

# PULP PAPER & LOGISTICS

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## Södra Cell pulp mill orders evaporator from Andritz



INDUSTRY NEWS



ANDRITZ



HEIMBACH

# The next evolutionary step in press felts

**A**s a specialist and market leader for non-woven and multi-axial press felts used in the paper making industry, Heimbach has advanced proven press felt technology: Now existing woven fabric or non-woven fabric structures can be combined with a multi-axial non-woven structure.

“These flexible and adaptable Atrojet modules are the dawn of a new era in press felts,” explained Franz Kiefer, who supervised the R & D project launched in 2011 from the very beginning, together with his colleague Jochen Pirig, both strategic product managers.

The development project amalgamated not only the experience gathered over the years at Heimbach, but also the results of a series of field trials with customers in Europe and Asia. The main focus was on an expansion of the spectrum of yarn material and counts.

“In this respect we no longer wanted to be limited,” says Pirig. The actual objectives were clearly formulated – a fast start, high dewatering and long service life.

At its paper machine clothing business based at Düren in Germany, Heimbach combined a multi-axial non-woven structure with conventional woven bases. In doing so the felt specialist revolutionised its proven press felt technology and now offers tailored, flexible and adaptable base combinations in the Atrojet



Franz Kiefer (left) and Jochen Pirig, the strategic product managers at Heimbach who developed the latest Atrojet felts

**Felt specialist Heimbach has revolutionised its press felt technology and now offers tailored, flexible and adaptable base combinations in the Atrojet product line. PPL reports**

product line.

Atrojet technology can be adapted to the individual requirements of each paper making application. In doing so Heimbach designed a specific paper side Atrojet base module and combined it with existing base modules. The multi-axial non-woven base offers

far greater flexibility in the composition of the yarn and twisted yarn structure than conventional non-woven or woven structures. The selection of a suitable base in the

substructure enables tailored felt designs. Kiefer and Pirig would naturally rather not say precisely where the trick lies in the manufacturing process, but they did say that “the crux of the

matter is the lamination and the knowledge of how the process parameters are kept constant”.

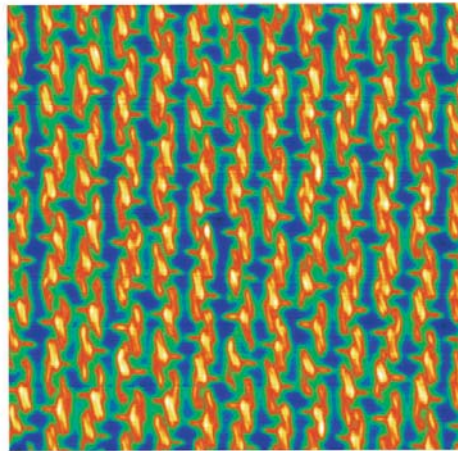
**Globally unique**

What is claimed for Atrojet is an incredible flexibility resulting from the mix of yarn material and yarn counts: From very high, dense yarns with thin twisting or monofilaments to moderate or low yarn counts – Heimbach tailors each module to fit closely to the felt properties requested by the customer.

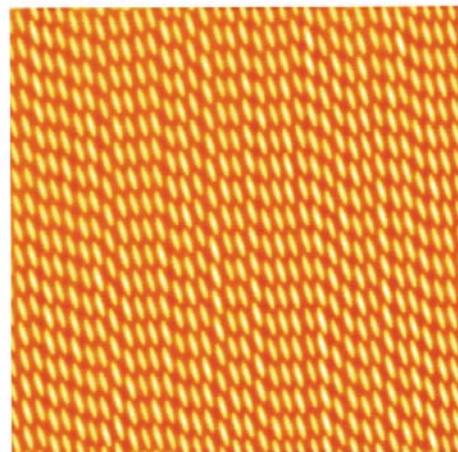
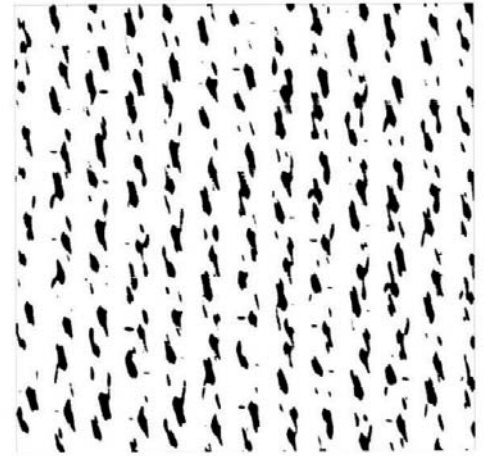
Atrojet technology also enables the processing of different yarn geometries. The uniformly directed MD yarns are characterised by high symmetry and precision spacing. This homogeneous structure enables key felt characteristics to be emphasised and improved. The uniform machine direction yarn structure has a positive effect on the absorption of tensile forces, giving enhanced strength and contributes particularly towards economical service life.

With its particularly dense MD yarn structure Atrojet has far greater surface contact and homogeneity than conventional bases. This brings about a more even power transmission in the press nip and results in uniform dewatering and a uniform paper CD profile. Atrojet designs are also particularly suited to positively influence paper surfaces in respect to smoothness and printability. This is of importance for the graphic paper sector and also in packaging field, where the demands on printability are continuously growing.

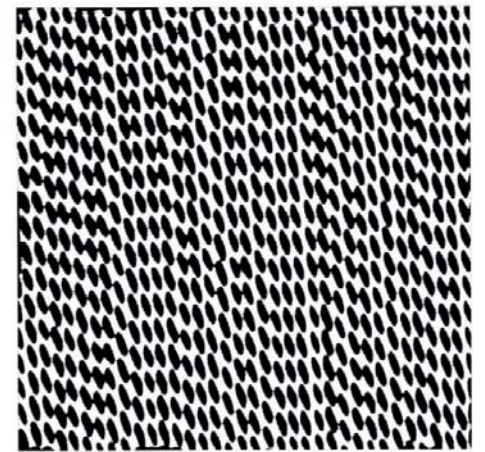
More open felt designs usually improve void volume retention and allow particularly effective cleaning of the press felt. This is particularly important for machines with a larger range of



Conventional base - 41.1 % contact surface



Atrojet base - 96.4 % contact surface



**With its uniform machine direction yarn structure, Atrojet has far greater surface contact than conventional bases. This leads to a more even pressure transmission at the press nip resulting in very steady dewatering and even CD profiles**

paper grades and a selection of different raw materials.

**Tissue in focus**

The production of tissue paper makes extremely high demands on the press felt: A high degree of dewatering must be achieved at extremely fast running speeds. Also a new press felt has to reach optimum performance within just a few hours.

Another consideration is: When drying, energy requirements (gas and steam consumption) demand greater consideration than in the

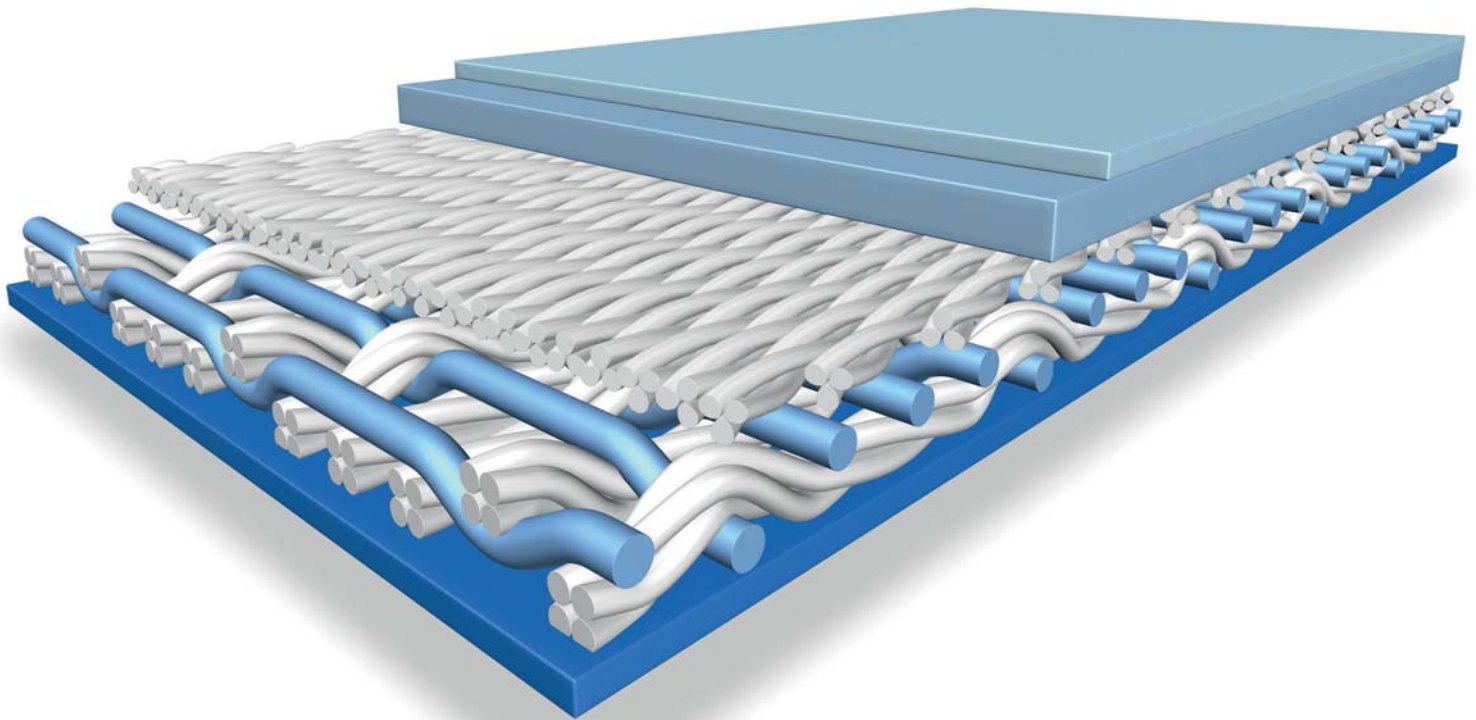
production of graphic papers. The fine fibre batt layers typically used means that tissue felt has a tendency toward compacting and contamination.

Here Atrojet press felts can have a particularly positive effect thanks to their tailored adaptation and outstanding properties. This makes them ideal for use in the tissue sector, particularly because Heimbach adapts Atrojet to the specific requirements of tissue manufacturers. The adaptability of the yarn structure enables the

implementation of an extremely compact and very fine Atrojet module. This can, for example, be combined with an open substructure.

**Reduce energy requirements**

An Atrojet press felt matched to tissue production opens opportunities for actively optimising energy requirements: The fine, homogeneous Atrojet MD yarn structure enables fast start-up and the highest possible dewatering. The best possible



**Atrojet press felt, consisting of batt module and the Atrojet module combined with a woven base in the substructure**

◀ contact area yields optimum pressure transfer and contact pressure on the Yankee cylinder.

Selecting an open-textured roll side base enables the press felt to be cleaned more efficiently and improves the resistance to compacting and contamination. This increases the service life of the felt.

It is therefore not surprising that Heimbach considers that it has a good chance of gaining market share in the currently growing tissue sector. "With this product we wish to make future

inroads into the tissue sector to a much greater degree than we have so far," confirmed Kiefer.

#### At the cutting edge

"The paper industry is our pacemaker," Pirig said, in summing up. "The range of raw materials is constantly expanding, as is the range of products."

He considers Atrojet to be a product that meets the needs of the future. "Because this felt need not be changed even when changing between batches of raw materials or rapidly changing

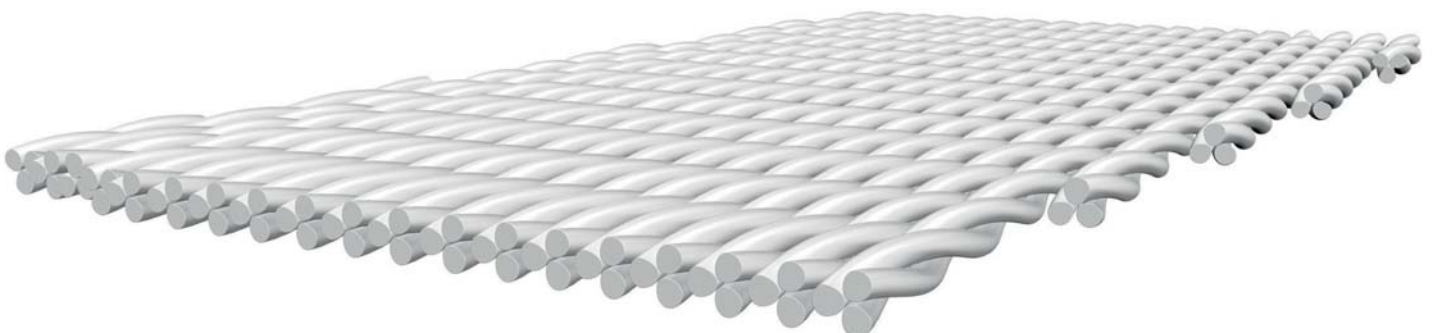
recipes and grammages," he said.

The paper makers in whose mills test runs were carried out seem to have already recognised the potential of the new technology: Heimbach has already received repeat orders from many of them. The company has invested a seven-figure euro sum at its facility in Switzerland to be prepared for the expected high demand after introduction to the market: Within the Heimbach group the Olten facility is considered a competence centre for multi-axial products in web

technology. Atrojet production was due to be in full swing by the end of March 2016.

Franz Kiefer and Jochen Pirig are certain: "Atrojet represents the next evolutionary step in felts sector. Here we are presenting the product that will dominate through the next decade."

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**Heimbach's Atrojet base module**