impressive

ISSUE 3/2021

A triumph of packaging

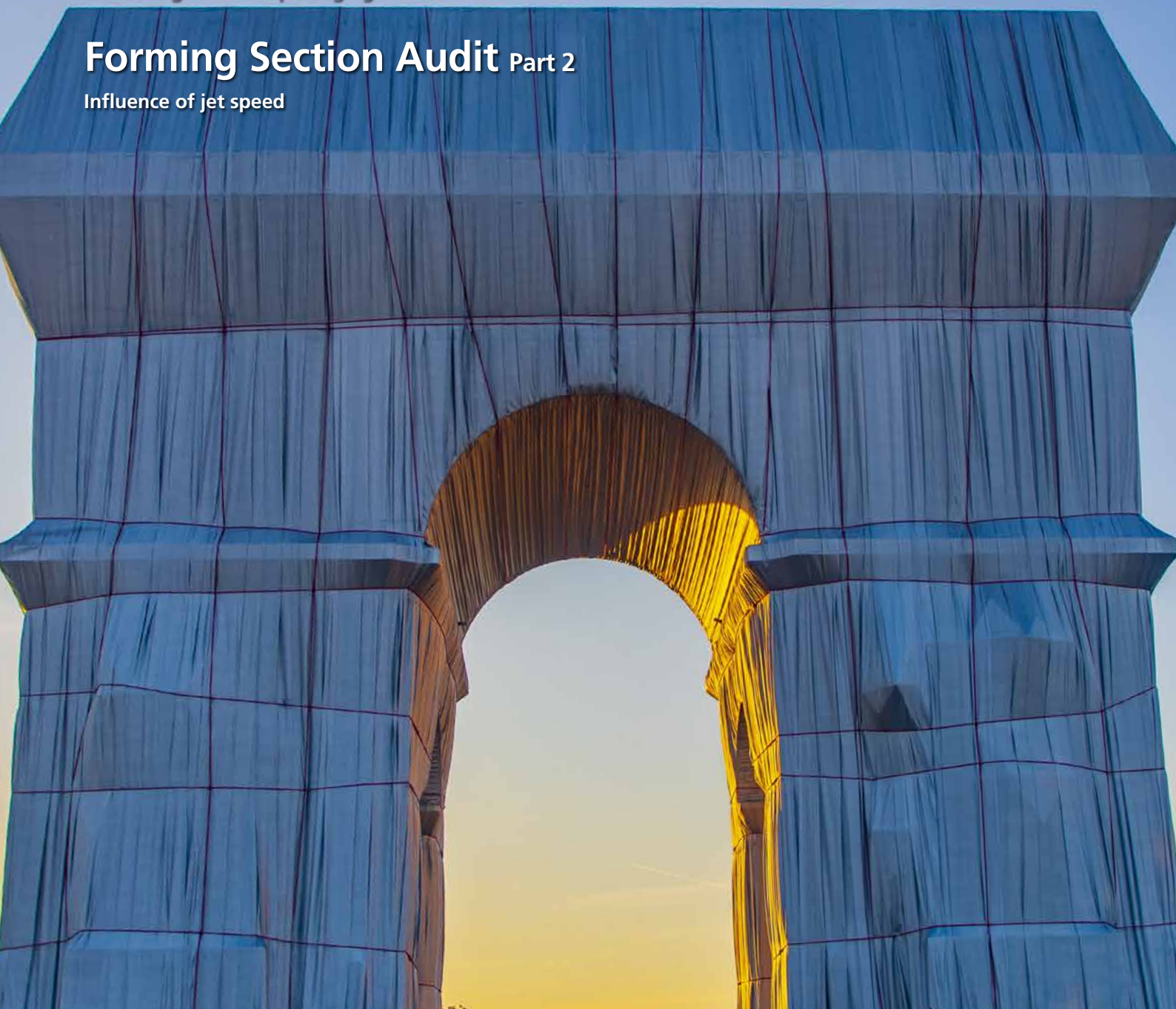
Christo´s coronation in Paris

Primoselect – Spoilt for choice

New designs for the packaging sector

Forming Section Audit Part 2

Influence of jet speed



Imprint

Publisher
Heimbach GmbH
52348 Düren
Germany
Phone.: +49 (0) 2421 / 802 0
email: info@heimbach.com
www.heimbach.com

Dear reader,

Computer chips, plastics, steel, copper, wood....
there is a shortage of supplies everywhere. Supplies of pulp and waste paper are also coming to a standstill. The lack of logistical capacity caused by the pandemic continues to have an effect.

Heimbach responded to the rapidly increasing demand for raw materials and intermediate goods long before Corona virus hit the world. With our competence centres in Europe and Asia we are excellently positioned and, thanks to the massive expansion at our Suzhou site, we can reliably supply our customers across the globe.

Even at the height of the restrictions, when wheels ground to a halt in many places, we were able to resume production at full capacity in China at a very early stage. And we invested. You can find out exactly how we managed to do this and what to expect from Suzhou in the future inside this edition.

In keeping with the expansion of our partnership-based cooperation with our customers, we have re-aligned the organisation of our global sales as of 1st August 2021. The new, regional and decentralised organisation will enable us to meet the requirements of respective markets with the greatest possible flexibility. You can get to know the personnel responsible for these tasks in the following pages.

I wish you interesting insights and much fun reading.

Best regards

Marco Esper
Chairman of the Management Board (CEO)

Guaranteeing that production never comes to a halt

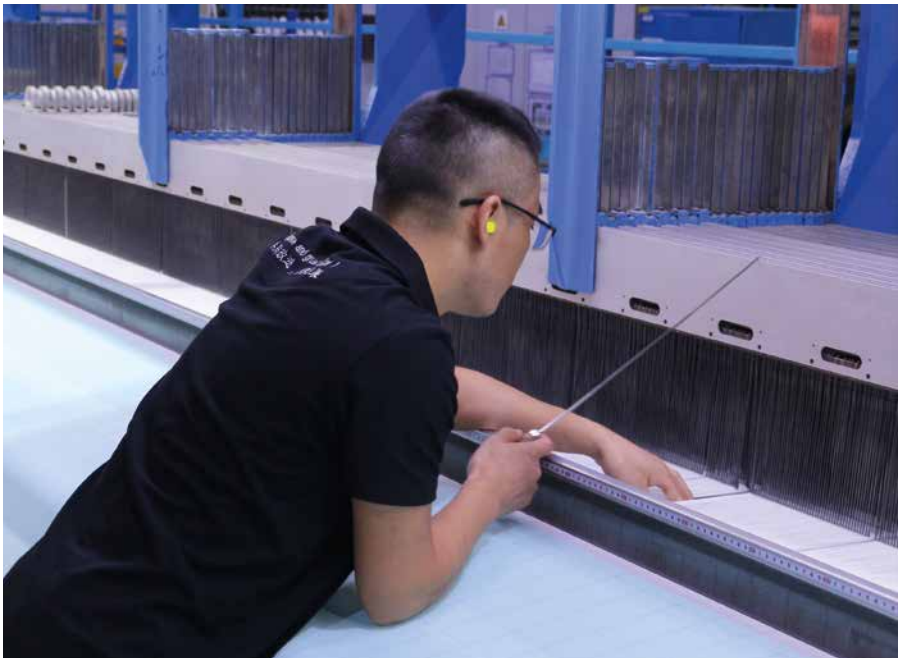
Downtime is a backward step. While production was curtailed in many places during the pandemic – or in some cases nothing ran at all – Heimbach has used the last two years to make itself even stronger. At our site in China, capacities were significantly expanded. This is more than simply our response to booming paper production in Asia. At the same time we are increasing the security of supply for mills in Europe too. Product Manager Lee Mercer explains how this technology and production expansion succeeded despite the massive restrictions imposed by Corona and describes the innovations that papermakers can look forward to.

Mr Mercer, does China really never sleep? Just a few months after Corona broke out, it seemed like China's economy was back running at full speed again. We can also see that by the state of the paper industry there. The hunger for raw materials, paper, board and packaging papers continues to grow. What does this mean for Heimbach Suzhou?

I was also surprised by the speed of the recovery. But we were not caught on the hop. We have been observing the shift and expansion of printing capacity since before 2020 and we began investing in production capacity at Suzhou at a correspondingly early stage. I think we can be somewhat proud of what has been achieved here since the plant was opened in 2008.

We began with the production of forming and dryer fabrics. Four years ago we added press felt production and today we operate a facility that is second to none. The next expansion phase, which will double our press felt capacity, is already being planned.

„If someone receives a press felt from Germany or China, the quality and performance is always the same."



How exactly do you and your team manage this under the conditions of mass quarantine and lockdown? What was the biggest challenge?

At the heart of our increased production capability is the new weaving machine for Atromaxx. Implementing a system of such complexity would normally be undertaken hand in hand with experts from across the Heimbach Group. This can take weeks and is done directly on the machine. All of a sudden this was just not possible. We managed to do it anyway, with an entirely virtual support during installation and commissioning. Industry 4.0 makes it possible.

Forming. Pressing. Drying. You now have real multi-product manufacturing in Suzhou. More or less the entire New-Tech range from Heimbach is now being produced in parallel in China. Here also, 2021 is the year that the course will be set. What was the background?

As part of our New-Tech strategy we have made massive advances in Product Development in our Europe-wide centres of competence. The result is even better quality and performance, together with other benefits, through the „new technologies".

Now was the time to put them on the road – or the track – in Suzhou as well. As has been said, the demand for innovative and high-performance solutions for paper production is immense, in the Asia-Pacific region in particular. Incidentally, this also applies increasingly to the issue of sustainability.

It can also be said, moreover, that with the expansion of our production in the Far East, we are also focussing on our European buyers. Our customers do not have to fear bottlenecks in supply such as we are experiencing ubiquitously in the global industry, whether for sensors or wood.

Europe's paper manufacturers are already facing predatory and transformational competition for business and materials. So we must remain a reliable partner. With every Euro or Yuan that we invest in Suzhou, we also strengthen Heimbach's ability to supply the continent.

You now also produce the „workhorses" of the Heimbach portfolio in China, right?

Yes, that is correct. In the forming sector we are increasingly focussed on the steadily growing board and packaging market with Primoselect. HD+ and Primoselect.F.

These new designs offer our customers measurable benefits in terms of dewatering and fibre support. We see other benefits too, such as improved former cleanliness, reduced void volume and resistance to internal abrasion.

In addition to Atromaxx – our main product in the press section – we are now also making Atrojet, our latest „star", in China. By virtue of its multi-axial non woven structure and high contact area , this press felt type ensures fast start up, uniform dewatering and improved dewatering capacity. Thanks to a wide range of base modules and batt structures we are able to meet the most diverse demands for both packaging and graphic papers.

Last but by no means least, we manufacture the latest generation of dryer fabrics in the

Secoplan family: with OXA-V, the bar is set extremely high in terms of efficient heat transfer, cleanability and dimensional stability.

Finally, a question on the subject of quality. Can products „Made in China" stand up to the high quality standards?

One hundred per cent! The know-how that has been developed at our European competence centres is implemented here 1:1.

We use identical materials, organise regular training for our staff and are in constant dialogue with technicians in the other locations.

Because we are so well networked, we were even able to adapt our production processes to the group-wide standard during the pandemic.

In short: if someone receives a press felt from Germany or China, the quality and performance is always the same.

Product Manager Lee Mercer

„The demand for innovative and high-performance solutions for paper production is immense, in the Asia-Pacific region in particular. Incidentally, this also applies increasingly to the issue of sustainability."

Re-organised to be closer to the customer

Heimbach has de-centralised its international sales organisation in order to better meet the higher growth dynamics in Asia as well as the more specific requirements of the individual markets. With two independent divisions and the establishment of a globally-oriented Key Account Management we are now closer than ever to our customers.

Leading economists are in agreement: By 2030, China will finally take its place as the world's largest economy. It is the same in the neighbouring Asian markets, industrial production is running at full speed and the hunger for investment and consumer goods is keeping pace. The paper market is a prime example of this. The Far East has been the number one consumer of pulp for some time now.

Decision-making powers de-centralised

We are fully at home in international markets and can exploit local potential perfectly through our worldwide production and sales locations. Our regional management are able to adapt quickly to changing market conditions and respond equally quickly to requests.

Our team at your service

Since August, Michael Dick has been responsible for sales to our EMEA*/Latin America markets, whilst Carmen Puhl has been in charge of Key Account Managemement. Both faces will most likely be familiar to you, as they have been working at Heimbach for a long time. Robbie Lu, who is responsible for the Asia-Pacific region, is a new addition at our Suzhou location.

The following short profles will help you get to know your contact person a little better. Thank you for your confidence.

*Europe, Middle East, Africa

„With this strategic re-alignment we are moving closer to our customers at the same time as we integrate them into our global network." Marco Esper, CEO

Robbie Lu

Vice President Sales Asia

He had worked as a Sales Manager or Sales Director for leading manufacturers in the paper industry for 20 years prior to joining Heimbach in May 2021.

Robbie doesn't just bring the necessary know-how with him. He also knows the markets, people and special dynamics of Asia.

His declared goal is to actively promote the sharing of both knowledge and experience in order to create beneficial cross-border solutions for the paper industry. Robbie has a ten year old son who is just as keen on football as his father.

Carmen Puhl

Head of Key Account Management

As a gradute in regional and legal studies, and thanks in no small part to various sojourns abroad, Carmen Puhl can count on both legal and intercultural skills.

Soon after joining Heimbach in 2006 she gained valuable experience during a six year stay at our Singapore office. Since her return in 2013 she has been co-ordinating activities with Corporate customers from our Düren office. In her new role, she will expand Key Account Management in the coming years and align it as a global function. Internationality and creativity are also evident in the private interests of the mother of three: Asian cuisine, Japanese Anime as well as listening to and playing music herself.

Michael Dick

Vice President Sales Europe, Middle East, Africa and Latin America

As a long-serving Regional Sales Manager he has become very familiar with most of the markets over the years. Especially in France, Italy, Israel, Turkey and Africa the qualified businessman has been making a significant contribution to the growth and expansion of our sales since 2003.

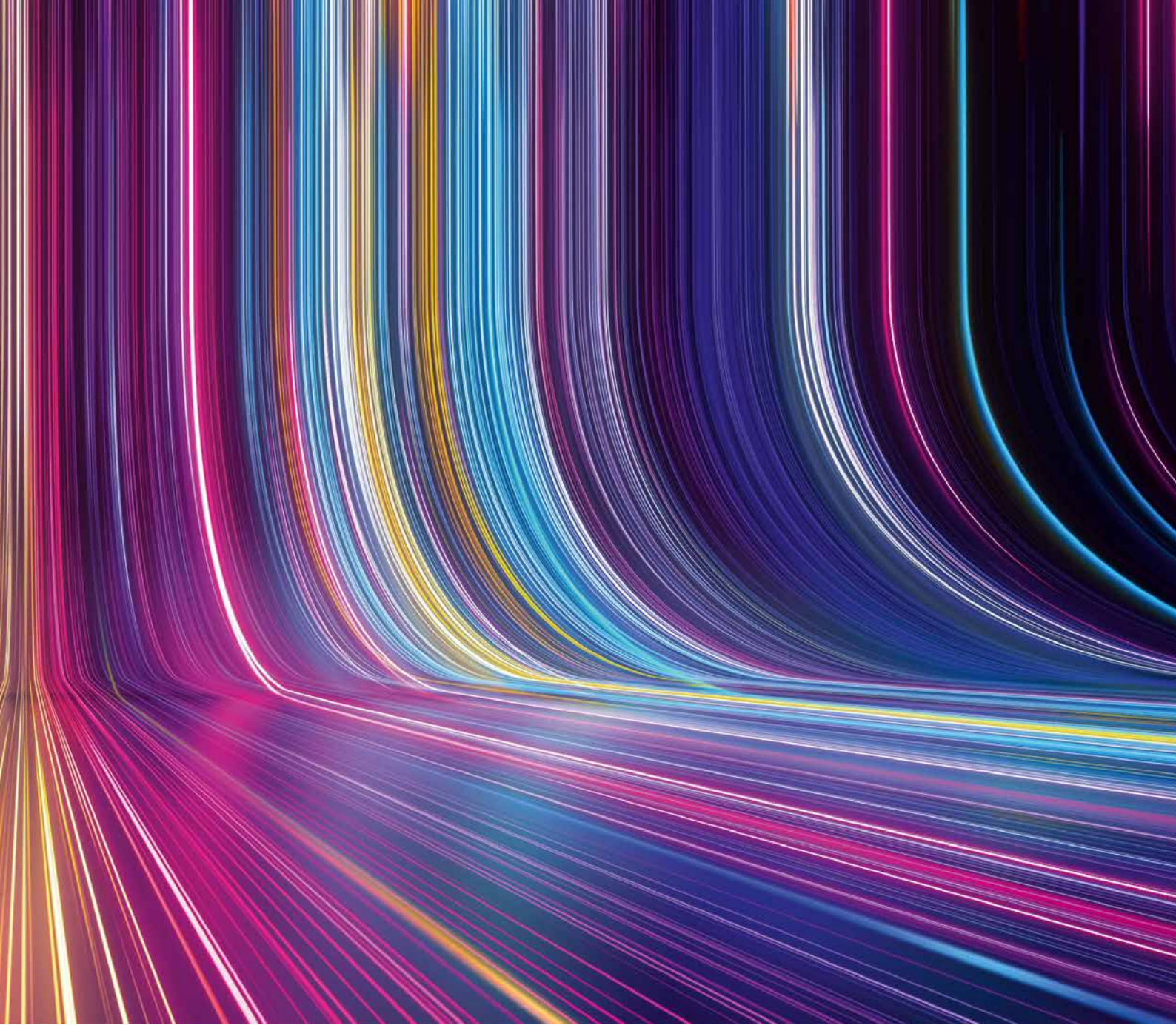
As a passionate endurance athlete and hiker he brings in turn the staying power needed to meet the increased expectations of the paper industry with both familiarity and foresight.

Michael is married and has two daughters aged five and eight. He is a salesman through and through and is with great passion. If the customer is satisfied, he is also.

Forming Section Audit Part 2

Maybe you remember? In the last edition of impressive we looked at the options available to maintain cleanliness in the forming section. In this second part of our „Forming Section Audit" series we focus on the influence of jet speed on fibre orientation and paper properties. For this purpose we will take a closer look at fourdrinier sections as examples.

As you are surely aware, Heimbach TASK offers comprehensive services for the forming section as a key part of its portfolio. Amongst others, the inspection of cleaning equipment, analysis of dewatering element operation and laboratory monitoring of used fabric samples are worthy of mention.
A very recent new addition to our activities is the visual inspection of forming fabrics in operation (online forming inspection).



Deviation of real wire speed from PCS

In this article, we want to show how we can help you if the real wire or jet speed differs from the values recorded in the Process Control System (PCS). To localise the difference, our experts employ various measurement methods.

Jet, clothing and roll speeds are determined using laser, length measuring wheel and optical trigger. The subsequent correction of any discrepancies usually brings an early pay-off:
An immediate control over strength properties in both machine and cross direction which, of course, can often also lead to formation improvement.

Principal causes: stretching and slippage of the forming fabric

Sheet formation can be significantly affected by the jet/wire speed ratio at the point of impact of stock on the forming fabric. Both these speeds, however, can only be determined indirectly under standard production conditions. There are various factors that account for this.

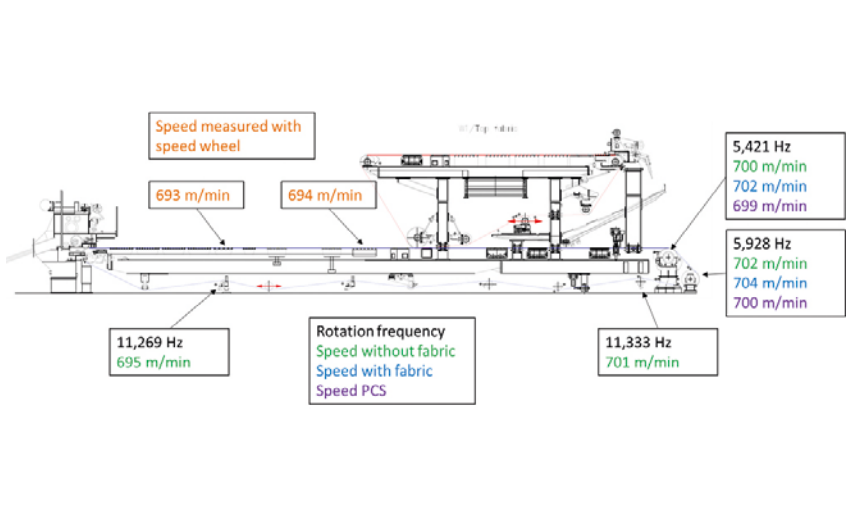


Fig. 1: Example showing examination of wire speeds in a forming section with secondary head box and top wire

Fig. 2: Precision length measurement wheel

„The laser speed measurement has become one of the most frequently requested services provided by TASK.“

For example, the PCS normally shows the circumferential speed of the forward drive roll (FDR).

And yet the actual wire speed at the headbox is lower (Fig. 1). How can this be explained? What can be done about it?

There are usually two explanations for this phenomenon. Upon a closer look, there are actually several factors that can simulata-neously influence the wire speed at the FDR.

It could be the angle of wrap, the wire tension or the friction between the wire and the roll cover and all of these play a role. Factors causing drag in the wire circuit can cause increased or reduced slippage. These would include dewatering elements, vacuum level and doctor contact pressure on the guide rolls.

The fact that the wire can accelerate or decelerate over each revolution can also be important. This leads, for example, to different speeds at the drive roll compared to over the wire table. The forming fabric would be at its lowest speed at the headbox, and its highest speed just before the FDR.

TASK measurements are therefore carried out immediately after the headbox and at accessible points along the wire circuit using a precision length measuring wheel (see Fig. 2).

It is, therefore, these two central influences – elongation and slippage of the wire – that can make the jet/wire speed ratio recorded by the PCS appear to be larger than in reality (Fig. 3).

SWAC camera for sharp focus photos of running fabrics

Also important:
Possible PCS corrections to the jet speed display

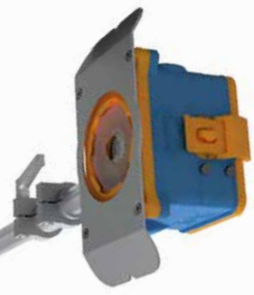
The jet speed is calculated in the PCS with the help of dynamic pressure formula and correction values resulting from the recordings of several pressure transmitters. In daily practice our TASK operatives frequently come across variations of several m/min when compared to direct laser velocity measuring equipment with a tolerance of <1 m/min.

It is therefore necessary to determine whether the machine is running in over or under-pressure conditions and which of the PCS settings require correction. Differences in the measured speed on the front and drive side of the machine are also an indication of whether the cross-flow header is set incorrectly, or for technical defects in the head box.

It is because the correct jet/wire speed ratio is so important for optimal fibre orientation that laser speed measurement has become one of the most frequently requested services provided by TASK.

Not to be forgotten:
Checking the drive load

When the displayed fabric speed differs from the real one, our colleagues in TASK have another method to help determine the culprit. They check how the drive load is distributed on the fabric between the FDR and the suction couch roll (CR). An exact fit can also help prevent possible damage or incorrect tension at this point (Fig. 4).



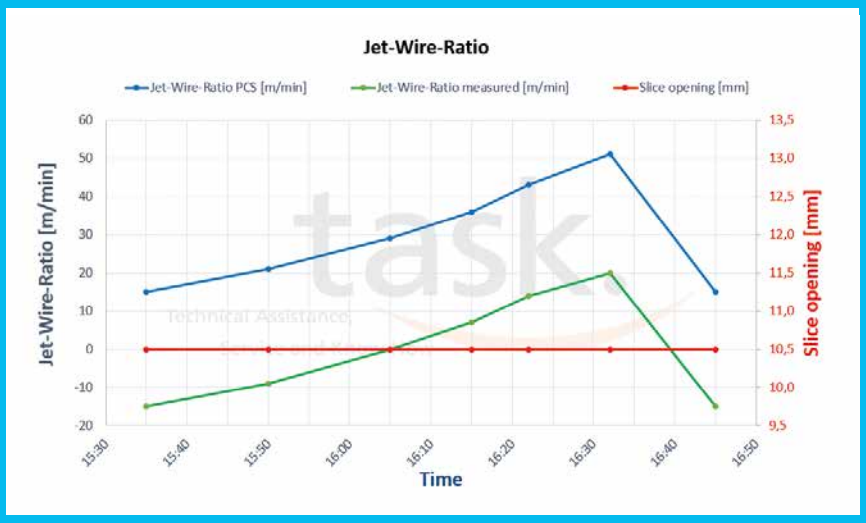


Fig. 3: Example of jet/wire ratio evaluation

Fig. 4: Waviness of the fabric between the forward drive roll and couch roll

„The elongation and slippage of the wire are the two central influences that can make the jet/wire speed ratio recorded by the PCS appear to be larger than in reality." *(Fig. 3)*

Fig. 5: Optical trigger

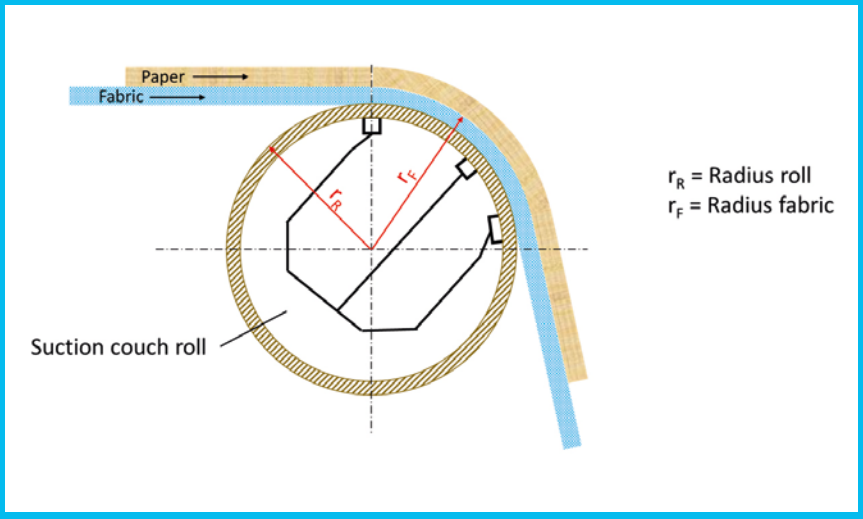


Fig. 6: Influence of clothing thickness on the effective couch roll radius at the draw

„The circumferential speeds of rolls are determined to one decimal place by the use of an optical trigger." *(Fig. 5)*

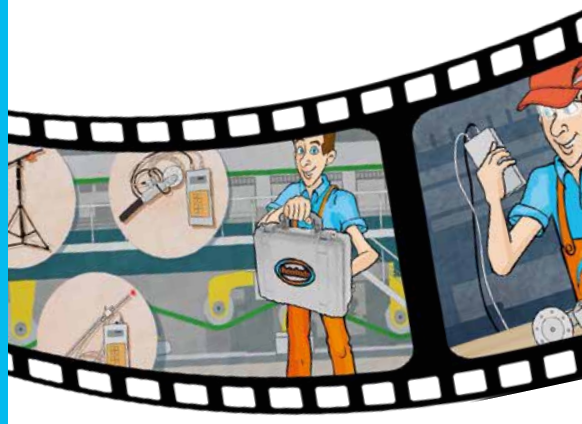
The circumferential speeds of rolls are determined to one decimal place by the use of an optical trigger (Fig. 5). For this to work, the actual roll diameter must be known.

If the paper sheet runs over the outside of the forming fabric and over a roll (Fig. 6) our colleagues add the currently-measured fabric thickness to the roll radius. Whatever the conditions, the paper speed is always measured with the greatest accuracy.

We have certainly not yet finished with the topic of forming section audits. In the next issue you can read by what means our TASK colleagues can identify other possible causes of disturbances in the forming section. Key words here would be forming table, suction devices, FDR, CR, guide roll doctoring and edge control and trimming.

Do you have any questions concerning this article, or our service capabilities?

Janek Schiefer
Phone: +49 (0) 2421 802 526
email: janek.schiefer@heimbach.com



More services in and around the forming section:

Tracing of MD mass variations
Measuring methods: High frequency MD mass variations using the ODIN measuring fork and vibration analysis (FFT).

Determining the causes of increased wear
Optimised formation process through visual inspection with the machine stopped or during a production run.
Method: Visual inspection and/or evaluation of detailed photos or videos.

Now on film!

TASK speed measurements are already film-worthy. Visit our Youtube channel.

Paper Pete is very much looking forward to meeting you.

Primoselect – spoilt for choice

Can revolutionary developments be further improved? You bet! When Primoselect forming fabrics were introduced to the market in 2013 our customers were suddenly confronted with a multitude of choices. The papermaker could now choose, or „select" the best possible option for his production, himself. Since then it has been an individual decision to determine whether, for example, maximum dewatering, less energy consumption or longer running times is the top priority. Almost a decade later, single-binder technology has become indispensable for many. As it is a key goal for Heimbach to develop in order to make good products better, the Primoselect family has been continually optimised over the past years, with several variants added. This applies particularly to the packaging sector.

We all see it on a daily basis:
the conditions for economic paper and board production are constantly changing and competition becomes ever fiercer. Above all scarcity and price explosion where raw materials are concerned weighs heavily on the industry. Increasingly diverse customer requirements must also be taken into account. As you would expect from your clothing expert, we keep a close eye on this and react to it at an early stage.

Primoselect.F

Primoselect – One, two or three?
1. maximum dewatering
2. less energy consumption
3. longer running times

An heir to the throne for the forming section

In 2013, it was not only Britain's Crown Prince George Alexander Louis Windsor that saw the light of day for the first time. Heimbach also presented an heir to the throne – in this case for the forming section. With just a single binder yarn replacing the previously common paired binders, Primoselect ushered in a new era of woven forming fabrics. While the first designs were aimed towards graphic paper machines, numerous additional options have since been added to provide for other paper grades and machine types.
It therefore comes as no surprise that half of all Heimbach forming fabrics bear the name, Primoselect. Over half a million square metres of this fabric have been supplied around the world, an area the size of over 70 football pitches.

Growing product range

Even eight years down the line, our forming designers continue to push the long-running product. We provide answers to the questions that constantly have your attention, how can productivity be increased? Weave patterns are under constant review and continually developed. One objective with this type of development work is to find structural improvements that make drainage channels as even as possible. This can then be translated for example into longer fabric life, reduced energy consumption or even better paper quality.

Our forming fabrics are as individual as your wishes. Weave pattern, yarn density and diameter are precisely matched to the application requirements.
Special mention should be made of one of the most important core benefits: the much-reduced thickness and open structure of Primoselect promote exceptional dewatering efficiency. The basic rule here is, the thinner the fabric the less time it takes for water to be removed through the structure. Low fabric caliper is also associated with reduced fibre carry and improved former hygiene which, in turn, is frequently translated into superior runnability.

New designs for new possibilities

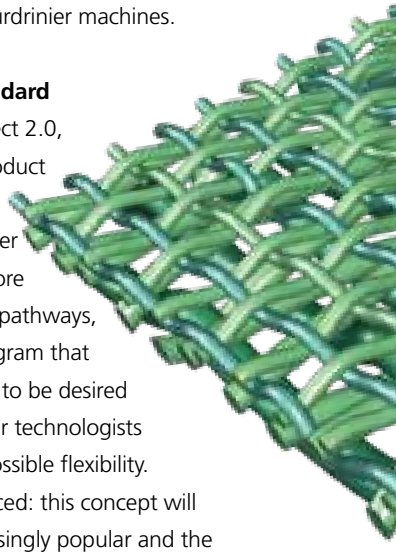
With 22 new additions, it is the Primoselect.F line that has seen the greatest growth. It is no coincidence, where this is concerned, that the days when packaging board was made at low speeds are now long past. Running speeds on these latest board machines would typically have required super fine fabrics that could dewater sufficiently quickly but may not have provided adequate lifetimes.

These new Primoselect.F options fill this void, being thin enough for high speed operation while providing the life required for economic production. Quality criteria for packaging products have also radically changed and are now just as demanding as those for graphic papers. Hardly surprising, in a way, as packaging papers now routinely go through printing processes.

Type F fabrics have now been introduced for medium-weight grades and lightweight packaging papers with impressive results. These designs are suited equally to gap-former and fourdrinier machines.

The next standard

With Primoselect 2.0, our newest product which benefits from a smoother surface and more even drainage pathways, we offer a program that leaves nothing to be desired and gives paper technologists the greatest possible flexibility.
We are convinced: this concept will become increasingly popular and the standard design for many paper machines – from multi-fourdriniers to single and double gapformers.



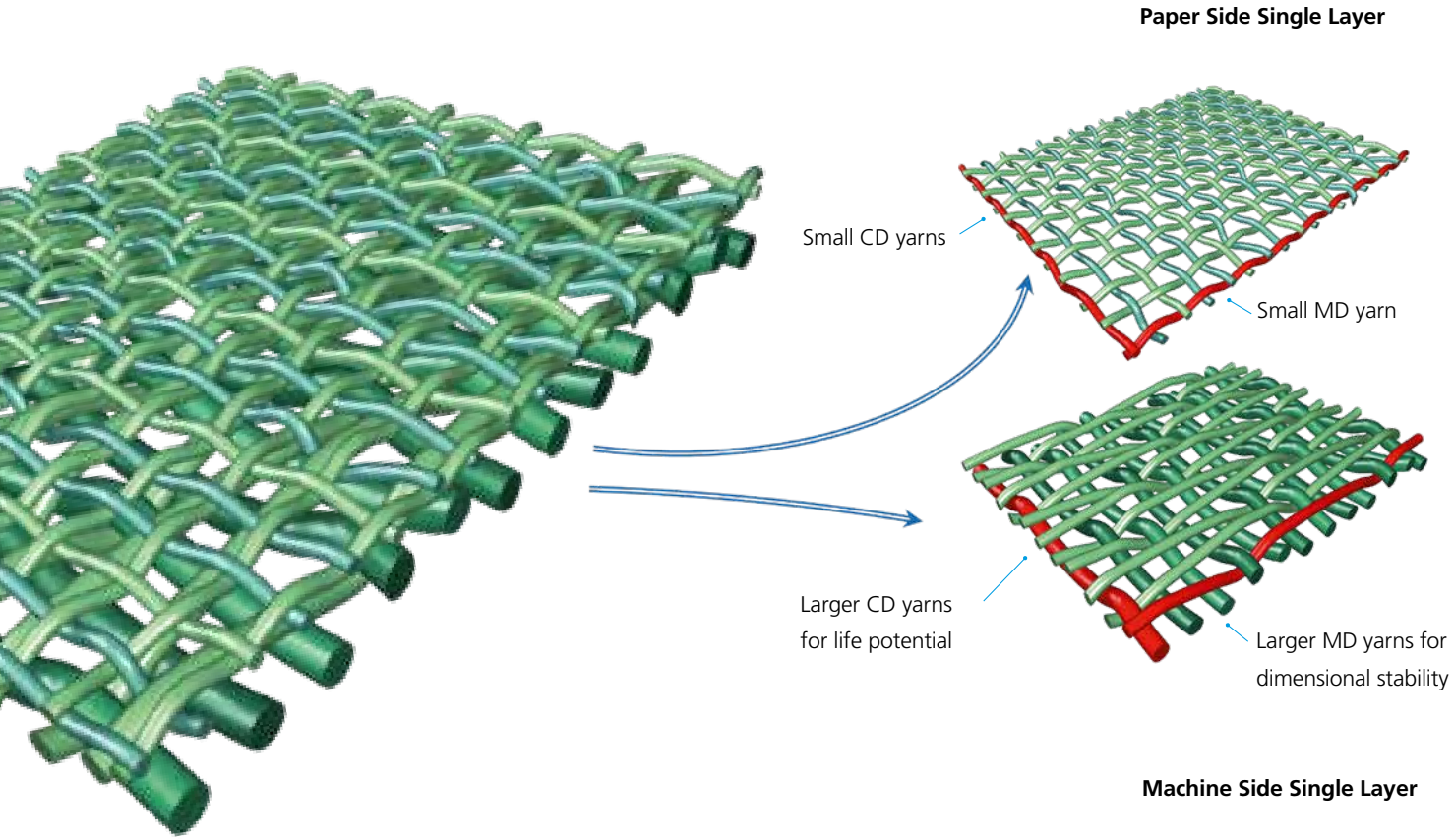
Do you have any questions or need support?

Hamish Parsons
Phone: +44 7803 627 523
email: hamish.parsons@heimbach.com

Primoselect Concept:

All yarns have a high degree of efficiency,
as two single-layer fabrics are combined with each other.

- All Paper side yarns are for fibre support
- Machine Side yarns for dimensional stability (Machine Direction)
  and for life potential (Cross Direction)



	Weft Ratio	Machine side weft	Air Permeability range	Caliper	Fibre Support Index
Primoselect.F	2:1	0.30 mm	330 - 450 cfm	0.79 mm	155 - 180
	3:2	0.30 mm	330 - 450 cfm	0.80 mm	145 - 165
Primoselect.F	2:1	0.35 mm	330 - 450 cfm	0.83 mm	150 - 170
	3:2	0.35 mm	330 - 450 cfm	0.86 mm	135 - 150
Primoselect.F	2:1	0.40 mm	370 - 450 cfm	0.91 mm	140 - 155
	3:2	0.40 mm	370 - 450 cfm	0.96 mm	125 - 135

Transferbelts – no longer a niche product

More than two decades ago, an entirely new technology was introduced to the paper industry, and a whole new range of possibilities was opened up: For the first time, the paper web could be transferred from the press into the dryer section in a continuous closed draw. Heimbach was the first supplier to bring a complete polyurethane-coated transferbelt to the market. In the meantime, the Webmover family has grown significantly and now offers solutions for almost every paper grade.

Forming fabrics, press felts and shoe press belts are directly involved in the removal of water from the stock suspension and the paper or board that is formed from it. Dryer fabrics, in turn, help transfer heat from the drying cylinders to the paper web. They then guide the web through the dryer section and onto the reel. Common to all these fabrics are pre-determined paths for the water or steam to be removed. In the case of forming/dryer fabrics and press felts, this is done via the material itself, while in the case of shoe press belts drainage channels in the form of grooves do the work. Since smooth surfaces do not create any storage volume, they are now rarely encountered.

Central control function

As the name implies, a transferbelt conveys the paper web, via closed draws, from the press section into the dryer section. The belt is impermeable to water and as such makes no active contribution to dewatering. Due to its specialised surface properties the still damp and relatively unstable sheet structure is, as a first step, directed to the outside of the transfer belt on leaving the press section. Because there is sufficient adhesion, the sheet is transported along. No wrinkling, no edge curl. The next step is the dryer section, where vacuum loaded rolls remover the web from the transferbelt in a closed draw.

In short: to ensure trouble-free operation of a press section with transfer belt, two criteria are of the utmost importance. Firstly, the web must adhere sufficiently to the belt surface, yet still be easy to release. Second, it is essential that these „tack and release“ properties are consistently maintained during economic downtimes.

A milestone for the industry

In 2006, Heimbach became the first supplier worldwide to offer a unique product: Webmover, a complete polyurethane coated transferbelt. One of the developer's main declared goals was to allow production speeds to be increased, and at the same time to increase the service life of the closed draw transporter. While at the time this applied to modern newsprint and other graphic paper press technology, today the established machinery builders appreciate the many advantages of transferbelts for other grades too.

New designs for new requirements

Something is happening. Tissue manufacturers are now using transferbelts in order to integrate free-standing shoe presses to gain higher dry content. Producers of speciality and lightweight packaging papers are also turning to transferbelt positions in the search for greater productivity.
So it is only natural that Heimbach has moved to tailor the proven features and benefits of Webmover to cover these areas of application. Today, the product range goes way beyond the standard.
The Webmover.HD variant (for Heavy Duty) is used on positions that are subject to high mechanical loads. With Webmover.Nonstick, belt surfaces can be conditioned much more effectively, and Webmover.T is the go-to design for tissue applications.

Perfect fit

We see ourselves as problem solvers and have developed the tool that keeps the surface of the Webmover „in good shape“. Our two cleaning doctors types form the ideal combination of belt and doctor blade. Webdoc.regular is perfect for continual use and for positions that suffer from moderate contamination. Webdoc.coarse provides reliable relief for applications with more stubborn cleaning problems.

Our top 10 lifetimes achieved

Running Time	Machine Speed	Paper Grade
777	800	Packaging
638	800	Packaging
621	900	Graphic
541	1800	Graphic
401	900	Graphic
394	1300	Speciality
393	1400	Graphic
381	1200	Graphic
377	1600	Graphic
359	1150	Packaging

We are pleased with the latest feedback from the Chinese market: Webmover ran on PM7 at our customer Shandong Chenming Mill9 for almost 300 days and gave a very good performance over the entire lifetime. This is already the second transferbelt with such a long service life on this high-speed machine.

In early September, Webmover was installed at Sun Paper Yanzhou PM39. This machine produces wood-free, uncoated papers at a reel speed of over 1600 m/min. A nice success on this important reference machine. Continuing the valued partnership with Sun Paper Group, the flagship machine Sun Guangxi Beihai PM1 started in September. Webmover was installed for the start-up, which our local staff reported went extremely smoothly. The Sun Guangxi Beihai PM1 is an 11.25 m wide, wood-free, uncoated machine that runs at speeds of up to 1800 m/min.

A triumph of packaging

News from the packaging sector is getting increased coverage in impressive. But this event goes way beyond the normal. One year on following the death of the wrapping artist Christo his last project, the wrapping of the Arc de Triomphe, was realised posthumously. From 18 September to 3 October 2021, the world-famous monument was presented in a new guise.

A 60 year start-up ...

Paper has endurance. Christo was just the same. He planned to cover the Arc de Triomphe as early as 1962. The 50-metre-high and 45-metre-wide landmark had been erected in 1806 in celebration of Napoleon's military victories. It did, however, take some decades to overcome all the bureaucratic hurdles. Even before this, the Bulgarian-born architect and his wife Jeanne-Claude had, among other things, covered a valley in the Rocky Mountains, the Pont Neuf - the oldest bridge in Paris - and the Reichstag in Berlin. All of them attracted an audience of millions. The message was quite simple: perceive things in a new way by covering them, think in a new way ... and begin to democratise art. It was always a celebration that was open to everyone.

... and Millions of spectators

Late that summer, the time had finally come: The monument stood there as familiar as ever. Yet at the same time unrecognisable. Hidden and at the same time fully in the spotlight – it was as if only its disappearance would make you see the building properly for the first time. Here, in the midst of all the hellish traffic, there is nothing inviting you to linger. Under normal circumstances, many are glad to leave the arch behind.

But in the last two weeks of September, the work finalised by Christo's nephew Wladimir Jawaschew attracted legions of people who came, saw and marvelled.

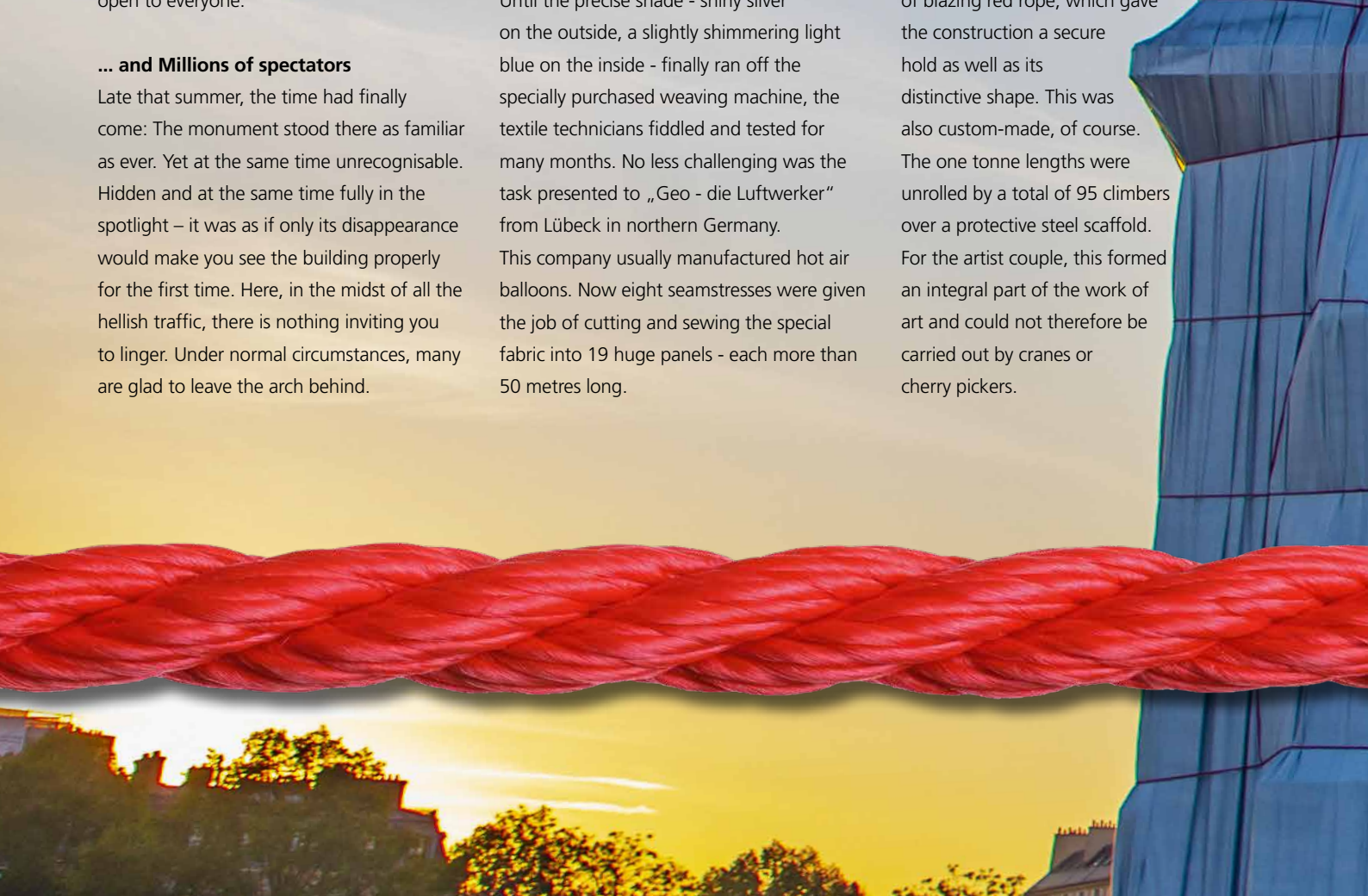
... 25,000 m² of fabric, 150 tonnes in weight and using 3,000 metres of rope

As he did with the Reichstag in Berlin, in Paris Christo relied on German crafts-manship and engineering. To pull off the disappearance of the giant construction, the manufacturer Setex produced a 25,000 square metre, aluminium-vapourised, polypropylene fabric - developed exclusively for „L'Arc de Triomphe, Wrapped". Normally, the company is a manufacturer of technical textiles for car accessories and coatings for carpets.

Until the precise shade - shiny silver on the outside, a slightly shimmering light blue on the inside - finally ran off the specially purchased weaving machine, the textile technicians fiddled and tested for many months. No less challenging was the task presented to „Geo - die Luftwerker" from Lübeck in northern Germany. This company usually manufactured hot air balloons. Now eight seamstresses were given the job of cutting and sewing the special fabric into 19 huge panels - each more than 50 metres long.

A truly Herculean task, the material is extremely rough and weighs in at 600 grams per square metre. The façade material, which was sewn down for stabilisation and sealed at the edges, had a final weight of 150 tonnes. The sewing machines in the old Hanseatic city rattled along for over half a year to prepare for Christo's coronation in Paris.

And then there are the striking red cords. Gleistein Ropes, a traditional Bremen based company, supplied a whole 3,000 metres of blazing red rope, which gave the construction a secure hold as well as its distinctive shape. This was also custom-made, of course. The one tonne lengths were unrolled by a total of 95 climbers over a protective steel scaffold. For the artist couple, this formed an integral part of the work of art and could not therefore be carried out by cranes or cherry pickers.

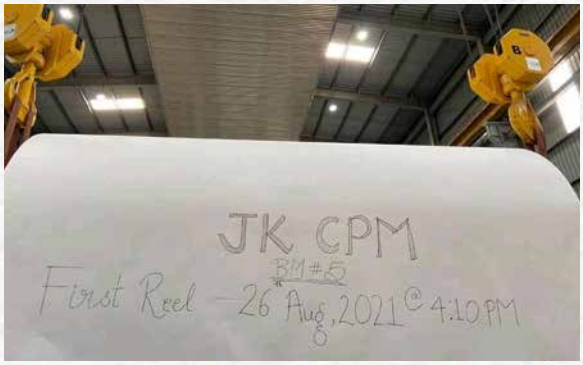


„Christo´s coronation in Paris“
25.000 m² of fabric
150 tonnes in weight
3.000 metres of rope
6 months production time

References that convince

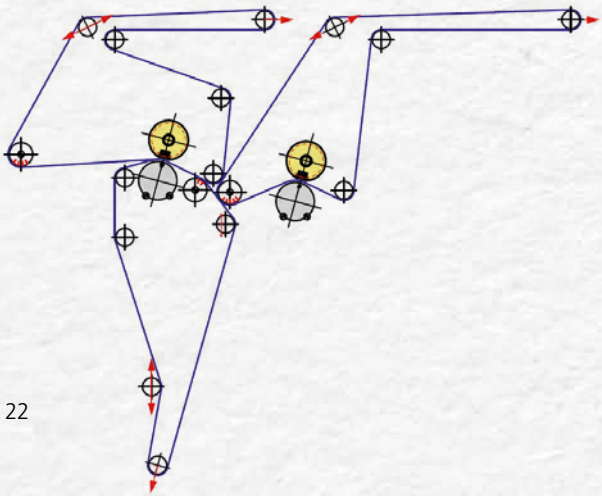
Red = Fast Forward, Blue = Previous felt

Top Performance with „Fast Forward“
With the application of our start-up component „Fast Forward“ the stable and efficient performance of Heimbach felts could be further improved. The 1st press felt on this newsprint machine is now providing an even more impressive performance due to its‘ turbo-start, leading to further improvements in operational efficiency. The influence of Fast Forward made it possible to eliminate the expensive „cost triangle“ often observed during start-up. Higher production and energy savings made a convincing case for production management.

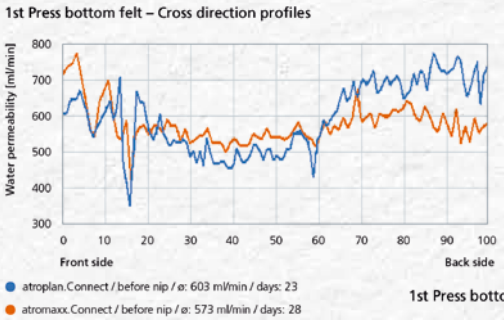


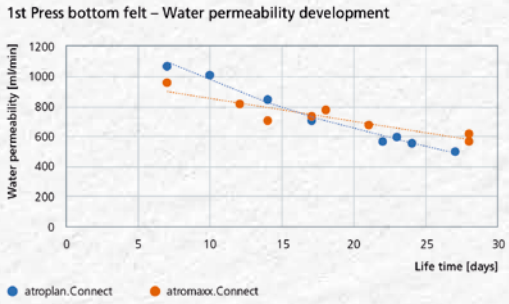
Reliable performance in India
JK Paper CPM unit produces cardboard packaging on its‘ new BM5 and relies on Heimbach clothing in all sections. The machine started up with Primoselect in the forming section and Secoplan in the dryers. Thanks to reliable product performance and easy installation, we are rated as the preferred PMC supplier for all new and existing machines.

Fast start, higher dryness
On a 7 m wide machine producing folding box- and art board, an Atromaxx felt provided excellent dewatering results in the top and bottom positions of the 1st press within just 30 minutes of start-up. Nip dewatering occurred from the moment the machine started up. Dry content after the press section was recorded at 1,5% higher compared to previously run felts.



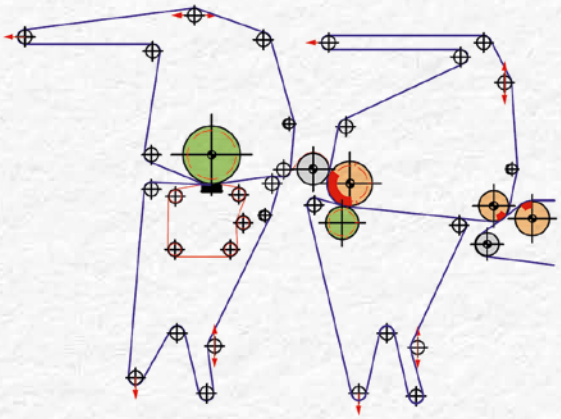
New-Tech in a dual package
On a modern Tandem Nipcoflex machine making graphic papers our New Tech felts have impressed again. Heimbach multiaxial technology just keeps machines running. An Atromaxx felt in the pick-up position, together with an Atrojet in the 1st press bottom position were able to guarantee stable running with minimal breaks throughout their lifetimes.





Staying open for longer than normal

When applied in the bottom position of a 5.40m wide packaging machine the woven seamed felt, Atroplan.Connect, provided dewatering at a consistently high level. When the design for this position was modified to Atromaxx.Connect, with a multi-axial structure that prevents collapse of the modules, the felt remained open for an above average length of time. This multi-axial structure offers further advantages to the user, such as improved cross machine moisture profiles. Damp peaks can be flattened out thanks to a significantly higher compressibility index.



No need for chemicals

We supply Atromaxx multi-axial felts to the 1st press of a 5m wide packaging machine. Compared to felts used previously, this design requires no chemical treatment in order to remain open. The increased nip dewatering generated by multi-axial felts creates a „self cleaning“ effect, as water is pressed through the felt under high pressure. Over the full lifetime of the felt, this brought savings of around € 10,000.

Improved Nip-Dewatering

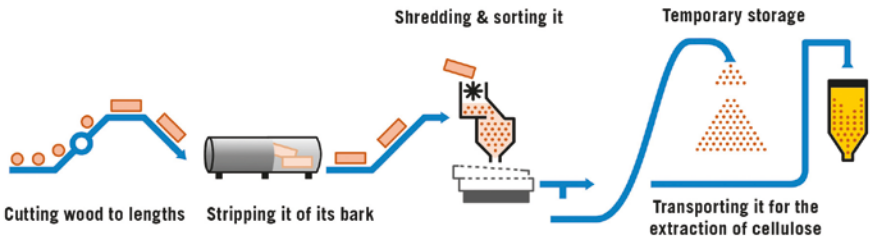
Following on from our success with Atromaxx in the 1st press, we received a trial Atrojet order for the 2nd press position of BM26 at our Chinese customer Shandong Sun Paper. A positive result in every respect in terms of nip dewatering when compared to competition was added to sheet smoothness described as perfect. These improvements, together with resolution of previous problems with sheet release, won over the customer.

Flawless paper quality

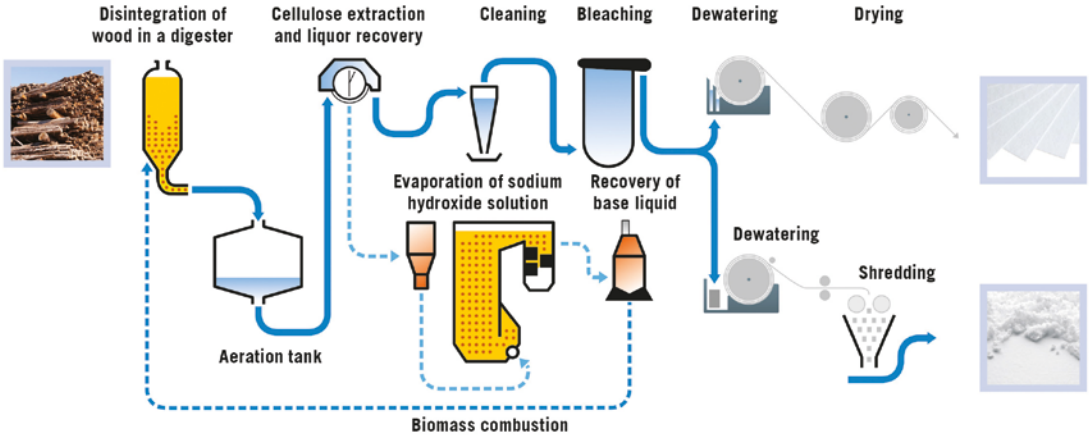
Comprehensive presence at APRIL Riaupaper in Indonesia: Our Yamabelt shoe press belts run on all three machines and the customer highlights the flawless paper quality achieved.

Pulp Production

WOOD PROCESSING



MANUFACTURING OF CELLULOSE



Atronet.P – tailor made for pulp

Before bales of pulp make their journey to paper mills across the world, pulp manufacturers have already put in a great deal of work. Pressing the water out of a fibrous mass and then drying it is an impressive feat. The forces at work here are in no way inferior to those in the paper machine. For this reason, specialised and highly resilient press felts are required. These also come from Heimbach.

A little bit of pulp science

In terms of volume, waste paper is by far the most important raw material for the paper industry. However, the quality demands of some consumers mean that pulp is also needed for many types of paper and board. Pulp is really a fantastic product, sustainable and environmentally friendly. It is created by the chemical pulping of plant fibres, and consists mainly of cellulose. 90 per cent of all pulp produced globally is made from wood. Here, the yield is about 50 per cent, depending on the variety.

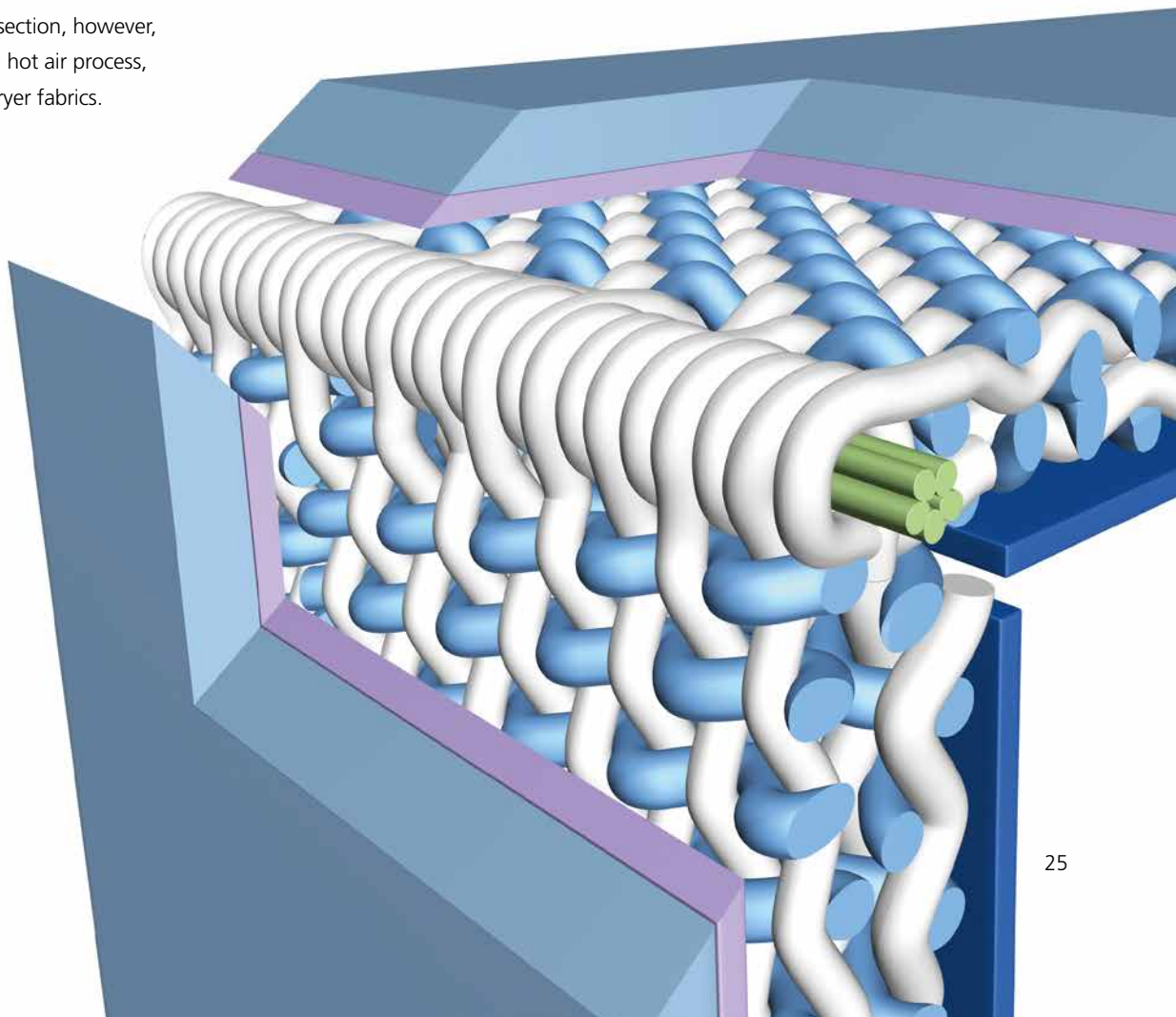
The originally wet suspension must be dried as thoroughly as possible before transport. The equipment used for this is very similar in structure to a paper machine. There is a wire section, press section and a dryer section. In the last section, however, drying is carried out via a hot air process, so there is no need for dryer fabrics.

Caution, hot!

When the pulp is dewatered, the basis weight of the web (800-1500 g/m²) is much higher than in paper or board production. The production speed (150-200 m/min) is correspondingly lower.

Particularly challenging for the clothing on these applications are the very high fabric temperatures which are required to enable effective dewatering in the press section. At the beginning of the press section in particular, the fabrics are subjected to very high thermal stress and can shrink or even collapse as a result. With this in mind, Heimbach has developed specialised felts for the pulp industry.

atronet.P CONNECT



Atronet.P –
highly durable and long-lasting

It was clear from the very beginning to our designers: conventionally woven press felts are sub-optimal for the requirements of pulp applications. A better way was required. Searched for, discovered. The climax of the development work was the new Atronet.P design.

The multi-axial press felt concept impresses with outstanding compaction resistance and maximum dimensional stability. These qualities, of course, are typical of Heimbach's multi-axial felts. The base modules are set at different angles and effectively prevent the structure from collapsing.

This in turn guarantees that the void volume is maintained to a high degree which leads to excellent dewatering results over long lifetimes. It is not without reason that New-Tech fabrics are the product of choice for many customers in the packaging sector.

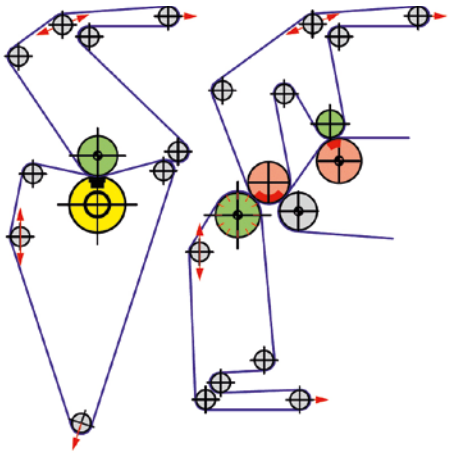
Atronet.P / Atronet.P.Connect
stands out compared to conventional solutions:

Multi-axial carrier modules
- Highly effective maintenance of void volume
- Dimensional stability retained under extremely demanding conditions (high temperatures in the press section)

Patented compression layer
- Absorption of higher volumes of water
- Controlled dewatering throughout felt lifetime
- High wear resistance

Seam
- ONE single, strong seam for easier felt installation

In addition, Atronet.P is equipped with a compression layer within the felt. Thanks to this, huge volumes of water can be processed in a controlled manner throughout felt lifetime. This compression layer also helps improve fibre anchorage which in turn improves wear resistance.



Schematic of a modern pulp dewatering machine

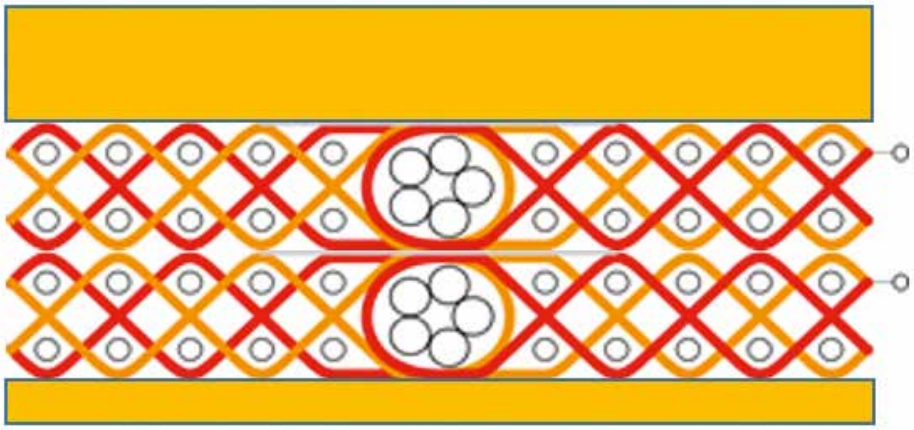
An extract from our references

Country	Pulp type	Pulp sheet	PM	PM	PM
		Basis weight (g/m²)	Fabric width (cm)	Speed (m/min)	Position
Chile	Bleached pulp	850 - 900	430	170	2nd press bottom
Chile	Bleached pulp	850	615	210	2nd press bottom
Czech Republic	Synthetic fibre pulp	800 - 1200	701	85	1st press bottom
Germany	Bleached pulp	900 - 1200	850	250	3rd press top
Germany	Bleached pulp	900 - 1200	850	250	3rd press bottom
Finland	Bleached pulp	700 - 850	725	185	Pick-up
Portugal	Bleached pulp	900	470	75	1st press

Comfortable with a single seam

Press felts on pulp machines are real heavyweights, and consequently have two seams. At least, that was the standard up to now. Atronet.P.Connect fulfils the wishes of paper makers in this respect too: The felt is equipped with just one, extremely strong, seam. This meets all safety requirements and also enables rapid felt installation.

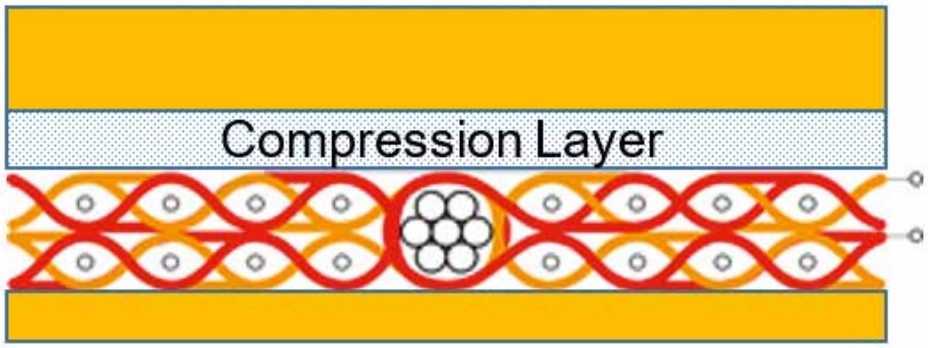
Press felts for pulp dewatering



The traditional way

Double seam felt: two conventional woven, double-layer base weaves with two seams

- High void volume
- High seam strength
- Heavy felt weight (cost)
- Difficult installation (two seams)
- Sensitive to compaction and shrinkage
- Risk of loss of batt



The modern way

Atronet.P.Connect: Multi-axial seam felt with compression layer and SINGLE seam

- High void volume
- High seam strength
- Moderate felt weight
- Easy installation (only one seam)
- Practically incompressible
- Insensitive to shrinkage
- First class wear resistance

„Atronet.P.Connect –

Just plug and play“

In profile

At Heimbach, many paths converge and employees in Europe and Asia work hand in hand. As representatives of our international team we are happy to introduce four more committed Heimbach colleagues to you today.

Bianca Dorsfeld

Shipping Team Leader

„Never lose your sense of humour“

Organising shipping on a worldwide basis is a special responsibility in itself. With Bianca Dorsfeld, we know that this is in the safest of hands.
Bianca commenced her training at Heimbach in 2013 as a business administrator, which she mastered with flying colours. During this time she became very familiar with the business procedures and processes within the company. In the meantime, Bianca has taken on responsibility for the management of our shipping department and does everything she can to ensure that our goods arrive at our customers on time and with the correct paperwork.

By background: Industrial clerk

At Heimbach: Since 2013

Field of activity: All aspects of shipping and dispatch, importing and customs procedures.

Milestones: Taking over the Shipping Department in the middle of the Corona pandemic. Thanks to a quick training process and the building of young team with the support of two new colleagues, business was able to continue without interruption.

In private: Bianca loves cooking and fine cuisine. Whether at home, where she enjoys cooking and baking, or in a restaurant; she likes to enjoy herself. She also regularly attends concerts and is an enthusiastic participant in Carnival.

Felix San Vicente

Sales Manager Heimbach Ibérica

„Determination is the first principle of success“

This year, Felix San Vicente celebrates the 35th anniversary of his arrival at Heimbach.
He began his employment in the TASK department, carrying out service and measurements for our customers in Spain and Latin America.

The valuable know-how and experience that he gained has been of great benefit in his sales role, which he has filled since 2005. Felix is a salesman through and through and goes about his job with great passion. When the customer announces that he is satisfied, so is Felix!

By background: Paper Engineer

At Heimbach: Since 1986

Field of activity: Responsible for sales in Spain, Portugal and Latin America.

Milestones: The positive market development, especially in Mexico, is credited to him.

In private: Bilbao, the heart of the Basque country, is where Felix goes as often as he can. This is where he was born and where he still enjoys the gastronomy and majestic landscapes....by bike sometimes too. He also spends as much time as possible with his family and likes to open a good bottle of wine when friends are over.

Russ Martin

Site Leader Heimbach UK

„Work hard. Play hard."

If anyone was made to run our Manchester site, it's Russ Martin. After successfully completing his studies in electrical and plastics engineering, he gained practical knowledge at a company in the polymer and textile industry. In 1998 Russ joined Heimbach UK as Engineering Manager.

His start coincided with the takeover by Heimbach of CH Johnson. This meant big challenges from day one. Among other things, this included the installation of a completely new heat-setting system. In the following years, Russ assumed more and more production responsibility. Since 2015, he has been at the helm of our plant in England.

By background: Electrical and plastics engineer

At Heimbach: Since 1998

Field of activity: As site manager responsible for all activities at Heimbach UK.

Milestones: Involved in the development of Heimbach UK into one of the world's leading manufacturers of high-tech forming fabrics.

In private: Russ is a big fan of cycling. This could be on a mountain bike, Enduro racing or just relaxing on a road trip with friends: in any case, the bikes never stand still for long.

Tom Hoyle

Team Leader Sweden/Norway

„There is no time like the present"

Tom Hoyle has been in the PMC business since 1984 and worked in technical support for many years before joining Heimbach.

He manages our sales team in Sweden/Norway and is always the person to contact when things get „hot". Tom is particularly pleased with the milestones Heimbach has achieved with regards to forming fabrics and seam felts and appreciates the excellent sales support from product management and the inner sales team.

By background: Civil Engineer

At Heimbach: Since 1995

Field of activity: Leading the sales teams in Sweden and Norway.

Milestones: Keeping the ship on course in a crisis-ridden region and meeting the growing challenges with new ideas and product concepts.

In private: With a family the size of Tom's, there is always something to do. Above all, there is always work to do around the house. But when time allows, he likes to go fishing, cycling or hiking in the beautiful countryside. Another of Tom's passions is Scotland and its' exquisite whiskeys. He would certainly be happy to visit the distilleries more often.

Keeping our word!

„We are committed to continuous improvement". That is what it says on our website. That is what is also stated in our Sustainability Report. And we always keep our word.

Silver from EcoVadis

Heimbach was first certified by EcoVadis in 2017 – the world's largest and most respected provider of corporate sustainability ratings. In April of this year, we once again went through the audit process. Our performance on the topics of environment, labour, human rights, ethics and sustainable procurement was once more put to the test.

Whereas three years ago we were awarded bronze, we have now achieved silver. This puts us in the top 25 companies worldwide in the „Other technical textiles" segment for sustainability and compliance. Thanks to a great team performance, we were able to show a very positive development, in particular in the areas of ethics and sustainable procurement.

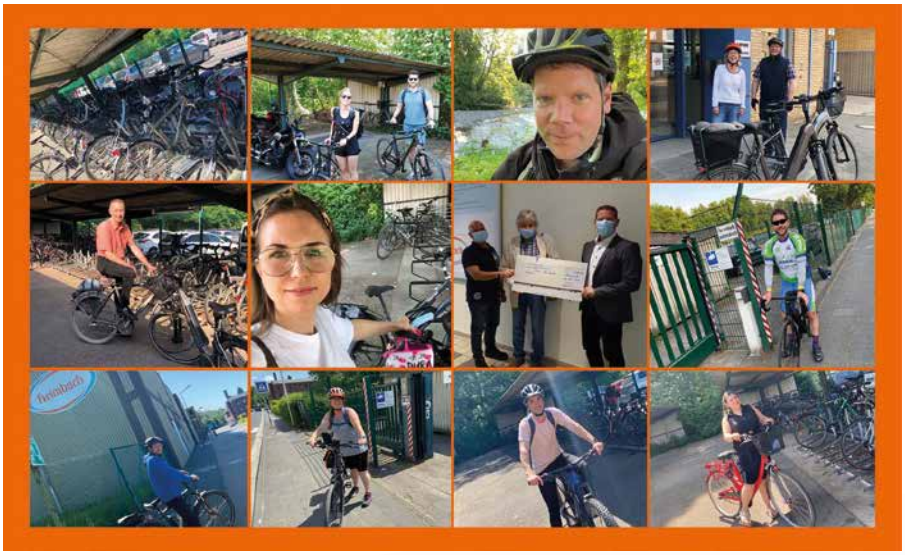
Now we want, and will continue, to improve. That is a promise. There are numerous projects occupying Heimbach in this continuous change process. The focus of our sustainability efforts will be on reducing our CO_2 emissions, alignment with the GRI reporting standard and compliance in the supply chain.

Pedalling for the environment

8,836 kilometers. That is the distance between our plants in Düren and Suzhou. Could you manage this distance by bicycle, let alone on foot? Our colleagues in Düren did just that.

Not individually, of course, but together. In May, management at Düren announced that for every kilometer covered in an environmentally friendly way, 30 cents would be donated to a regional aid organisation. Everyone was called upon to cycle, or walk, to work as often as possible. In the end, 9,592 kilometers were actually logged in the record book.

The lively participation in this campaign showed us once again that sustainable action is a part of life at Heimbach. This gives us great pleasure.



Helping nature fly

Bees illustrate the interrelationships in nature like no other creature. A little-known fact: These small insects are the third most important livestock after pigs and cattle. Without pollination, and the subsequent continued existence of plants and flowers, around two thirds of the food source for humans and animals would disappear.

All the more reason, therefore, for Heimbach to take action in view of the worldwide decline in bee population. We support various insect protection projects by sponsoring bees. In Düren, we have been busy creating our own wildflower meadow since last year. This summer we erected our first insect hotel right next to it. Shelters like this help beneficial insects to nest and reproduce. We could already enjoy the sight of our small guests settling into their new home.

Heimbach-TASK

Process expertise and tailored solutions

Even small improvements in and around the paper machine can often release great savings potential. Your profitability can be enhanced by maximising production efficiency and keeping maintenance costs to a minimum. Place your trust in our technical know-how and sound service competence that provide effective support in optimising your processes.

See for yourself our well-established expertise and extensive technical service portfolio, including:

- Nip Profile Measurement
- Speed Measurement
- Thermography Measurement
- Troubleshooting

task.
Technical Assistance,
Service and Know-how

www.heimbach.com

heimbach