Thai Tiger: BJC Cellox aiming to be #1 IN TISSUE

Thai tissue producer BJC Cellox needed a new tissue line to take advantage of growing demand for its high-quality products. ANDRITZ was chosen to supply a complete turn-key line including a *Prime*LineCOMPACT tissue machine.

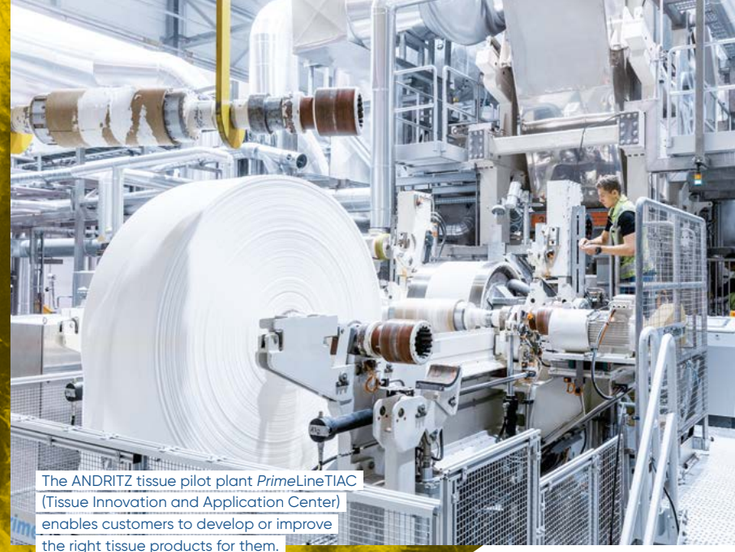
Berli Jucker Cellox (BJC Cellox), first established in 1990, is a dynamic, growing tissue manufacturer located some 150 kilometers southeast of Bangkok, in Prachinburi, Thailand. Since its founding the company has taken advantage of rapid growth in tissue demand in the region, and it now has five tissue machines dedicated to serving the Asian market.

"There is very healthy demand for tissue in Thailand as well as in the surrounding regions," says Apinan Laocharoensuk, Managing Director of BJC Cellox. "It is our aim to be the No. 1 tissue supplier in Thailand, as well as grow beyond our borders into other countries, for instance Vietnam."

The company makes a complete range of tissue products for bathroom, facial, kitchen towel, and napkins under the brand names of Cellox, Zilk, Maxo, Belle, and Hygienist for AfH (Away from Home) products. As well as the domestic market, the company also exports to neighboring countries including Singapore, Cambodia, and Burma.

BJC Cellox is in an excellent position in a region that is only set to grow when it comes to consumption. "In our region tissue consumption per capita is still low when compared to other countries such as Japan or South Korea. In fact, per capita consumption here is just one quarter of the amount of that consumed in those countries," adds Laocharoensuk.

High-quality and energy efficient tissue production at Berli Jucker Cellox



The ANDRITZ tissue pilot plant *Prime*LineTIAC (Tissue Innovation and Application Center) enables customers to develop or improve the right tissue products for them.

ANDRITZ TICKED ALL THE BOXES

To assist in its ambition to be No. 1 and to cope with burgeoning tissue demand, in 2018 the management at BJC Cellox began looking very closely at all suppliers to the tissue industry in search of the best solution for its expansion needs. Laocharoensuk says, "Ultimately we chose ANDRITZ to supply what is now PM 5 as we knew the company was one of the leading suppliers to the tissue industry globally. When commercial discussions began, straight away we had an excellent collaboration."

The company decided on a complete tissue production line supplied by ANDRITZ. The delivery consisted of a *Prime*LineCOMPACT tissue machine with steel Yankee and shoe press as well as a complete stock preparation system, forming fabrics, press felts, and shoe press belts. It also included automation with Metris digitization technology for remote support, which was to provide a vital lifeline during start-up.

The tissue machine has an annual capacity of 35,000 t/y, a design speed of 1,900 m/min and a working width of 2.80 m. The Yankee diameter is 16 ft. The stock preparation system is split into a short and a long fiber line and is equipped with ANDRITZ Papillon refiners with a cylindrical refining zone. Ji Haihong, ANDRITZ Project Manager Stock Preparation, explains: "The special geometry of our Papillon refiners combines gentle and homogeneous fiber treatment. Thanks to the compact rotor design, the refiner concept offers significant improvements in energy consumption compared to other refiners on the market."

"ANDRITZ simply ticked all the boxes with its solution of the complete tissue line," says Laocharoensuk. "In addition, they have a remarkable USP, namely their *Prime*LineTIAC, the world's most modern tissue pilot plant. This gives us the unique opportunity to deeply exchange know-how and to develop our products further and to achieve even better quality. This will bring us ahead of our competition!"

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Apinan Laocharoensuk
Managing Director
Berli Jucker Cellox

"Due to the open communication and absolute respect from both sides, we mastered the challenge."

Tine Kocbek
Project Manager Tissue
ANDRITZ

REMOTE ASSISTANCE DURING START-UP AND FOR ONGOING OPTIMIZATION

The complete tissue production line was successfully started up in early 2021, right in the middle of the worst of the COVID-19 pandemic. A key part of the successful start-up was down to Metris Remote Assistance, which was utilized to the full, allowing ANDRITZ specialists from all over Europe to fully take part in the technical procedures. Some ANDRITZ experts were also on location during the start-up.

"Despite the COVID-19 situation, we had full support from ANDRITZ," says Laocharoensuk. "We had technicians on site, as well as remote assistance and I have to say that our mill team here together with ANDRITZ did a great job and we achieved a remarkable result. We even started up on time."

Tine Kocbek, ANDRITZ Project Manager Tissue, says, "Managing the start-up with remote assistance by experts from our European locations and colleagues on site at Prachinburi was quite an experience, especially in the middle of a serious pandemic. This project to me was like my very own baby, and I must admit I had one or two sleepless nights. However, due to the open communication and absolute respect from both sides, we mastered the challenge."

Remote assistance via Metris has continued as PM 5 now is up and running and adding another 20 t/d of high-quality tissue production to the mill's total output of 90 t/d. Pisit Samatta, Associate Manufacturing Director, BJC Cellox, says, "One of the features we are really pleased with on the new tissue line is the remote assistance we receive from ANDRITZ when optimizing the efficiency of the machine. Specialists are able to see exactly how well the line is running, and offer assistance to optimize the line even further.

"This was really helpful during the learning curve when we started up, and now to have remote assistance whenever we need it has come in really handy."

HIGHER QUALITY, LESS ENERGY COSTS

The tissue line from ANDRITZ is now running at 1,700 m/min producing high-quality tissue at markedly reduced energy consumption. This is due to

Watch our video

*Prime*LineCOMPACT tissue machine with resource saving components

Stock blending system as part of the stock preparation

The combination of a 16 ft. *Prime*Dry Steel Yankee and the latest *Prime*Press XT Evo shoe press technology enables a high drying capacity and achieves remarkable cost savings and operational flexibility as well as improved product quality.

ANDRITZ's focus is on the ever-growing importance of energy savings in tissue production, but it's also down to one of the key components supplied to the tissue line at BJC Cellox; the *Prime*Press XT Evo shoe press.

When used in combination with the steel Yankee, the shoe press dewaters the paper web very gently, but very thoroughly. By doing so it achieves a higher dry content than conventional presses. Due to the special design of the press, and the reduced need for thermal drying, as much as 20% of energy can be saved under optimal operating conditions. In addition, the StrataPress T press felt ensures peak performance in the press section at high machine speeds.

Mr. Chusak Soysungvam, Mill Director, BJC Cellox, says, "We are very pleased with the speed of the machine and the quality of the tissue coming off the new line; the increased bulk of the tissue means we can possibly even enter new markets.

"But what we are really impressed with is the amount of energy we are now saving due to the shoe press using so much less LPG. The shoe press removes a large amount of moisture before the Yankee cylinder, meaning we save a lot of money in the drying process."

With the introduction of the new line from ANDRITZ, BJC Cellox is now well on its way to achieving its ambition to be No.1 in tissue in Thailand. Laocharoensuk says, "We have an ambition to be the market leader in Thailand, which will happen very soon, as well as having our expansion plans into other markets.

"We clearly made the right decision to select ANDRITZ for our PM 5 project. We received really professional and outstanding service and support covering all areas from commercial evaluation, technical clarification, machine installation, and start-up, as well as ongoing support."

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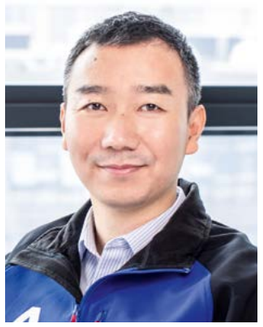

"Thanks to the compact rotor design, the refiner concept offers significant improvements in energy consumption compared to the market standard."

Ji Haihong
Project Manager Stock Preparation
ANDRITZ China

Getting **TECHNICAL**

STOCK PREPARATION:

Stock preparation system consists of two lines in order to process short-fiber and long-fiber pulp separately, and includes the option of adding recycled fiber. Additionally, the lines are equipped with an approach flow system and Dissolved Air Flotation (DAF) for fiber recovery. The installed water system is designed to minimize water consumption, thus ensuring highest efficiency and sustainable operation.

KEY EQUIPMENT:

- FibreSolve FSV pulpers for efficient slushing at low energy consumption
- Papillon refiners with cylindrical machine concept for optimum development of the fiber potential at low energy consumption as well as for a strong and stable end product
- ModuScreen HB head box screens enabling almost pulsation-free screening at low energy consumption and optimum protection of the tissue machine
- ShortFlow blending systems enable reduced chest volumes in the approach flow and energy savings

TISSUE MACHINE:

The tissue machine has a design speed of 1,900 m/min, a paper width on reel of 2,800 mm, and an annual capacity of 35,000 t. It is equipped with the ANDRITZ *Prime*Control automation system for an optimized production process.

KEY EQUIPMENT:

- **Headbox and forming section:** 1-layer headbox, the optimized step diffusor turbulence generator is constructed of tube bundles with inserts for optimal formation over a wide range of headbox flow rates and consistencies. In combination with the optimized nozzle geometry, gives superior paper quality. The special design features include a low recirculation flow achieved through a tapered header directly mounted to the headbox. The forming section is equipped with TransForm Synergy Plus forming fabrics for faster drainage and superior sheet quality.
- **Press section:** *Prime*Press XT Evo shoe press that ensures both improved dewatering and better product quality, thus reducing the need for thermal drying. As a result, the energy demand of the tissue machine with shoe press is substantially lower.
- **Drying section:** *Prime*Dry Steel Yankee (16 ft. diameter) for drying-efficient and safe operation.
- **Shoe press in combination with the steel Yankee:** The *Prime*Press XT Evo shoe press dewaters the paper web very gently but also very thoroughly. By doing so, it achieves a higher dry content than conventional presses. Due to the special design of the press and the reduced need for thermal drying, energy is saved. Specifically, this means that energy savings of up to 20 percent are possible under optimum operating conditions in combination with the ANDRITZ *Prime*Dry Steel Yankee.
- **Reel:** The secondary arm of the *Prime*Reel is equipped with a nip load compensation system to adjust the nip pressure through the winding process. A reel spool magazine is installed to store the reel spools and to feed them to the reel via the reel spool lift and ensure efficient and automated operation.

Yankee service

Remote support is now a reality

The Tjiwi Kimia paper mill in Mojokerto, Indonesia, produces MG paper on its PM 13, which has a working width of about 7 meters. To produce the necessary gloss, the machine uses a 15 ft. Yankee.

The steam that enters the cylinder on the tender side condenses when it comes into contact with the inside of the cylinder shell, thereby giving off the energy for the drying process. The resulting condensate is transported out of the cylinder by means of the siphon system, which Tjiwi Kimia decided to modernize: „The existing system on the PM 13 was the original one supplied when the paper machine was built. But the demands on the system are great, due to factors such as variable machine speeds and working pressures", explains Reinhard Joebstl, ANDRITZ project manager for this service.

Tjiwi Kimia's mill team

NEW, STATE-OF-THE-ART HEADER AND SIPHON SYSTEM

ANDRITZ has a long-standing relationship with Tjiwi Kimia, having supplied the Yankee originally and assisted with the initial start-up of PM 13, as well as providing support ever since. ANDRITZ's solution in this case was to replace the original header and siphon system with a new, state-of-the-art configuration of the next generation.

Because of travel restrictions due to COVID-19, Yankee service experts had to provide remote support from Austria. Nevertheless, distance was no obstacle to the project's success.

Read the complete story online!

Metris OPP optimizes Suzano Jacareí's digester

and generates greater stability in the process

Suzano's Jacareí Mill saw the cooking process being standardized with Metris OPP. ANDRITZ's advanced controls were able to reduce the standard deviation of the Kappa number and increase pulp mill productivity.

The Kappa number is one of the most important factors for pulp quality and paper composition. It is like this in all mills in Brazil and it could not be different for Suzano's Jacareí. The mill located in the city of Jacareí (SP) has a capacity of 1,070 tkADT/year, has one digester and two bleaching lines. With the optimization carried out by Metris OPP in the mill's digester, it was possible to stabilize the cooking process and reduce the use of chemicals. André Luiz Guimarães, Pulp Production Manager at Suzano Jacareí, considers this project a game changer in the sector: "In fact, when we manage to translate all the variability into a control, which is the main output of a pulp mill, the Kappa number, that's fantastic."

Read the complete story online!