

AS G2 – the new generation of seamed press fabrics

Press section performance increased

To meet the demands of machines worldwide, seamed press fabric improvements are an ongoing effort. The fabric has to guarantee safe and fast installation, high dewatering capability and no negative effect on sheet properties. The AS G2 line of press fabrics builds upon new and existing components and meets these demands.

The aim of the improvements is to have a >>> seamed product line, capable of producing paper over a broad range of pulp to tissue machines, regardless of press section type. AS G2 fabrics provide:

- Safest and easiest installation
- Increased durability and stability
- Improved batt fiber entanglement
- Reduced seam marking
- Better and more controlled water handling
- Steady state performance
- Energy efficiency tailored to the application

The roundness and straightness of the seam loops, coupled with installation assists tailored to the position, make AS G2 fast and consistent to seam on the paper machine. The increased durability and reduced seam marking

are due in large part to the new Enhanced Needling System (ENS), which is a global standard. The improved needling combined with seam zone components and reinforcement agents improve flap wear resulting in transparency of the seam, allowing AS G2 fabrics to be utilized on such a variety of applications.

With varied batt fiber selections, base structures, and technology components, dewatering can be controlled based on the application. For slower speeds and grades not conducive to nip dewatering, or where pans and doctor blades are insufficient, an AS G2 fabric can be designed appropriately. Results on VPM 6 pilot machine in the Paper Technology Center (PTC) in Heidenheim, as well as in the field, show this dewatering versatility.

Further benefits with components

AS G2 fabrics can be designed to incorporate the latest technologies Voith Paper has to offer to meet the requirements of most press applications. Components proven to provide benefits to the papermaker in terms of energy savings, sheet property improvement, reduced fiber usage, faster start-up, vibration elimination and improved fabric life can be part of the package.

Vector technology

Vector technology is a proven cornerstone of many Voith Paper press fabric designs, endless, non-woven and seamed. In conjunction with AS G2 seam zone enhancements, flap integrity is unparalleled in the industry

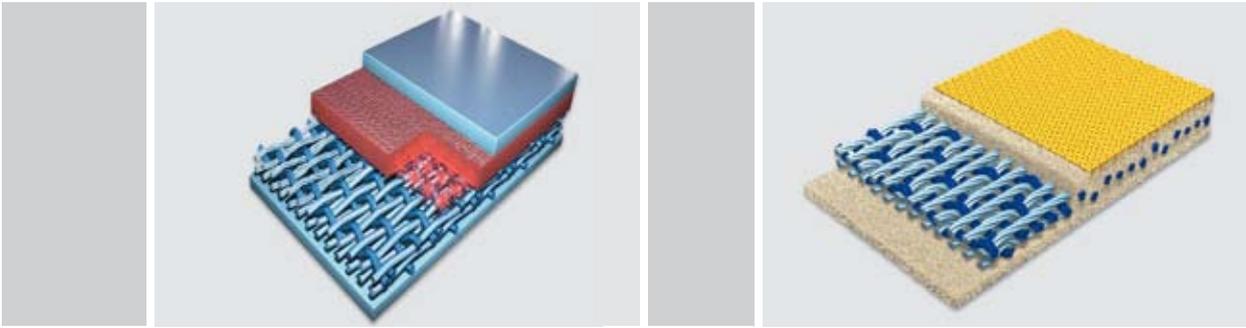


Illustration of the Vector technology (left) and the E-Flex technology (right).

and provides excellent seam mark reduction potential. The non-woven, machine direction orientation of Vector provides excellent cleanability, compaction resistance and high dewatering rates over the lifetime of the fabric. The versatility of Vector as a component allows the use of AS G2 fabrics in a very wide range of board and graphics applications, both coated and uncoated.

E-Flex

The special polymer matrix known as E-Flex, which uses a combination of polymer particles to optimize the fabric structure, along with G2 technology, yields a fabric with many benefits to the customer.

>>> Info: Seam felts

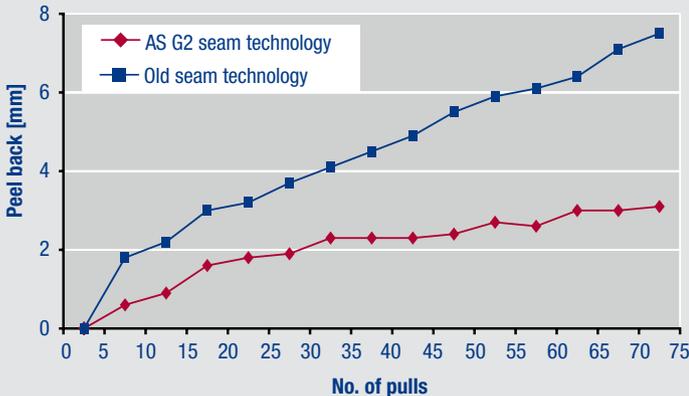
Seamed press fabrics had their beginning in the 1980's as an answer to difficult press fabric installations. For many years, papermakers were accepting some of the growing pains. They were content with the ability to install a seam felt faster on a machine than an endless version. As technology improved and the applications broadened, fabric suppliers began expanding efforts to supply seamed products for most all paper grades and press configurations.

As years passed, it was realized that seamed fabrics offered more than just speed in installation. Papermakers soon realized other key benefits:

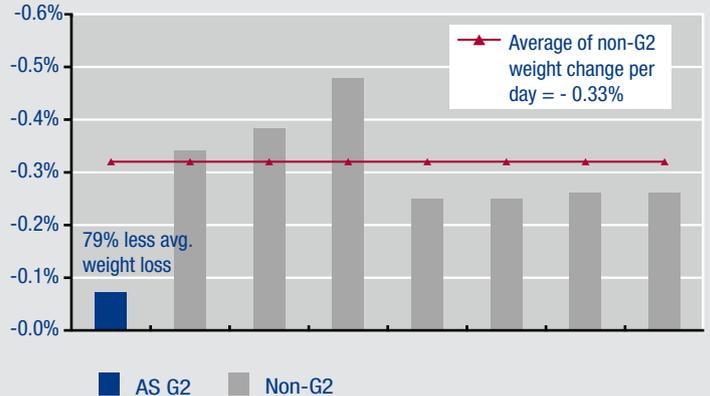
- Safety (less fatigue/strain, less man hours, less downtime)
- Versatility in applications (weave patterns, yarn types and fibers)
- Steady state performance (less compaction, less filling, better durability)

These factors lead to a rapid increase in seam growth in North America, and introduction in other regions globally, where seams perhaps had not been considered before.

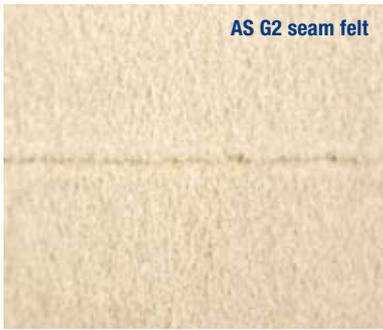
In 2005, Voith Paper first introduced AST (Advanced Seam Technology) in North America, and the "Tool Box" approach to making a better seamed fabric. The key to AST was Vector technology, coupled with varying weave patterns and fabric treatments to enhance an already proven product line. With continued growth in the seam market overall and further expansion into shoe presses, lighter weight graphical grades and tissue/toweling, the need for further improvement kept its rapid pace. In 2009, AS G2 was introduced in North America as the second generation of Advanced Seam Technology, now it is available worldwide.



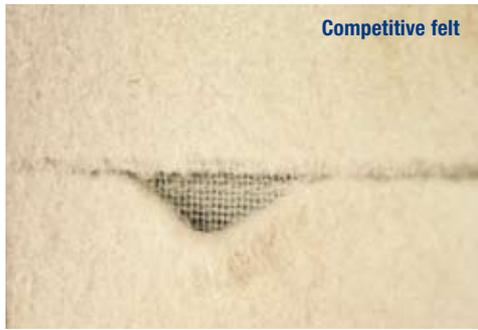
AS G2 residual seam durability compared to old seam technology.



Comparison of AS G2 versus Non-G2 seam felt on a linerboard machine.



AS G2 seam felt



Competitive felt

Comparison of two used press felts. Both were 47 days on a B&P machine (2000 pli, LNP press).

Functional needs based on the demands of the position can easily be met:

- Pore size distribution (for enhanced start-up and dewatering)
- Z-direction flow resistance (for nip dewatering)
- Surface optimization (for improved printability and potential energy savings)
- Fabric resilience (paper and roll side to reduce abrasion)

Elastomer technology

Being the pioneer in elastomer technology for press fabrics,

Voith Paper is equipped with two polyurethane offerings that are both available in AS G2 designs. The polyurethane Spectra layer is proven to dampen vibration on a variety of applications worldwide, most notably high speed graphic, latter press positions.

HT (Hybrid Technology) is Voith Paper's latest elastomer component, and is a special yarn, encapsulated in polyurethane, applied to the roll side of the press fabric. First introduced for vibration improvement, much like Spectra, HT has shown excellent results in both graphic and board applications based upon machine direction

flow channels created by the roll side structure.

- Low MD flow resistance
- High, steady state dewatering rates
- Increased press solids
- Improvements in bulk
- Lower vacuum levels
- Vibration dampening/elimination

On focus: AS G2 seamed fabrics

ProSafety	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
ProRunability	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
ProQuality	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
ProSpeed	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>

Section: press section
Paper grade: all

Contact



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“Press performance while running Voith Paper AS G2 seam felts is very good ...”

Jeff McKee, Paper Machine Process Owner, Domtar Columbus mill, Mississippi, USA

“Voith Paper AS G2 seam felts are definitely a plus for our machine here at Domtar Columbus. Delivery, packaging, seaming, and start-up are all non-issues. Press performance while running Voith Paper AS G2 seam felts is very good, which is a must-have attribute for making a top quality product as well as producing budget tons.”