Fujian Liansheng is the largest packaging producer in Fujian Province. With eight machines, it manufactures nearly three million tonnes of paper and board products each year. Moving from linerboard and grey-back board products to higher margin white-top and coated grades, Liansheng needed a higher level of stock preparation. The selection of ANDRITZ technology fits perfectly.

New whiter product

The newest machine at Fujian Liansheng, PM8, is quite impressive. With a capacity of 600,000 t/a, the 6.6 m wide machine produces very high quality coated board, white-top testliner, and other packaging products.

The machine, located at the company’s mill in Longhai, Zhangzhou City, went online in 2014. Since it was the first machine to produce white-top grades, the selection of the stock preparation technology was a critical decision for mill management. Xue Rongjun, Vice General Manager, led the team to do the technical evaluations and was project director for the new machine.

Xue Rongjun came to the mill in 2001. He is responsible for production, technical, and project management and graduated with a degree in pulp and paper manufacturing and management. “This is our first experience with producing white-top packaging grades and our first experience with deinking technology,” he says. “We compared offerings of several competitors, visited reference sites, and concluded that ANDRITZ technically and commercially had the best solution. Their DIP systems have very good market references both in China and around the world.”

Brown to white
Fujian Liansheng entered the paper industry in 1999 and its first paper mill was built in 2004 in Zhangzhou City. It has two major production sites. The newest, Longhai, was opened in 2006. Longhai is located very close to Xiamen, a major city in Fujian Province on the southeast coast of China with a population of 3.5 million people, and a good source for the recycled fiber the mill depends upon. In total, the Longhai mill processes 2.5 million tonnes per year of wastepaper, about 60% of which is imported. All of this furnish passes through two ANDRITZ FibreFlow drum pulpers at the site.

The Longhai location is an extensive production site encompassing over 76 ha and housing four machines, a large and extensive operation for processing recycled fiber, wastewater treatment, and its own power plant which provides ample electric and steam energy to match production.

“The site here includes living areas for our workers,” Xue Rongjun says. “The living area includes dormitories, dining room, recreational centers, garden green space, and other features to provide a comfortable place for workers when they are not in the mill.”

Fujian Liansheng’s traditional products have been paperboard, grey-back board, corrugating medium, and other varieties of brown products such as bookbin paper, core board, and testliner. After producing about two million tonnes of brown packaging grades, the company has added capacity for producing coated board and white-top liner.

Long-term relationship
“We have had long-term cooperation with ANDRITZ and we know each other very well,” Xue Rongjun says. “My first personal experience with ANDRITZ was in 2007 when ANDRITZ supplied the machine approach, new headbox, size press, and calendar for our PM2 testliner machine.”

Jiang Weiqiang, ANDRITZ’s Vice General Manager of Sales for pulp and fiber products in North China, recalls the project and some of the previous work. “We started by supplying a screen room for PM1 (2006) and approach systems for PM2, PM3, and PM4,” Jiang Weiqiang says. “Later, there were projects to supply the stock preparation and approach systems for PM5, PM6, and PM7, and also the complete stock preparation and approach flow for PM8. Today, we can say there is ANDRITZ technology in the stock preparation areas for each of Fujian Liansheng’s eight machines.”
“ANDRITZ has good market references and the quality and performance of their systems are well documented,” says Xue Rongjun.

“The equipment for our mill is now manufactured here in China (ANDRITZ Technology Center in Foshan). Of course, price is important, but we focus on performance here. The equipment must perform as specified and be reliable.”

**Virtually no problems**

The newest machine, PM8 can produce four plies with the top layer being white coated. It operates at about 1,000 m/min. The basis weight range is 170-450 gsm. Much of the production is utilized for the packaging of tissue products or food items, such as coffee, because of the high-quality white layer for printing.

Three of the four layers of the coated board are processed by new ANDRITZ stock preparation systems. Furnish for the top layer is virgin kraft. ANDRITZ supplied a 250 t/d f-berline to process the bleached kraft pulp for the top ply.

Furnish for the under-top layer is Old Magazines (OMG) and Mixed Office Waste (MOW). ANDRITZ supplied a 350 t/d line for processing these raw materials, including a deinking (DIP) plant.

The back layer consists of Old Newsprint Pulp (ONP). ANDRITZ delivered a 260 t/d processing line for the back ply.

These three layers account for about 65-70% of the board’s total grammage. The remaining basis weight is supplied by a filler layer which is primarily Old Corrugated Containers (OCC). ANDRITZ provided some components for the 1,300 t/d line processing the filler layer.

In addition to the stock preparation equipment, ANDRITZ delivered a four-layer machine approach system, under-machine broker pulpers, a save-all filter, sludge de-watering equipment, and rejects treatment systems for the three recycled fiber lines.

“I have to say that there were virtually no problems during this project,” says Xue Rongjun.

“It went very smoothly.”

“The line started up in April 2014. The systems are running well and we are meeting all expectations in terms of capacity and quality. Of course, we look forward to tuning the system even more, with ANDRITZ’s assistance, to improve final quality and increase fiber yield to the maximum.”

The original design capacity for the machine was 1,918 t/d, but even early in the start-up curve the machine is already running over 2,000 t/d.

Zhou Zhiguo, PM8 Pulping Section Chief, came to the Longhai mill in 2012 as part of the project team for installing the stock preparation equipment. He moved to operations when the systems were started up and is now responsible for the pulp supply to PM8.

“I was familiar with ANDRITZ technology from other mills I had worked at,” Zhou Zhiguo says. “We faced only small issues in starting up the line, and generally speaking, everything is running well. The quality of our pulp is top of the line. ANDRITZ had a good team for the project, the delivery went well, and overall we are happy with the technology and service.”

“From our customers’ perspective, the most important aspects of our coated white-top board is the cleanliness and whiteness of the product,” Xue Rongjun says. “On our side, that means that the deinking and stock preparation technology must deliver clean and bright furnish to our board machine. The DIP plant is easily achieving 65% ISO brightness and delivering very clean stock.”

**Meeting market demand**

Market demand is increasing for higher value-added board products, rather than the straight commodities.

“That is what we are focused on, and we are taking actions to be a recognized supplier for these products,” Xue Rongjun explains. “We have introduced the most advanced papermaking equipment and technology from Europe and utilize DCS control systems to greatly improve our production efficiency. It is our plan to constantly improve our systems and facilities.”

Three of the four layers of the new white-coated board are processed by new ANDRITZ stock preparation systems. Shown here is one of two FibreFlow drum pulpers for processing recycled fiber.