



"One of the most appealing things to us about QuickLink is its potential for reducing downtime."

Luke Huntley, PM Superintendent Inland Empire Paper



Inland Empire Paper (IEP) has been in business since 1911. It manufactures over 50 grades of newsprint and specialty papers using a combination of virgin mechanical and recycled fiber.

 **QuickLink™**

One of the benefits of the QuickLink seam that Huntley was anticipating is the fact that it has a very low profile – below the plane of the fabric. This eliminates a potential wear point. As of this writing, the fabric is running to expectations (200+ days and counting). Normal felt tension is between 12-14 pli and there is no seam distortion. "Everything looks fine", Huntley says. "There is no sheet marking and the seam looks great. We just recently ordered a QuickLink fabric for the 5th top dryer position".

Error-proof

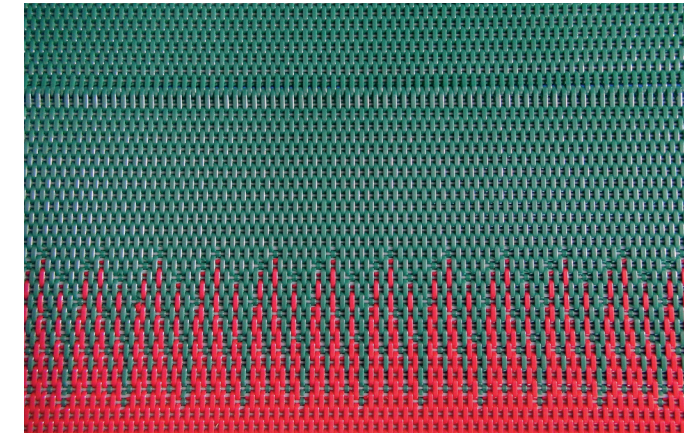
After discussions with customers about their seaming problems, the keywords that rose to the top were "fast" and "safe". When AstenJohnson designers completed the creative process of developing a better seam, they added another keyword, "error-proof".

"Traditional dryer fabrics are produced on a special weaving loom", says Farmer. "An additional step is required to weave-back the yarns at the ends to create seaming loops. In addition to being time-consuming, this creates the potential for the ends of the yarns to stick up when they are cut off. These ends can pick the paper sheet. That is why clothing suppliers mark the fabric with 'machine side' and 'sheet side' so that only the smooth side of the fabric contacts the sheet".

"With a traditional woven seam, the crews have to pay careful attention so that only the sheet-side of the fabric contacts the sheet", Brink says. "During the intensity of a machine shut, mistakes can happen and time can be lost if the fabric is seamed in the reverse direction. That can't happen with QuickLink as there is no 'wrong' side – run direction is no longer an issue".



Jim Brink, West Coast Business Team Leader for AstenJohnson, (left) with **Luke Huntley**, IEP Paper Mill Superintendent, during the installation of the new dryer fabric with QuickLink seams.



Traditional seams are produced using a "weave-back" process on a special weaving loom. In addition to being time-consuming, the weave-back creates a "machine side" of the fabric to keep the cut ends of yarn from contacting the sheet. There is no "machine side" or "sheet side" with QuickLink. The fabric can be installed without regard to run direction.



Inland Empire Paper Co.

The #5 machine at Inland Empire is 225-inch (5.72 m) trim operating at 3800-5000 fpm (1160-1524 m/min) depending upon the grade. The machine was specifically designed to fit IEP's niche, making grade changes quickly, and efficiently running the roll sizes needed.

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Specialty producer tries a new quick link to efficiency

Discussing the successful seaming operation at IEP are (left to right): **Rick Perrier, Jim Brink, and Mark Remsing** of AstenJohnson.



Inland Empire Paper is among first to try a patented new seaming technology for quick and safe changes of dryer fabrics.

Inland Empire Paper (IEP), located in Millwood, WA near Spokane, has been in business since 1911. It manufactures over 50 grades of newsprint and specialty papers using a combination of virgin mechanical and recycled fiber. IEP is the sole supplier of the famous peach-colored paper for the Financial Times in North America.

IEP's #5 paper machine, installed in 2001, has a width of 225" (5.72 m) and operates between 3800-5000 fpm (1160-1524 m/min), depending on the grade being produced. IEP is a company that prides itself on being innovative and responsive to customers. "We are always looking to improve our costs and operational efficiencies as well", says Kevin Davis, Production Manager. "So, when a supplier-partner proposes an innovation that can improve our cost position or competitive advantage, we are very open to discussing and understanding the opportunity".



IEP manufactures over 50 grades of newsprint and specialty papers. It is the sole supplier of the famous peach-colored paper for the Financial Times in North America.

QuickLink: a new way to seam

That was the case when Jim Brink, West Coast Business Team Leader for AstenJohnson (AJ), came to Luke Huntley, Paper Machine Superintendent, and Davis with a new, patented seaming technology for dryer fabrics – QuickLink -- and suggested that IEP give it a try.

"Dryer sections are hot, humid, often dark, and just not a place where machine crews care to linger very long", Brink, who was a papermaker for many years before joining AJ, says. "QuickLink is a revolutionary new way to seam dryer fabrics that is faster, safer, and error-proof. It helps crews who have to make a fabric change in the dryer section get in and out as quickly and safely as possible. I thought that IEP could benefit from this".



QuickLink enables machine crews to get in and out of the dryer section during a fabric change as quickly and safely as possible. IEP's first QuickLink fabric was installed on the 5th bottom position of No. 5 machine. The seaming was accomplished in a little over three minutes – compared to 10-12 minutes with traditional fabrics.



QuickLink replaces traditional weave-back loops in a dryer fabric seam with an innovative polymer-bonded seam. QuickLink loops line up easily, almost like a zipper. The seam is below the plane of the fabric, which eliminates a potential wear point and virtually ensures that the fabric will be non-marking on the sheet.



Jim Brink of AstenJohnson makes a final quick inspection of the QuickLink seam before the fabric is tensioned.

QuickLink development

AstenJohnson's seaming solution replaces traditional woven seams with an innovative polymer-bonded seam. The seam is independent of the weave of the fabric and can be efficiently produced.

"The initial bonding equipment and techniques for incorporating QuickLink were developed at our Belgium facility, where the first prototypes were also created", says Blake Farmer, Business Leader for Dryer Products at AstenJohnson. "The prototypes were tested at our advanced products lab in Canada on our own proprietary seam testing and evaluation equipment. The prototypes were subjected to severe flex, wear, endurance, tensile, and hydrolysis requirements to simulate the most demanding dryer section of a paper machine."

Narrow fabrics were extensively tested on pilot machines. Then, field trials brought QuickLink out of the lab and into the real world – with full-size fabrics running on the machines of willing customers producing a variety of paper grades. "The testing has been extremely successful and we are in full production now", Farmer says.



Mill trial of QuickLink at IEP

It didn't take long for Huntley and Davis to weigh the risk-vs-reward of QuickLink and agree to a trial. Brink presented them with the experiences at other mills, and they felt that the risk was "neutral" with a potential upside. "We decided to try it on the 5th bottom dryer section", Huntley says. "This is an easily accessible position than can be changed out if there are any problems".

"We didn't really anticipate a problem," Davis says. "Keep in mind that this mill's relationship with AstenJohnson pre-dates the time I arrived here 25 years ago. There is a

high level of trust with Jim and his team. They give us great service. They are good about making recommendations, even minor tweaks, to help us improve".

"One of the things most appealing to us about trying QuickLink was its potential to reduce our downtime," Huntley says. "The QuickLink seams mate together easily – making it virtually impossible to line up the loops incorrectly. This can be a huge time saver".

"Another aspect of QuickLink which is totally unrelated to machine performance, is our ability to produce a finished fabric more quickly", Brink says. "If IEP gets into an inventory crunch for any reason, and we have the base fabric in our facility, we bond the QuickLink seam without having to impact our weaving loom schedule and get them a replacement in a week or less".

The QuickLink fabric for IEP's 5th bottom position was 248 inches (6.3 m) wide and 127 feet (39 m) in length. "On a good day, IEP's team can seam that fabric in about 10-12 minutes," says Brink. "It took two of us just over three minutes to seam QuickLink".



"There is a high level of trust. AJ is good about making recommendations to help us improve."

Kevin Davis, Production Manager
Inland Empire Paper