

Iggesund Paperboard's mill in Workington, UK will soon celebrate the 50th anniversary of its first production run. But, this is a company that focuses mainly on the future. Following the latest in a line of investments, it recently restarted its board machine after ANDRITZ rebuilt the press section – increasing capacity 10% and reducing energy consumption by almost 10%.

Europe's folding boxboard market is in transition with new machines starting up. "The supply/demand situation has changed since we decided to rebuild the press section of BM2," admits Ulf Löfgren, Mill Manager at Workington. "But the investment is still quite valid. We wanted increased volume and consistent quality with reduced energy consumption. Our strategy is to focus on the premium segment and we have a very good product with good quality."

Sweden's Holmen Group, parent company of Iggesund Paperboard, has been investing progressively in Workington's future for

years. On BM2 itself, the mill previously had upgraded the wire section. At another time, ANDRITZ installed a new hood for the Yankee cylinder. Iggesund also invested in a new bio-fuel boiler (an ANDRITZ unit) in 2011, switching from natural gas to biomass energy. Even after these investments, the work continues. As Löfgren says, "We are in a good place, but you must always improve. It must be good. It must be brilliant!"

Tonnes of quality

As part of the pre-project analysis, ANDRITZ sent a team of experts to assess different options on the machine. ANDRITZ's Roland

Scheiflinger, Vice President Paper and Board, believes this analysis convinced the Iggesund team that the press section needed to be upgraded before anything else, because there would be little point in increasing capacity elsewhere if the press section remained a bottleneck.

And removing bottlenecks to increase production is a genuine priority at Workington. The infrastructure at the mill is set up for about 250,000 t/a of packaging board production. Production of cartonboard reached its peak in 2008, when Workington was operating two board machines. The mill's on-site pro-

duction of mechanical pulp for their board's inner layers is sized to support this level of production. The future target of increasing BM2's capacity will bring the mill's pulp and board production back into balance.

"It is extremely important to get tonnes onto the market," Löfgren says. "That is of great value to us."

Indeed, Workington could have gained additional capacity by upgrading other parts of BM2 before the press section. But maintaining, and even improving, product quality was also key. Löfgren explains it in this way: "The press section is a critical part of any machine, impacting efficiency, economics, and quality. Not only was the press section on BM2 a bottleneck, upgrading it also offered the best potential for a boost in product quality all the way down the machine."

As the UK's only producer of paperboard using virgin fiber, Workington does not compete with other UK mills, but rather with producers of solid bleached board and folding boxboard around the world. "In the last decade, our strategy has been to move up the quality chain and focus on premium segments," Löfgren says. "In these premium segments, product quality needs to be the same on Monday morning as it is on Saturday night."

Workington produces the Incada brand of packaging board, which is available only in the GC1 and GC2 qualities. Incada was re-specified and re-launched in 2013, and is now among the most recognized folding boxboard brands in Europe, along with Iggesund's Invercote brand. Incada is sold for high-quality packaging of cosmetics, pharmaceuticals, confectionery, and premium or luxury items.

Talking shop

In planning the project, ANDRITZ and Iggesund Workington spent time discussing the best configuration for the press section: two shoe presses vs. the combination of a long-nip press (LNP) with a shoe press. According to Scheiflinger, "two shoe presses would give more uniform dewatering and better bulk, plus higher throughput. On the other hand, the combination of an LNP with a shoe press would provide both stiffness and dryness. In either case, these would be followed by a smoothing press."

Gary Pickering, Head of Workington's Project Department and Project Manager for this rebuild, says, "We had been looking at press section options for two years. At first, we were only considering the pick-up roll, but the scope expanded and every time it did, there was a justification for it. In the end, we

It must be good.

IT MUST BE BRILLIANT!

replaced everything and opted for the combination LNP and shoe press.”

Scheiflinger believes that the work his team did at the front-end showed Workington people that ANDRITZ really understood the machine. Löfgren concurs. “Our decision to award the order to ANDRITZ was based on the work they did in the pre-decision phase,” he says. “They worked closely with us and showed us that they wanted the project. We felt we would be able to work with them in a good atmosphere of cooperation and partnership. We have a lot of confidence, trust, and belief in ANDRITZ. We were in the same boat together. It has been a successful project.”

Scheiflinger sums it up: “We tried to be a very proactive partner, not just a supplier. We didn’t just want to deliver hardware, but we wanted to improve the performance of the machine.”

Pressing matters

ANDRITZ installed a complete new press section including a long-nip jumbo press with large-diameter rolls, an energy-efficient *PrimePress X* shoe press in the second nip, and a smoothing press. The delivery also included ANDRITZ’s state-of-the-art *PrimeFeeder* vacuum system for ropeless tail threading from the press section to the dryer section. Erection services, commissioning, start-up, and optimization were all part of the package.

“In addition to the press hardware,” says Barbara Freyler, ANDRITZ Director of Order Execution, “we supplied new drives for the wire and press section, the motor control center, multi-motor integration with BM2’s existing drive system, an ANDRITZ FibreSolve broke repulper under the machine, all the power and data cabling, field instrumentation, and electrification.”

According to Scheiflinger, there are sev-

eral technical advantages to the installation at Workington. “First, the shoe press is a very low-maintenance design and gives the mill flexibility in choosing the belt supplier. Second, the hole design in the Uhle boxes was a big plus and the simplified vacuum system for the wire and press section allows the existing vacuum pumps to be controlled individually. Finally, the automation includes our state-of-the-art *PrimeControl* system which features ANDRITZ-written software on PCS7 hardware from Siemens.”

Workington working

The plans looked good on paper. How did everything go in reality?

Löfgren says, “The project went very well. We met all of our major milestones. A lot of praise and credit goes to the ANDRITZ team – they were excellent. The machine achieved the target quality and produced saleable board quickly after start-up.”

“We have gained speed on all grades, including the higher grammages where we did not think we would.”

Gary Pickering
Head of Project Department; Iggesund
Paperboard, Workington mill



Pickering adds: “There was a sheet on the reel in well under a half day. It was a big achievement for all of us because it was a tough timescale.”

According to Freyler, “Our teams worked as one and never lost sight of the main goal. We learned from each other and about ourselves.”

Many of the results of the upgrade are al-

ready evident, while others will only be seen in the future. “Our customers want lighter weights,” Löfgren says, “so we are pushing to get the desired bulk with lower grammage. We believe we now have the foundation to do this.”

Scheiflinger adds, “Board stiffness has been increased at all grammages, while the bulk remains similar. That was the goal.”

“We have gained speed on all grades, including the higher grammages where we did not think we would,” Pickering says. BM2 was press limited to about 450 m/min. It is now mechanically designed to run up to 800 m/min, although speeding up the machine largely depends on future upgrades.

Commenting on the new vacuum system, Pickering says, “We were worried that we might not have enough vacuum capacity. With the new design, we can run with one spare pump. It is working even better than we expected.”

The last word goes to Mill Manager Löfgren: “ANDRITZ has done a great job. If anything, they have strengthened their position.”

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Ulf Löfgren
Mill Manager; Iggesund Paperboard, Workington mill



▲ The ANDRITZ *PrimePress X* shoe press is a very low-maintenance design that gives the Iggesund Workington mill the required bulk and dryness for its premium board products.



▲ ANDRITZ installed a new press section on Iggesund’s BM2, including a long-nip jumbo press with large-diameter rolls, an energy-efficient *PrimePress X* shoe press in the second nip, and a smoothing press. The delivery also included ANDRITZ’s state-of-the-art *PrimeFeeder* vacuum system for ropeless tail threading from the press section to dryer section.



▲ (L to R): Ulf Löfgren, Mill Manager, Iggesund Workington Mill; Barbara Freyler, ANDRITZ Director of Order Execution; Roland Scheiflinger, ANDRITZ Vice President Paper and Board, and Gary Pickering, Head of Workington’s Project Department.