthened and paper properties consolidated.

Highly demanding

Taking into account the key role played by dryer fabrics in the economic performance of the paper machine, design selection

becomes a critical point.

Just as it is with the Savile Row tailor, the demands are many and varied. Resistance to contamination, ease of cleaning, anti-wear properties and hydrolysis-resistance are just a few of the factors to be considered. Unfortunately, there is no universal dryer fabric that is capable of doing it all.

While increased contact on the paper side surface of the fabric will improve heat transfer to the sheet, it can also lead to more stickies being picked up from the paper.

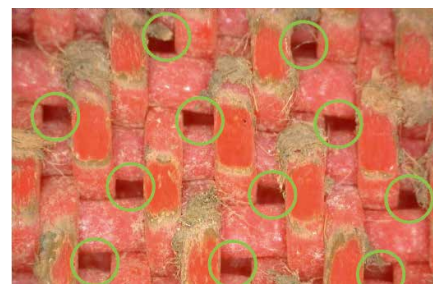
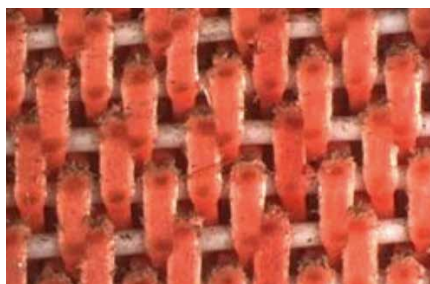
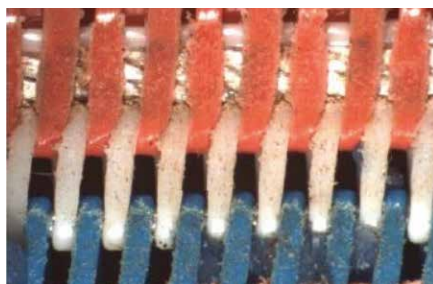


Fig. 6-8: High wear resistance and good cleaning options with Secoplan.O

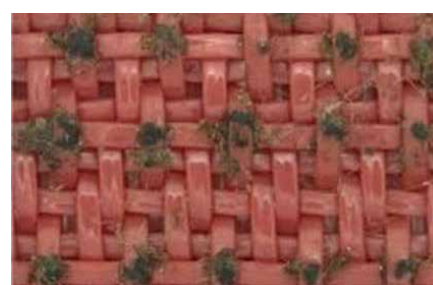
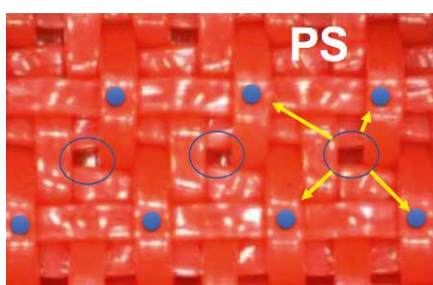


Fig. 9-11: Secoplan.V – Ideal for positions prone to heavy contamination

A more open structure, in turn, makes it easier to remove water molecules but will cause more water to be transported in cases where a cleaning device is used.

Taking precision measurements

It's the same on the Haute Couture mile as it is with the application of dryer fabrics – customer needs must be analysed in as much detail as possible and precise measurements must be taken in order to deliver an individual solution. Thus, the selection process at Heimbach begins with listening and understanding. Customer requirements are always the common thread. Optimal lifetime and cleanability usually have the highest priority. If both are to be successfully achieved, inspection and analysis of the dryer section is recommended.

Fabric inspection

There are plenty of possible causes for premature fabric wear. Only by pinpointing and localising these can the most suitable design

for a position be selected. Wear can affect the paper or roll side of the fabric, or its seam. It could equally impact on a combination of all these. A wear profile seen across the width of the fabric is often a source of useful information regarding undesirable abrasion. Even when the origins are identified, it is often impossible to eliminate all of them. Nevertheless: The right design can help in „damage limitation“, and reduce any negative impact to a minimum.

Contamination analysis

Where contamination is concerned, there are different parameters providing clues to help choose the correct fabric design. How has air permeability developed over time? What about the permeability profiles? Where exactly are dirt particles deposited on the fabric surface? Our application specialists get to the bottom of this. Many drying positions now have a cleaning device. This is intended to counter the declining quality of raw materials now in use.

The use of cleaning devices is not, however, a guarantee of success. How easy or difficult it can be to clean a fabric depends primarily on the structure of the fabric itself. So, for example, designs such as Secoplan.V, with their small number of paper side contact points can be very efficiently returned to a good working condition as well as designs like Secoplan.O where main air channels are well exposed to the cleaning devices.

Exploiting production and saving potential

Paper makers think of one thing above all: Production! With new machines and rebuilds, many of you have spared no expense in the past to modernise the dryer section. Steam pressure levels have been increased over time. High temperatures and a saturated environment provide excellent conditions for reversal of the esterification of polyester yarns. This process is known as hydrolysis.

Today, however, there are new materials available with a high resistance to hydrolysis that make it possible to significantly reduce or even eliminate this process.

In short: Modern machine fabrics have become truly high-tech products. If we are to develop their production and savings potential to the maximum, it is vital to select and use them exactly as each individual position demands. Tailor-made for success!

Do you have questions?

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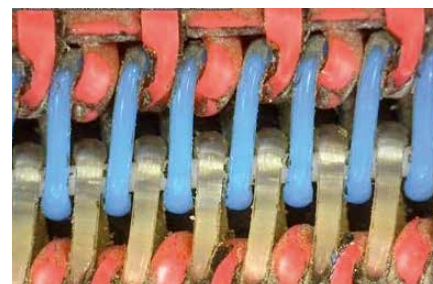
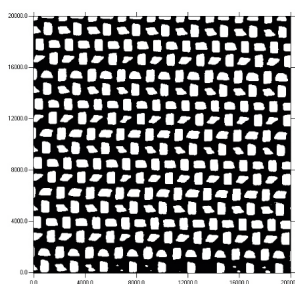
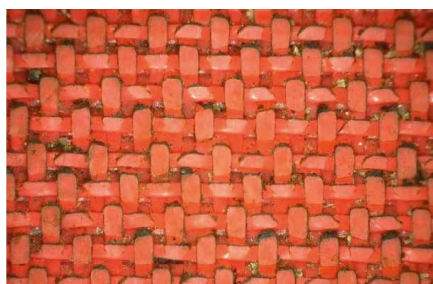


Fig. 12-14: Extremely high wear resistance with Secoplan.X

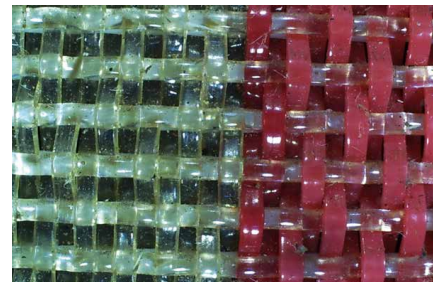
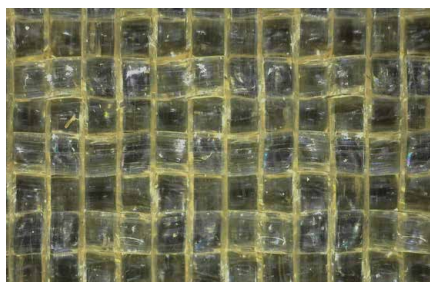
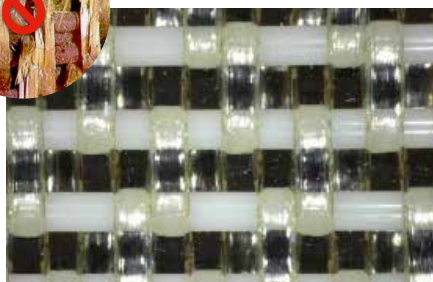


Fig. 15-17: Secoplan.HT+ und Secoplan.HT: Well suited to positions with Hydrolysis

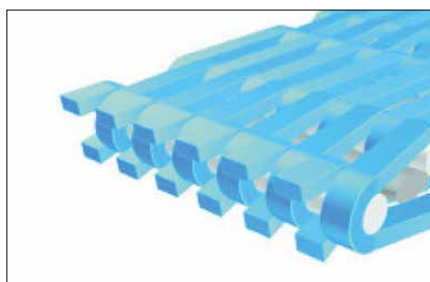
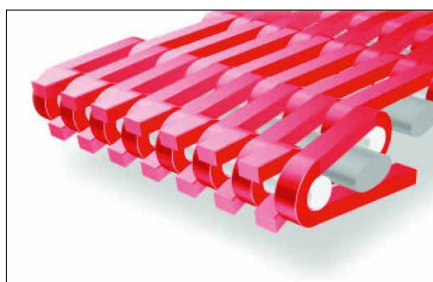
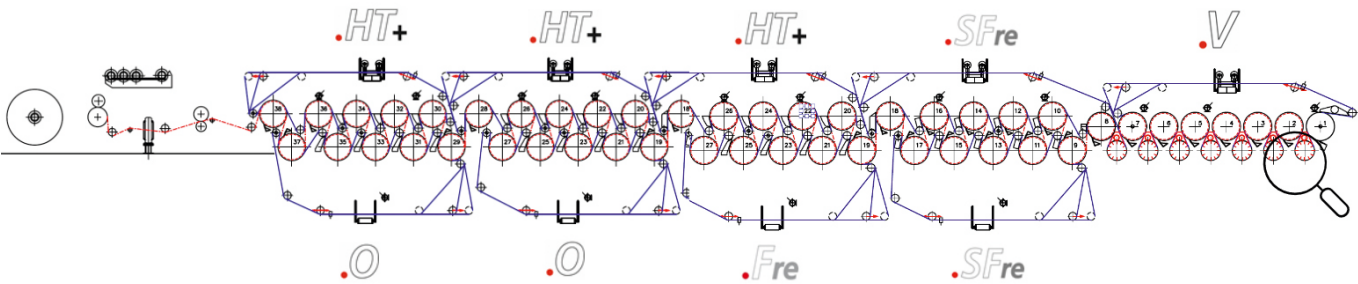


Fig. 18-19: Secolink.SF und Secolink.F – the alternatives for spiral designs

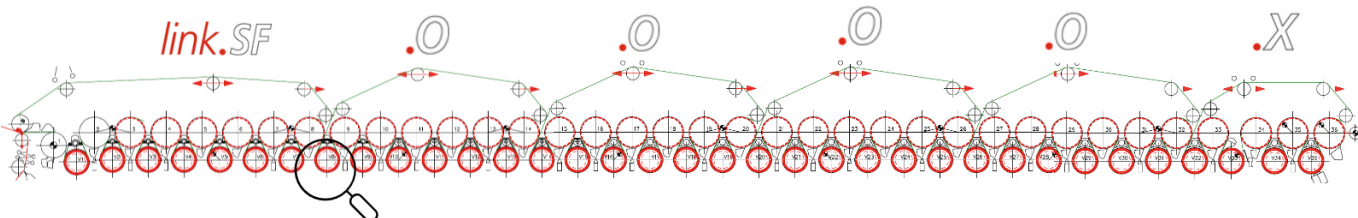
Taylor Made Drying Clothing - Some Examples

Example 1



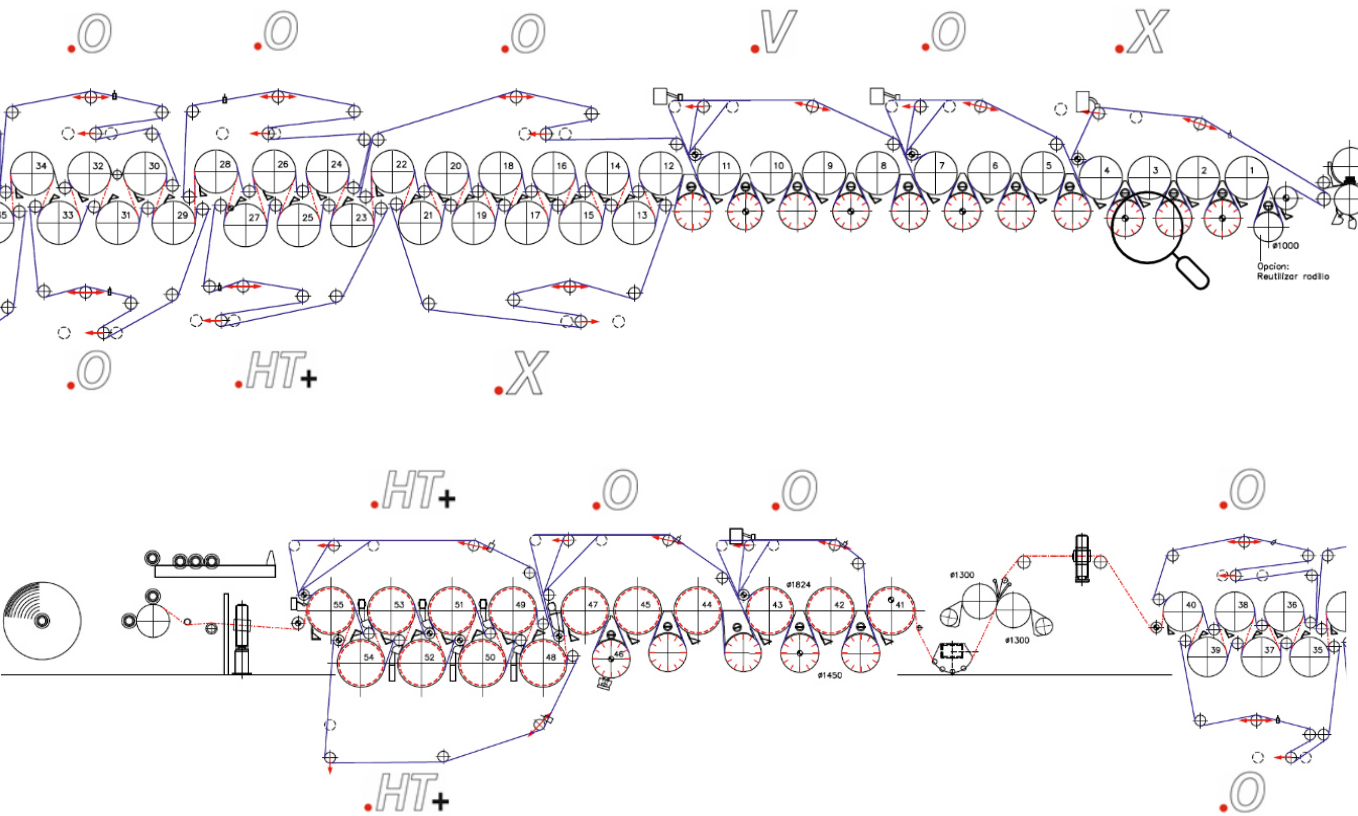
Paper Grade: Kraftliner (100-400 g/m²) Speed: 1.200 m/min Width: 7,4 m

Example 2



Paper Grade: Newsprint (42-55 g/m²) Speed: 1.900 m/min Width: 9,5 m

Example 3



Paper Grade: Liner, Corrugating Medium (95-180 g/m²) Speed: 1.000 m/min Width: 5,4 m

In profile

At Heimbach, an international team in Europe and Asia works hand in hand. In this section we provide you with details of the diverse fields of activity and life paths of four more committed Heimbach colleagues.



Luis Reparaz Abaitua
Site Manager Heimbach Ibérica

„It makes a difference when you enjoy your work“

Efficiency is his second name

The chemistry between Heimbach and Luis Reparaz Abaitua was right from the start. No wonder, as a qualified chemical engineer Luis was immediately able to understand our complex production processes and customer-specific requirements. With a scientific understanding and ongoing enjoyment of his work he continues to optimise processes on the Iberian peninsula and keeps Heimbach on the front foot.

By background: Chemical Engineer

At Heimbach: Since January 1998

Field of activity: Site Manager Heimbach Ibérica, responsible for Group sales in Spain, Portugal and Latin America

Milestones: Over the last 22 years Luis has constantly fine-tuned the efficiency of the Spanish plant. This has also included building a highly qualified and committed sales organisation for sustainable success in Latin America.

In private: At the weekend, Luis likes to cook in the kitchen for his friends. In his sporting life he can often be seen on the golf courses of Southern Spain.



Jean Kuster
Site Manager Heimbach France

„Bad weeds grow tall“

Following the family tradition

A former diplomat in the service of Heimbach – an unusual story. But when you witness the passion with which Jean Kuster leads the French sales team, you can understand why he was drawn towards our industry after his time as a Commercial Attache to the French Embassy in Vienna. After studying at the French Paper School in Grenoble from 1984 to 1985 Jean took over the Heimbach commercial agency from his father. This means that the Kuster family has been taking care of our customers since 1952.

By background: Business economist and political scientist

At Heimbach: Since 1985

Field of activity: Sales to France, Morocco, Algeria, Tunisia

Milestones: Establishing a 5 man Heimbach France team with high levels of consulting competence in various re-build projects.

In private: Jean has a passion for hiking in the Vosges mountains and searching for traces of Roman civilisation around the Mediterranean. He finds relaxation from everyday life in good literature and a glass of red wine.



Markus Leroy

IT Manager Heimbach Group

„We can't change the wind, but we can set the sails differently“

Connected to the future

The digital march continues its inexorable advance and presents businesses with major challenges. We are all the more pleased, therefore, to be able to attract Markus Leroy as our new Corporate Vice President IT. The graduate in Business Administration and Commercial Computer Science has extensive consulting experience in a production environment. Most recently, as Director IT at Europe's leading manufacturer of electric scooters, he designed and built complex data landscapes.

By background: Economist and Commercial Computer Scientist

At Heimbach: Since October 2020

Field of activity: Head of strategic and operational IT at Heimbach Group

Milestones: At Heimbach he starts right away with crucial digital key projects such as the introduction of Cloud solutions and modernisation of the CRM system.

In private: Every Thursday, Markus meets with two friends for „after-work golf“. Having said this, the greatest joy for him is spending time together with his family when sailing in the IJsselmeer in Holland, for example.



Raffie Whitehead

Production planning forming, Heimbach UK

„Don't just dream. Create memories“

Always available

Raffie Whitehead is a true „Heimbacher“ as it says in the book. Hardly anyone knows our location on the Island as well as she does. Trained as a commercial administrator in 1993, she worked in the finance department at Heimbach UK for the first few years, later spending time in sales and purchasing. With this inside expertise and an eye for the big picture Raffie is today our guarantee of reliable production planning.

By background: Commercial administrator

At Heimbach: Since 1993

Field of activity: Production planning for forming fabrics

Milestones: Raffie is a true all-rounder with plenty of know-how and good customer relations in all directions. She played a key role in setting up a state-of-the-art warehouse management system and was involved in the integration of the sales department of CH Johnson, as well as implementing SAP at Heimbach UK.

In private: Whether gardening or hiking through nature, Raffie loves the outdoors. If it's for a good cause, she will go there – even if it's climbing Mount Snowdon in Wales. Her other passions involve baking for friends and family and watching horror films.

Remain reliable whatever happens

In Chinese the word 'crisis' is comprised of two characters. One of them means 'danger', the other 'opportunity' – we at Heimbach have used the latter in order to drive forward digital networking in the company with maximum emphasis. True to the dictum that even in stormy times you can place your trust in us!

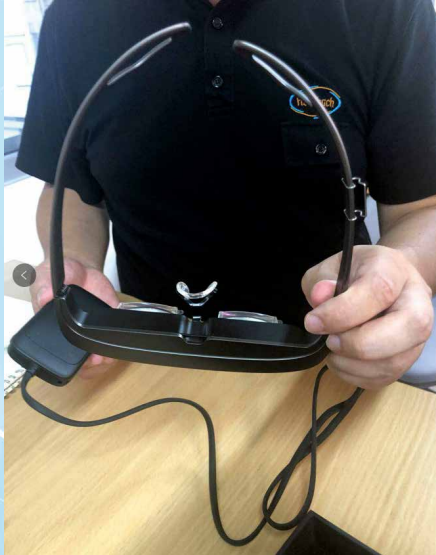


Fig. 1: AR glasses

The pandemic took us all completely by surprise and has presented many manufacturers with great challenges. And as in every emergency there are winners and losers: Producers of hygiene and packaging papers

enjoy full order books, whereas graphic papers are clearly suffering. Many advertisers are foregoing printed sales tools and IKEA has even discontinued production of its cult catalogue, which recorded a recent circulation of 124 million copies.

The print orders of the events sector have plummeted to virtually zero. Just think of how the Olympic Games and the 2020 European soccer championship would have made graphic paper reels turn!

Established service repackaged

For paper makers giving up was never an option. This would not be the first time that a difficult situation was overcome. And this applies equally to Heimbach: Social distancing, lockdown... we were unprepared for it in the same way as you. How is this exceptional situation going to develop? What exactly do the



Fig. 2: AR glasses in use

wrestrictions mean for our supply chains? How can we continue to manufacture against this background?

In the midst of all the initial improvisation one thing remained clear: We have to support our customers as effectively as we possibly can and be there for you with our usual reliability. Because this is exactly what characterises Heimbach – partnership, reliability and consistency of supply, no matter what happens.

*"Covid-19 has demonstrated to me:
When push comes to shove everybody
at Heimbach pulls together."* (Jochen Pirig, Heimbach GmbH, Germany)

*"The online document management has allowed
us to make a giant leap in 2020. Consequently our
service has become even more flexible."* (Luis Reparaz, Heimbach Ibérica, Spain)

*"Thanks to modern chat technology we
can serve our customers well even if we
are working from home."* (Sven Hardt, Heimbach Specialities, Belgium)

*"For us Covid-19 was the catalyst for the
application of Augmented Reality."* (Feng Mo, Heimbach Fabrics, China)

Staying close in a distanced way

The biggest challenge for us as for everybody else was switching from physical presence to operating at a distance. Even though Heimbach has consistently invested in expanding digital transformation processes in the past, for many colleagues mobile working practices were a new experience. Therefore and naturally enough, not everything worked smoothly from the beginning and our IT department often saved the day.

A large number of new VPN (Virtual Private Network) accesses were installed which allowed business processes to be continued in much the same way as usual. With our company-wide document management system (Enterprise Content Management System) we already had an excellent online platform even prior to the first wave of Covid-19, which provided our sales personnel with global access to customer data.

The Heimbach Sales and Service conferences that previously took place on-site and on an annual basis could now be held simultaneously on all continents by video conference. More than 100 colleagues from Sales and Product Management are now able to share their experience online

in quarterly sessions – for your benefit, dear customers.

Course contents for vocational training and development as well as additional qualifications can now be imparted online thanks to modern communication tools. The place and time of learning can be defined by the participants and staff can be deployed more flexibly.

A full year later, Strategic Product Manager Jochen Pirig draws his personal conclusions: "Our in-house meetings in Europe and Asia can be held easily and spontaneously, as can coordination and contact with customers worldwide. In particular, live contacts with business partners and colleagues from different time zones can be established much more easily."

We received similar comments from our Belgian site: "We are experiencing a new spontaneity – we can simply arrange to meet our customers on-screen", says sales representative Sven Hardt. Brief exchanges, especially with several participants, were made much easier.

On the other hand, new insights in terms of payment transactions originate from Spain.

The changeover to online payments there has simplified transactions for our customers.

In China Augmented Reality Technology was applied during Covid-19 times in order to achieve real time support in solving technical problems despite travel restrictions. Speaking of China: Heimbach was the first PMC supplier in the country to restart production. We are pleased to report that there were no supply shortages in other Heimbach sites either.

Looking forward to the next handshakes

In summary we can say that the pandemic has highlighted once more and very clearly just how important digital networking and secure use of data is for all our business success. We are going to continue with even greater resolution on our path towards Industry 4.0 in combination with a digital infrastructure - even though we hope to be able to meet you in person again soon. Because while we appreciate every advance that is born of necessity, one thing is clear to us: Personal contact will always be a high priority!

To this end we are looking forward to seeing you again, hopefully in the near future!



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