Success story

Burrows Paper Invests in the Future
New ABB QCS helps make production of innovative, sustainable tea bag paper possible

Burrows Paper Corporation headquarters in Little Falls, New York.

Burrows Paper Corporation is a privately owned, worldwide supplier of paper and packaging solutions, specializing in innovative light weight paper applications and new product development. The company has been in continuous operation for more than 95 years. Today, Burrows continues to operate as a privately owned business, headquartered in Little Falls, New York, where it still operates its first paper mill.

As part of its ongoing mission to provide sustainable, high quality products for its customers, and invest in the future, Burrows has introduced its new, proprietary EcoInfuse™ filtration paper for tea bags. EcoInfuse provides superior crimping and folding properties to assure dependable tea bag formation and quality. This non-heat sealing filter paper is satisfying the most discerning markets worldwide with its forming and brewing results. EcoInfuse™ is a proprietary, abaca-free formula enabling a reliable supply at a lower cost through the absence of abaca crop fluctuations that can result in volatile pricing.

An investment in the future

EcoInfuse is produced exclusively at Burrows' Mohawk Valley Mill in Little Falls, NY. Annual production capacity of this specialty paper totals 10,000,000 pounds. When Burrows was expanding its production capacity for EcoInfuse, it turned to ABB to upgrade the QCS (Quality Control System) at the mill. Stringent quality control is necessary to make a consistent, high quality product that meets all specifications of this new and different filtration paper. Partnering with ABB was a logical choice.

ABB and Burrows have a long history of working together. ABB installed the original QCS and other equipment at the Mohawk Valley mill in the late 1980's and has delivered solutions and services to other Burrows facilities. In 2014, ABB replaced the original ABB QCS that had been operating for the last 25 years. The newly

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delivered and commissioned QCS controls PM12, the paper machine that produces EcoInfuse. The Quality Control System assures consistent moisture across the paper machine web and controls the overall sheet moisture, a highly precise specification critical to a successful product as required by Burrows' customers.

The new ABB QCS includes expanded control and visualization capabilities that Burrows needs for this new product line. The system helps Burrows maintain superior product quality by providing better sensing and control of the paper machine, as well as automated grade change capability that improves efficiency for short runs of specialty products for specific customers. It enhances operator effectiveness by increasing visibility and control of the process. Long-term maintenance efficiencies include improved diagnostics for troubleshooting and a modular design for quick component replacement. Burrows continues to invest in quality systems with an ABB QCS installation on its PM32 at the Lyonsdale, NY mill planned for this spring.

Benefits from upgrade quickly realized

The system includes a scanner with sensors for basis weight, moisture, ash, brightness, formation, and opacity; a CD Basis Weight Control System using a new ABB Slice xP Profiler; and CD Moisture Control of an existing water spray. With an on-time and on-budget installation, the benefits of improved measurement and control performance were quickly realized.

"The QCS installation and commissioning were almost flawless due to ABB's guidance and support. The great working relationship we established initially has continued with their service and maintenance support for the system," commented Chris Edick, Electrical and Instrumentation Technician at Burrows.

Improved overall Cross-Direction Control

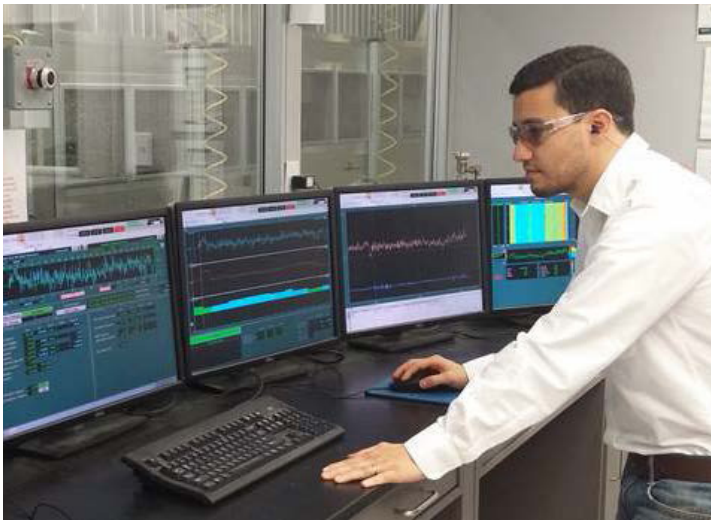
The upgrade on PM12 for EcoInfuse production includes cross-direction (CD) basis weight control and CD moisture control, both very important to this grade of paper. CD uniformity is critical for the paper to run and work well for Burrows' customers. The new QCS provides significantly improved CD control – over 50% for basis weight and 20% for moisture. As the CD control always runs in automatic mode, it requires very few manual adjustments.

This exacting measurement accuracy is achieved through moisture sensors with advanced High Performance Infra-Red (HPIR) technology and improved basis weight sensors. The HPIR technology provides independent moisture measurements at a rate of 5,000 measurements per second, which contributes to the precision required for CD uniformity on applications like Burrows PM12.

New system easy to learn and operate for better overall production efficiency

The improved, easy to use operator displays on the new QCS also help the overall process. Navigation between screens in the new system is much easier, and operators have better visualization of production and equipment performance information, including 3-D displays, waterfall displays, and the ability to quickly zero in on potential problems and issues, such as a plugged nozzle on the machine.

The QCS also improves machine operations by enabling faster and easier grade changes – these can be done automatically, so that the operator can focus on supervising critical grade change processes. Planned machine startups and shutdowns are more efficient and are done more quickly than in the past.



Mario Gomez, Electrical Engineer at Burrows Paper.

“The ABB QCS has lived up to all our expectations with a huge improvement in measurement accuracy and control as well as more efficient paper machine startups, shutdowns, and grade changes. This enables us to consistently meet our customers’ requirements with high quality, in a timely fashion”

Burrows’ EcoInfuse™ filtration paper’s superior crimping and folding properties assure dependable tea bag formation and quality.

The new QCS minimizes unplanned downtime. Its diagnostics and process historian capabilities help to quickly identify, troubleshoot, and resolve problems. ABB also provides remote support for the system so that issues that can’t be resolved on site can be responded to and addressed immediately.

Comprehensive, hands-on training prior to commissioning provided operators with the ability to run the new QCS on the very first day, and follow-up training sessions after commissioning reinforced operator knowledge and proficiency on the system.

Enabled for future evolution

ABB’s proven history of providing its customers with paths to evolve their QCS systems in sensible steps, without the need for complete replacement, positions Burrows well to maximize the QCS investment made on PM12. A similar replacement of the QCS in the future is unlikely to be needed, as ABB provides evolution steps forward in the subsystems of measurement processing, system and control applications, actuators, and operator visualization. ABB has maintained an unprecedented capability for customers to mix QCS subsystems of different generations as they evolve their systems over time.

Delivering on expectations

“The ABB QCS has lived up to all our expectations with a huge improvement in measurement accuracy and control as well as more efficient paper machine startups, shutdowns, and grade changes. This enables us to consistently meet our customers’ requirements with high quality, in a timely fashion,” said Mario Gomez, Electrical Engineer.

About Burrows

With a long history in papermaking, Burrows has developed expertise in Making Paper Perform® and today, supplies some of the world’s largest companies with paper and paper products used in food packaging and a variety of special industrial processes, medical, and pharmaceutical applications. Burrows Paper Corporation operates four paper mills and six packaging converting facilities in the U.S. and worldwide. Burrows maintains the highest standards and holds certifications from ISO 9001, HACCP, Forest Stewardship Council, Sustainable Forest Initiative and Programme for the Endorsement of Forest Certification. Burrows incorporates nearly 100 years of papermaking experience into its food packaging line of products and is one of only a few companies capable of producing light weight printable tissue paper from 7.5 to 34 pounds. For more information, please visit: www.burrowspaper.com.

EcoInfuse™: The abaca-free teabag paper is a unique solution that uses readily available, responsibly-sourced wood fibers, eliminating production material supply concerns, and is approved for food and beverage use according to both US and European standards. Tea bags today are typically made of a blend of wood, plant, and synthetic fibers. The most popular plant fibers used in the fabrication of modern tea bags is the abaca fiber. However, due to the limited geography in which the abaca tree is grown, weather conditions dictate crop yield fluctuations, causing uncertainty as to the availability of this resource. In a rapidly-growing tea market, this could cause concern for tea suppliers. Burrows is well positioned to service this global market and is filling commercial orders from key customers.

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