Heimbach's tissue machine clothing is ready for the next challenge

Uwe Berg, Product Manager Tissue, Heimbach

INTRODUCTION:

Keeping in mind the market for tissue, how can our proven clothing design make a difference? How can we sustainably support our customers to optimise challenges such as a reduction of energy consumption and carbon footprint while keeping the manufacturing cost as economical as possible? These and many other topics are regularly addressed by our expert group including our sales engineers, product managers and product development organisation.

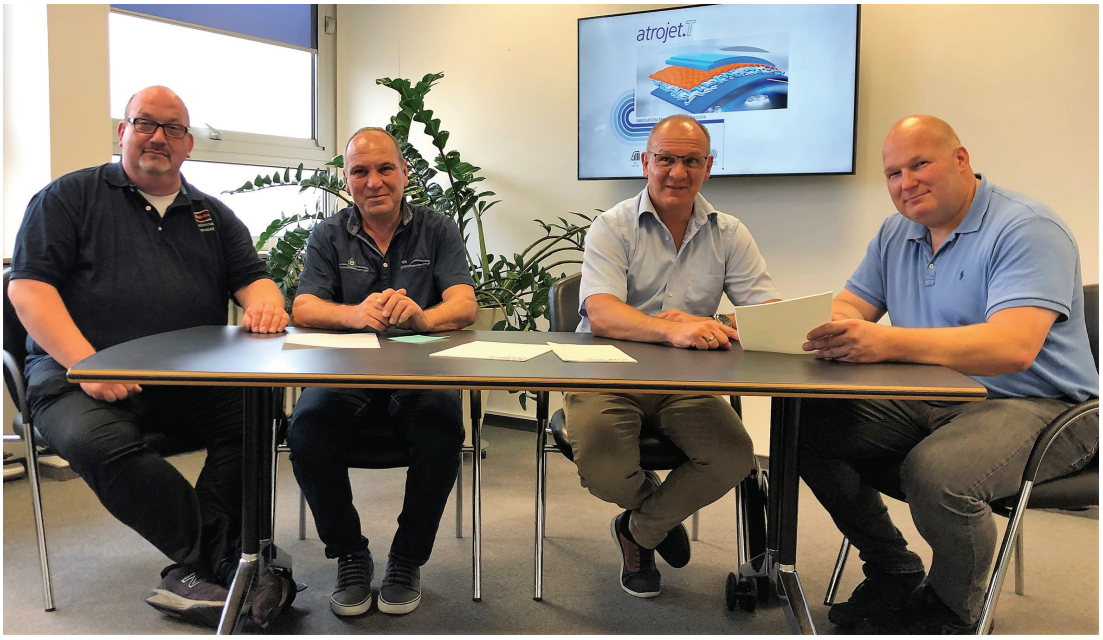

Figure 1: Tissue core team: Jochen Pirig, Uwe Hentschel, Uwe Berg, Sven Bauchmüller (fltr).

Innovative tissue clothing

Machine technology, especially press technology has constantly changed in recent decades, with a higher focus on energy efficiency, sustainability and decarbonization. As the mechanical energy used in the press to extract water from the paper web is substantially less than the thermal energy needed to dry a sheet over the Yankee, any extra dryness from the press will translate into reduced cost of manufacture. With our tissue clothing concepts, we offer papermakers the possibility to optimize and sustainably improve the performance of their machines by fittingly in line forming fabric, press felt and shoe press belt options.

Sustainable sales, product management and development support

New paper machine clothing's are primarily developed for better performance, for example reduced energy consumption or rather carbon footprint CO2, better utilisation of furnish as well as to optimise machine efficiency or paper quality. The first step of a paper machine clothing expertise is to transfer what has been seen plus spoken into sustainable knowledge and to use digital technology to combine what has been learned into the product development for the current requirements of the tissue machine. Artificial intelligence (AI) supports us in mastering daily challenges.

The advanced Home service & TASK parameters, as well as in-house data, help us to realise design developments for the complex requirements of the tissue machines to be able to offer the best fit clothing concepts for the individual machine position. The optimisation of the felt design is customer-target-oriented. Pore size and pore distribution in the felt structure controls dewatering capacity and start-up curve. In addition to the optimal modification of the felt design, it must be checked that the shoe press belt design works hand in hand with the press felt designs to achieve best possible inlet dry contents at Yankee cylinder. The tissue forming fabric design applied is based on an intensive study of the paper requirements and difference in furnish and processing. Tissue forming fabrics are judged upon fines and drainage capacity. Very short drainage lengths and high speed require thin, fine and "open" fabrics.

"Get to know our tailor-made solutions engineered specifically for hygiene papers and see for yourself the cost and energy savings for your production needs."

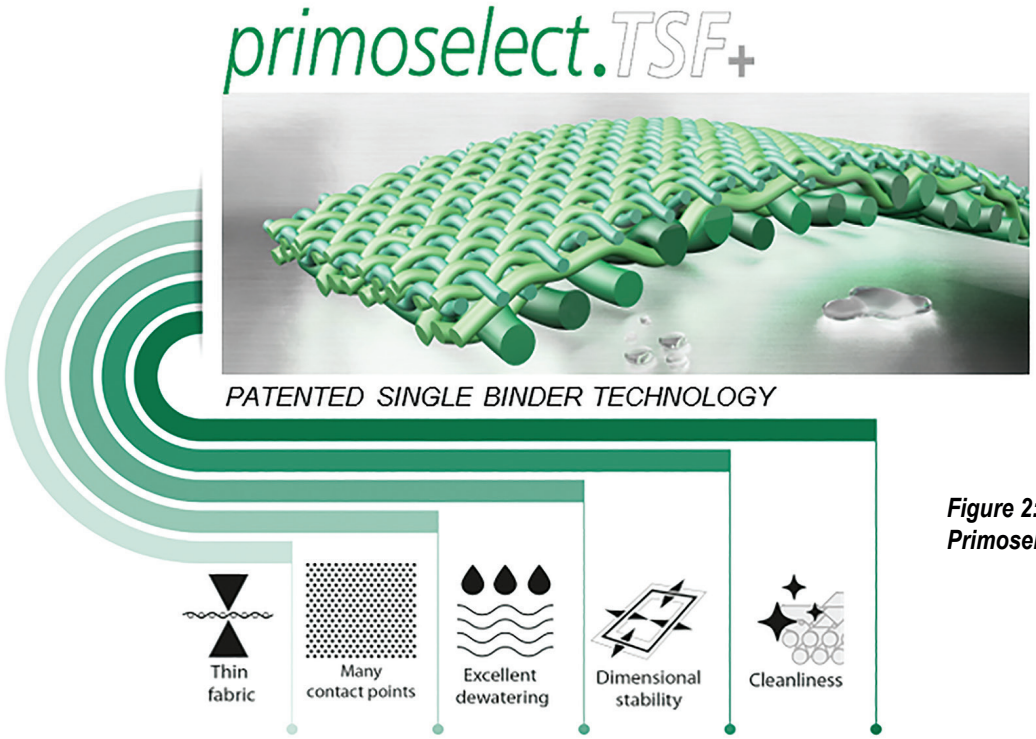

Figure 2: Key performance indicator Primoselect.TSF.+

Forming fabric technology designed for tissue machines

In recent years we have continuously optimised the Primoselect forming fabric concept. With our latest advanced Primoselect.TSF+ products we are able to offer a tailor-made forming fabric series for tissue machines. The patented Primoselect. TSF+ single-binder concept is engineered to fulfill a wide range of demands for the production of the highest tissue paper quality.

Primoselect.TSF+

- **A forming fabric that combines the features of SSB and WSB.**
- **A binder concept that sets standards in the ratio of open paper side surface and active fibre support.**
- **Offset warp system in the machine direction allows sheet formation over a very short time.**
- **High FSI, low fabric caliper and low void volume (VV) guarantee excellent dewatering results and clean machine conditions.**
- **The patented fabric guarantees high dimensional stability. This results in increased wear resistance and optimum lifetime.**

Advanced press felt technology designed for tissue press applications

The continuously developed Atrojet.T Series combines the benefits of most advanced bases technology, multi-axial and multi-axial non-woven.

The multi-axial tissue press felt conception offers comprehensive product ranges to meet the requirements of sophisticated press applications. The exclusive base weave combinations of multi-axial tissue press felt conception Atrojet.T and Atromaxx.T meet the specific and individual requirements such as short break in time and high nip dewatering capacity for customized well-engineered tissue press felts application.

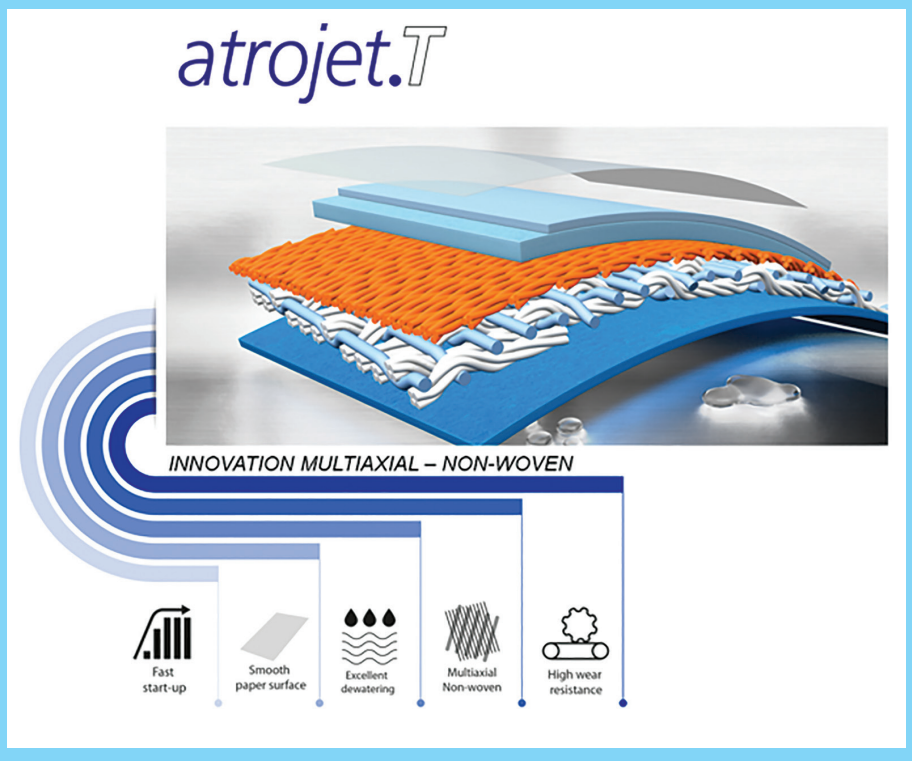

Figure 3: Key performance indicator Atrojet.T.

Shoe press belt for efficient tissue production

Atrobelt – has been designed for all kind of paper, board and tissue machines. High sheet dryness after the shoe press is a key factor to achieve a high machine speed and efficiency. Additionally, many paper quality parameters can be influenced by the shoe press concept and the shoe press belt technology. Most of the tissue shoe presses are equipped nowadays with press belts having continuous grooved designs. The combination and interaction of the advanced press felt (Atrojet.T / Atromaxx.T) and shoe press belt (Atrobelt) technology can be the key success factor, when the runnability of the paper machine are tuned to maximum efficiency. A major improvement of the new Atrobelt is superior mechanical resilience and void volume retentions which enable an effective dewatering and a higher life.

It is Heimbach's aim to select the optimal belt design for your shoe press demands from the variety selection of Atrobelt groove patterns.

The innovation of our paper machine clothing´s will not stop here as our Heimbach product development team are constantly progressing our machine clothing technology forward.

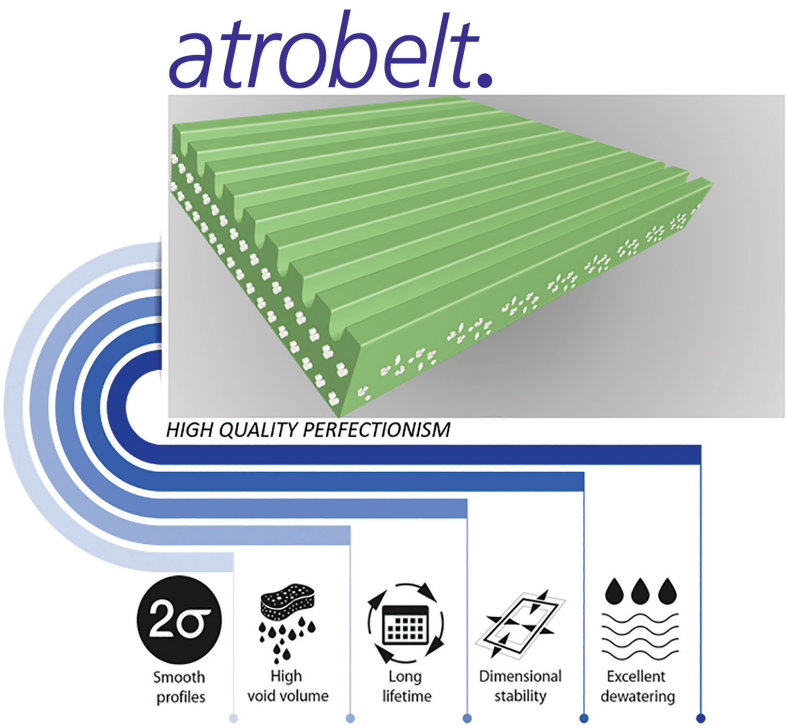

Figure 4: Key performance indicator Atrobelt.

Atrobelt

- **Valuable selection of high-quality polyurethanes, unique embedded reinforcement structures.**
- **Smooth surfaces promote low flow resistance and provide efficient drainage for high dry contents.**
- **Excellent void volume retention of the groves.**
- **Increase mechanical strength and improve dimensional stability in machine direction.**
- **Highest resistance to cross machine direction and crack formation.**
- **Excellent resilience to chemicals and temperatures.**
- **Low hydrolysis to prevent swelling.**
- **Great stretching and recovery ability.**

Atrojet.T

- **Fine and homogenous base structure ensures first class drainage as well as speedy start up curve.**
- **Modular batt structure helps to provide a fine-pored structure. This prevents accumulation of dirt on the surface which helps achieve high paper quality.**
- **The felt allows perfect saturation which in turn leads to efficient hydraulic nip pressure.**
- **Higher contact area and good uniformity across the felt width result in ideal nip and pressure distribution to the Yankee cylinder.**
- **Open structure on the roll side means efficient felt cleaning and cleaner machine run.**

HEIMBACH GMBH
An Gut Nazareth 73 52353 Düren - Germany
- **website: www.heimbach.com**
- **phone: +49 (0) 2421 8020**
  email: heimbach-paper@heimbach.com
- **contact person: Uwe Berg, Product Manager Tissue**
- **phone: +49 (0) 2421 802355**
  mobile: +49 160 992 68761
- **email: uwe.berg@heimbach.com**