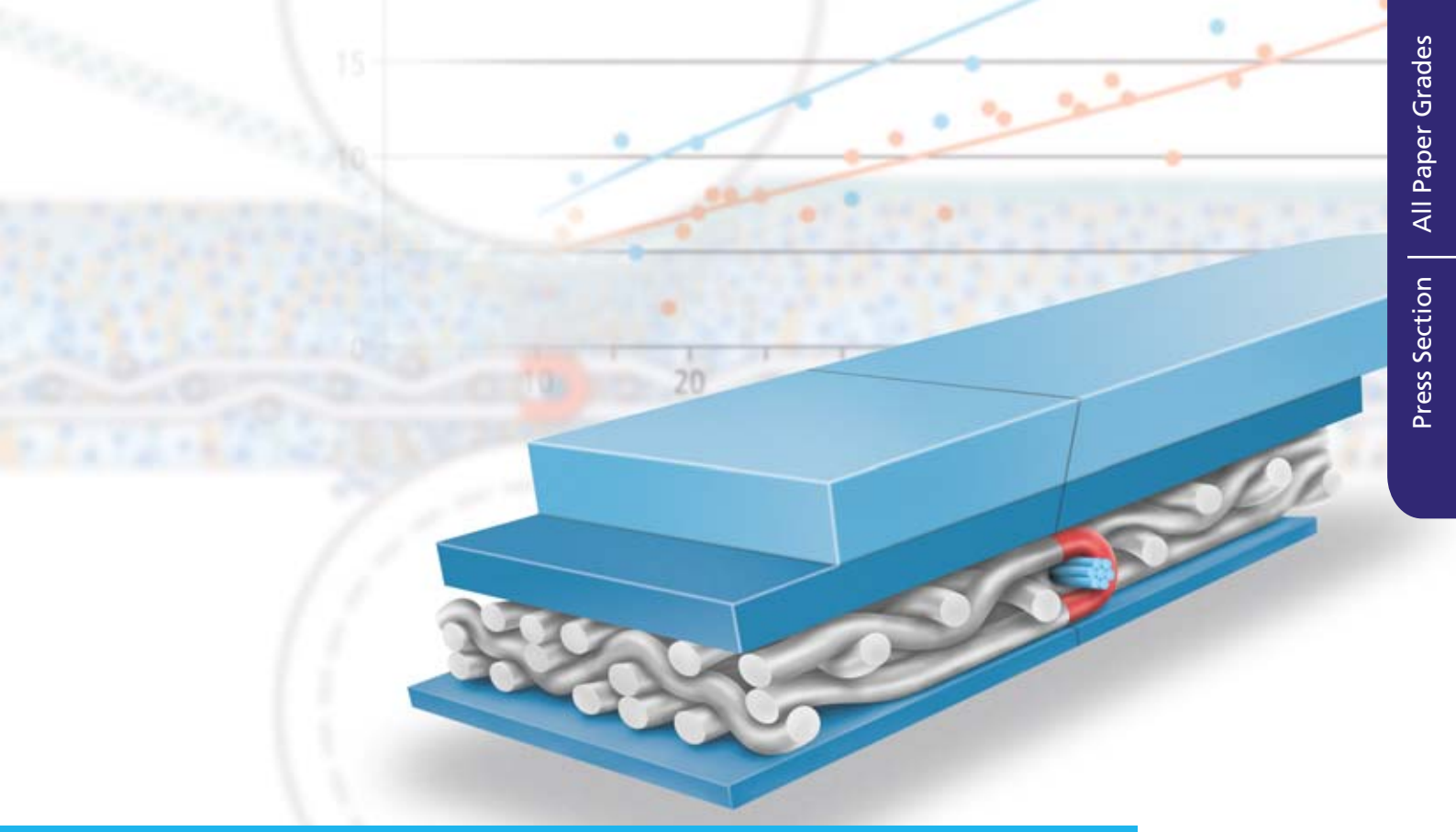

Press Release

MD batt and seam in one felt

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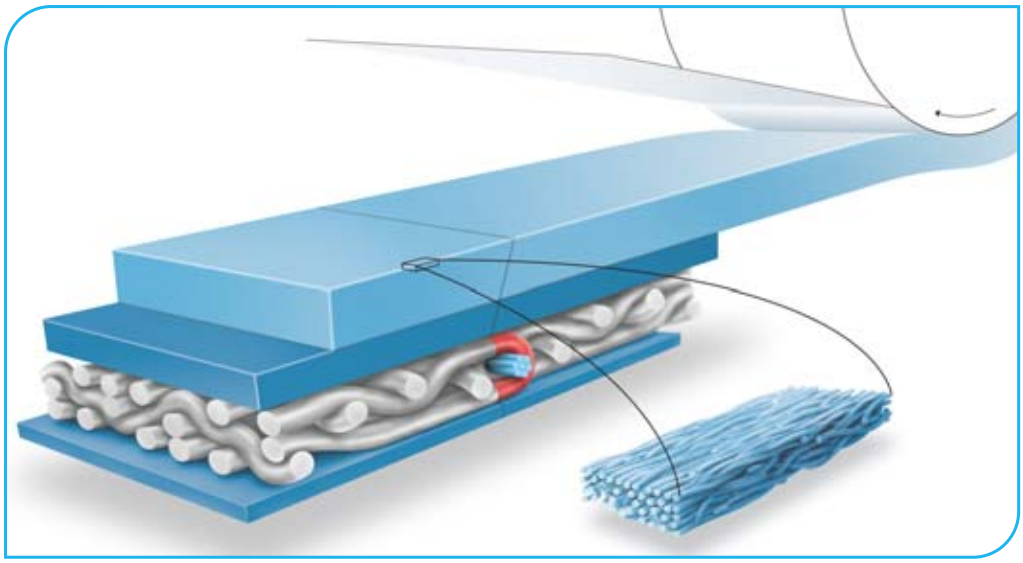


Ill.1 ATROPLAN.CONNECT with MD batt from Heimbach

"We have developed this press felt as a tough, resilient seamed felt, which at the same time has an absolutely smooth surface. It is suited to all seamed felt positions, but particularly for installation in last presses" …this is how Product Manager H.P. Breuer of Heimbach describes this unique development (Ill.1).

ATROPLAN.CONNECT unites here the MD batt construction with a seam in one felt. The special feature of this product – apart from its manufacturing brilliance – is its combination of functions and above all the resulting variety of advantages for the production process.

With this multi-functional press felt it has been possible for the first time to equip a double layer batt package, whose bulky surface is composed solely of fibres aligned in the machine direction, with a batt overlap.

A very specific manufacturing technique is required in order to provide such an MD batt with the necessary intrinsic tensile strength and a secure anchorage.

The MD batt is first pre-needled in circular form to produce an independent fibre composite.

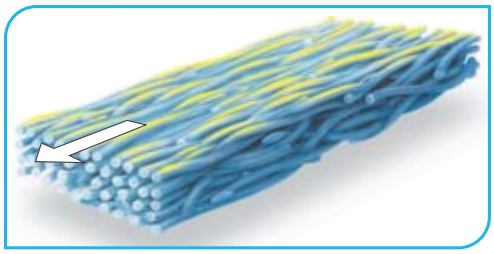
In a subsequent process the MD batt, together with a conventional batt and a corresponding one for the roll side, are needled onto the supporting base structure. This special manufacturing method creates the outstanding features of the batt overlap. As a result of the toughness of the MD oriented batt package, the overlap also has the same tough features. It does not shed fibres at the endangered upper edge since at this point – as in the total paper-side package – there are virtually no fibres in the cross-machine direction. As a result the batt overlap ensures absolute seam density.

Why MD batt on the felt surface?

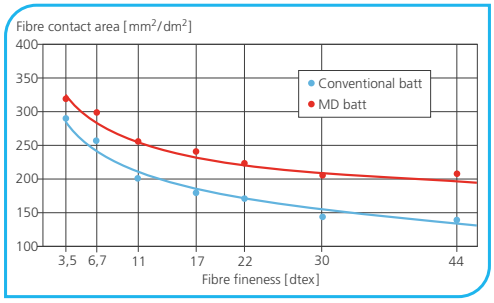
1. Smoothness and printability of the paper sheet

Because of the specific manufacturing process the MD batt from Heimbach has an extremely even fibre distribution within its bulk. It creates therefore – naturally – a homogeneous, topograhically closed "level surface" on its top side and thereby a very high contact area (Ill.2, 3).

This means for paper production: special freedom from marking, above average minimum two-sidedness and as a result an even, high quality sheet smoothness.



Ill.2 Homogeneous batt surface

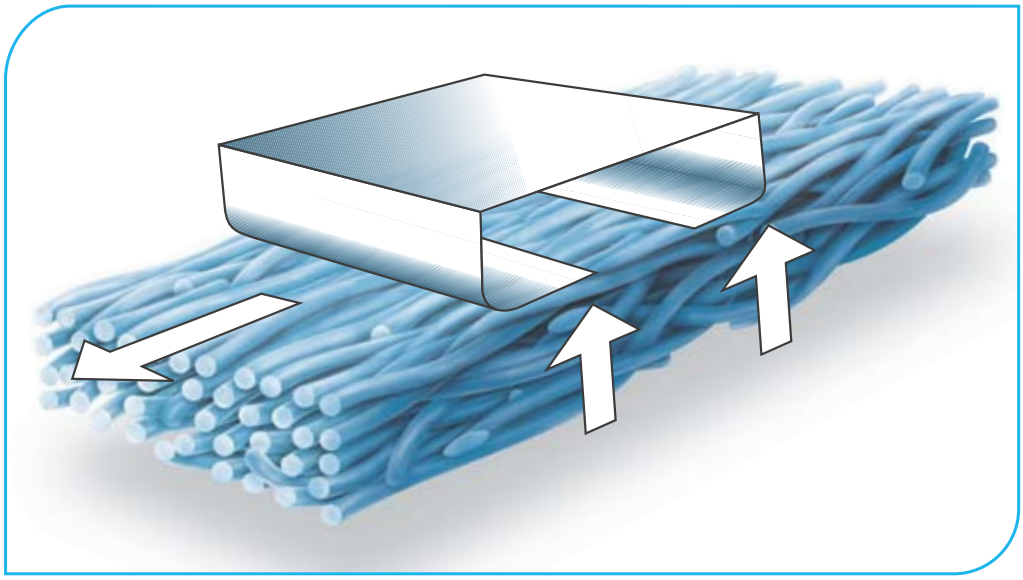


Ill.3 Comparison: Contact surface conventional batt / MD batt

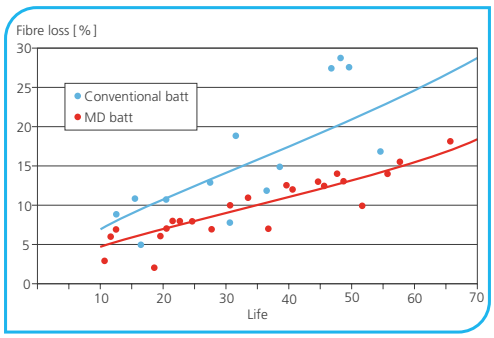
2. Wear resistance, cleaning resistance

Because of the MD orientation of the fibres, the felt surface glides with less resistance over the suction elements (Ill.4). Combined with a particularly intensive fibre anchorage this ensures lower fibre loss (Ill.5), less abrasion and overall reduced wear.

With reference to the danger of surface contamination the "topographically closed batt surface" described above results in the reduction of blinding tendency. At the same time such a surface is much easier to clean. Furthermore the MD aligned fibres are less likely to be lifted out by high pressure water jets. Therefore the structure of the MD batt has much higher resistance to the damaging effects of high pressure showers.



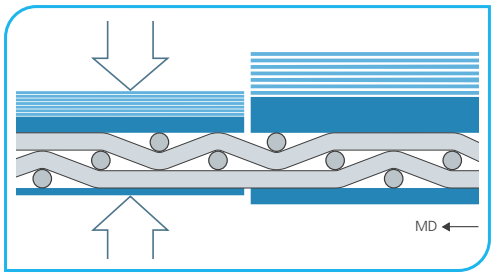
Ill.4 Wear resistance



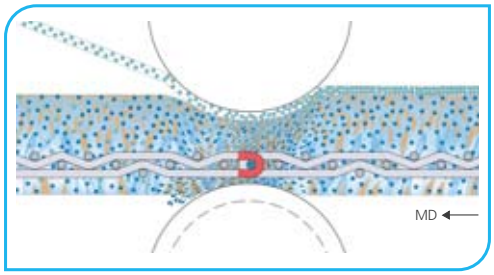
Ill.5 Comparison: Fibre loss conventional batt / MD batt

3. Freedom from vibration, weave- and shadow marking

The very evenly distributed fibres in the batt surface run predominantly "horizontally" in the machine direction, with only a light waviness tendency (Ill.2). This structural feature provides the MD batt surface with a high elasticity. In combination with the "more rigid" conventional batt layer the whole package provides a lasting resilience with a high mechanical shock-absorber effect (Ill.6).



Ill.6 Cushion effect, openness



Ill.7 High dewatering capacity

These features largely prevent the development of vibration and as "protective batt layer" provide a high level of safety from weave marking.
The MD orientation of the batt promotes a "natural" and rapid water flow into the more open conventional batt and the permanently open base. This creates a pressure controlled, good functioning water balance which is the prerequisite for the avoidance of shadow marking.

4. Dewatering, start-up

The smooth top side batt and the high contact area resulting from the MD fibre orientation lead to a very even felt/sheet pressure distribution. These features promote "spontaneous" water flow from the sheet into the felt.

In addition the defined capillary effect, the more open cross-section towards the underside of the felt and the stable permanently open base weave produce a reliable active water removal. Delayed relaxation of the batt immediately after the nip reduces rewetting.

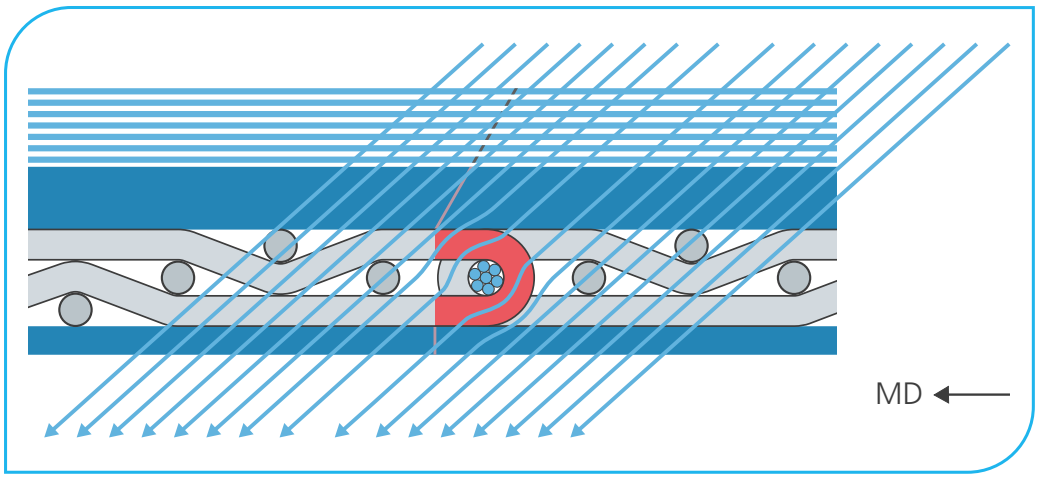
The sum of the drainage promoting features achieves a high level of dewatering after the nip (Ill.7) and ensures the good start-up characteristics of ATROPLAN.CONNECT with MD batt.

5. Seam area and seam

The reliability of the batt overlap have already been explained. Heimbach designers have succeeded in achieving almost identical permeability in the seam area as compared with the remainder of the.

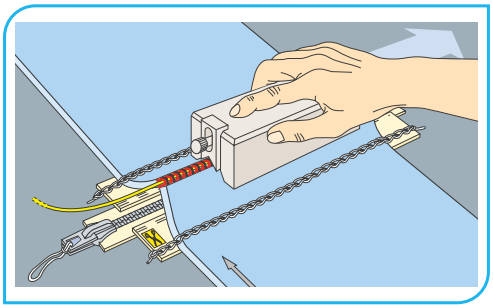
felt (Ill.8). The seam structure is virtually that of the felt structure. Also the felt caliper is the same as the seam caliper. These characteristics together with the batt overlap substantially prevent the development of seam marking.

Precision manufacture of the seam loops, excellent matching up of both sides of the seam and a



Ill.8 Seam structure almost identical to felt structure

perfect seaming wire channel give the seam the economic advantage of high speed closing. Specially from Heimbach: extremely convenient, fast and safe seam closing with the proven Heimbach seaming aid (Ill.9).



Ill.9 Heimbach seaming aid

Conclusion

In summary this multi-functional seam felt from Heimbach with its lifelong effective MD batt function fulfils the highest demands of the paper surface. The innovative combination "MD batt and seam in one felt" provides a new level of process optimisation and establishes a future benchmark in the clothing for the press section.