

Atronet.P – tailor made for pulp

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INTRODUCTION:

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!

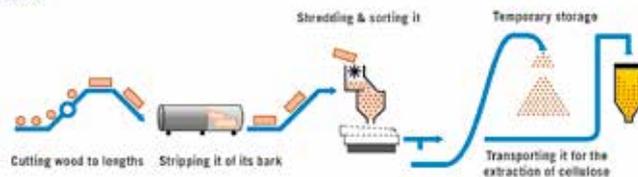
When the pulp is dewatered, the basis weight of the web (800-1500 g/m²) is much higher than in paper or board production. The production speed (150-200 m/min) is correspondingly lower.

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.

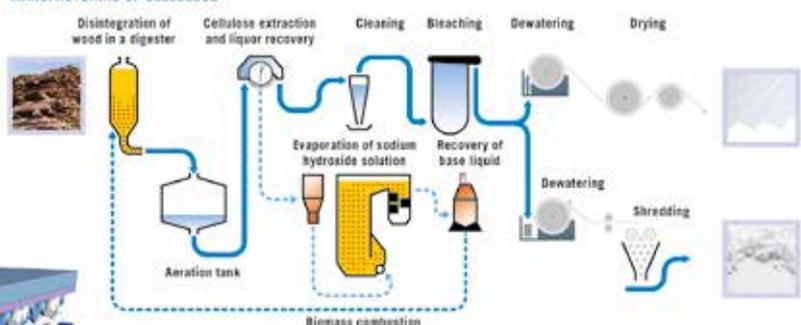


Figure 1: Pulp bale.

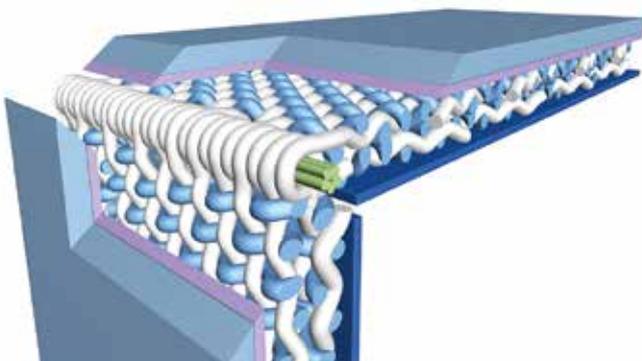
WOOD PROCESSING



MANUFACTURING OF CELLULOSE



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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.

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.

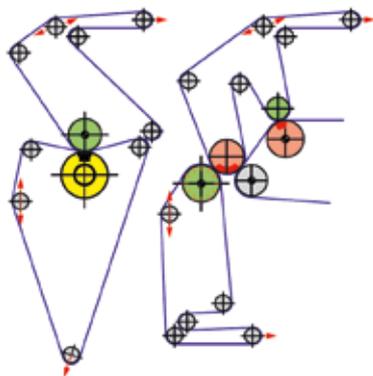
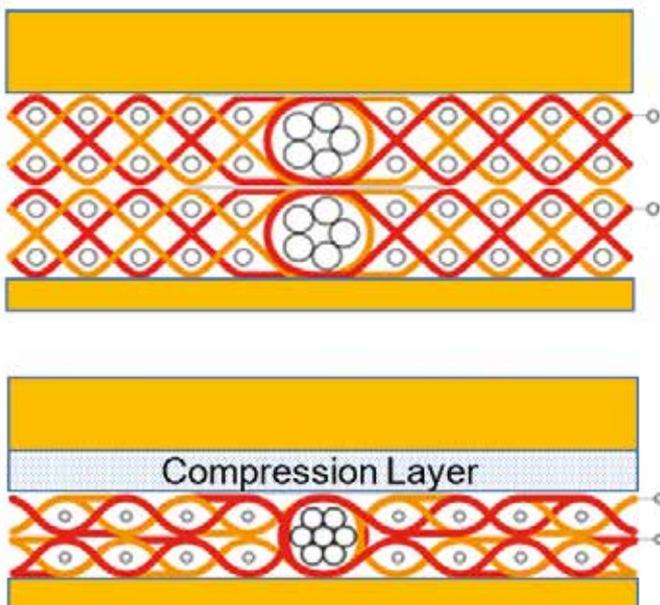


Figure 2: Schematic of a modern pulp dewatering machine.

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



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**

An extract from our references

Country	Pulp type	Pulp sheet	PM	PM	PM
		Basis weight (g/m ²)	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

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