

# CAREFUL ROLL PACKING

KOTKAMILLS

Pesmel is proud to be involved in the fully recyclable consumer board revolution taking place at Kotkamills. With new Finnish owners and visionary technology, Kotkamills turned to Pesmel for a packing solution that meets its needs.

**W**hen Kotkamills initiated major investments and adopted pioneering production technology under a new owner in 2015, it quickly discovered that it was going to need a new roll packing system. Pesmel was able to design a layout to fit the challenging facilities seamlessly, and construction soon began on the conveyor systems and packing line to serve both the new board machine as well as the existing laminating paper machine.

## A revolutionary product range

Kotkamills is a paper and board mill with a long history. Originally a sawmill, it branched out into pulp and later to kraft paper production, always preferring local raw materials and looking at future trends to steer operations. The sawmill remains part of mill operations to this day, with sawdust used in the production of pulp for laminating papers, and chips used for consumer board products.

Kotkamills now operates one paper machine and one board machine in Kotka. PM1 produces Absorbex® base kraft paper for laminates, which can be further converted into Imprex® core stock and surface films. The other machine, BM2, is the pride of the mill: a modern board machine able to produce recyclable, repulpable and renewable folding boxboard and barrier board. The key to its extended recyclability is the dispersion technology, which replaces traditional plastic barriers to hold in liquids and fats.

The products from PM1 still constitute an important part of the mill's sales. BM2 is, however, expected to become the real flagship of the mill when its best features are put to good use in the production of plastic-free barrier board to meet the global need for sustainable and ecological packaging. The potential market for such products is huge. However, the machine also produces regular folding boxboard.

"Kotkamills is the first producer to adopt dispersion technology on this scale," says Timo Tallinen, Technical Director at Kotkamills. "We have already started selling the product.

Through close co-operation with our customers, we are able to even improve our products based on the results of customers' tests and audits."

## Bigger rolls required new packing system

With the construction of BM2, the Kotkamills machine hall underwent drastic changes. PM1 continued running throughout the project, which imposed additional constraints on the work. With the new production technology emerged other new requirements: the existing packing solution was not able to handle the large rolls that would be produced.

Modifying the existing packing system proved to be an unsatisfactory solution, so Kotkamills began looking at an electro-mechanical system to replace the old hydraulic machinery with its constant risk of smudging the valuable rolls with oil. Kotkamills also wanted a fully automated packing system that would free personnel for other duties.

## Pesmel's solution

The layout of the mill posed a challenge: the new board machine took up a major part of the space in the machine hall, making it necessary to move the packing system downstairs. Pesmel designed the conveyor system and the fully automatic roll packing system, OptiWrap Multi, to exactly fit the available space.

The mill conversion project was characterized above all by the great speed at which the changes took place. As PM1 continued to run, it was crucial that the existing packing system remained operational while the new one was being built. Pesmel was able to ensure that production outages were minimized, which was one of the reasons why it was chosen as the supplier.

"Pesmel was also able to design a relatively simple layout, which was very attractive to us," says Tallinen. "Their designers were able to ask good questions that helped us further develop the concept. The good start-up resources and continued support and cooperation after the start-up were also important for us."

The fully automated roll packing system usually only requires attention when wrapping materials need to be refilled. An operator monitors the system from the winder control room upstairs and only goes downstairs to the packing area when necessary. The operator also has time for other duties besides managing the packing operations.

## Automation ensures hygienic food packaging

The packing method must always meet the particular requirements of the mill and its customers. For the food packaging grades that Kotkamills produces, good hygiene is essential. An automated handling and packing system ensures that rolls are processed without the operator's manual touch. Odor or bacteria must not be able to enter the rolls, which need to be in pristine condition when they arrive at the packing machine to receive their watertight and weatherproof kraft packing layer, ready for shipment to the customer.

In food packaging, customer audits are a normal part of the process. In addition to the actual production process of the board machine, auditors also inspect the packing system to ensure that the entire process meets the required standards.

## The work continues

The extreme speed with which the project was implemented posed major challenges for the design of the conveyor and packing system. As every mill is different, the systems always need to be tailored specifically for each case. It usually takes years to optimize and complete the layout before implementation; in this case, the process was carried out within a few months.

Ongoing development of board production technologies also requires further work on the packing system to ensure optimal operations. The roll size from the new board machine has proven to be smaller than was anticipated, which means that instead of packing large rolls at a slightly slower speed, the system must manage smaller rolls at a faster speed.

Pesmel and Kotkamills will continue to work together in good co-operation to fine-tune the system when the product range of the mill changes. In the paper and board markets of a changing world, there is no such thing as a final production concept. •



The new packing line was fitted into challenging facilities.

### BENEFITS OF MODERNIZATION

- Faster packing operations
- Less workforce required
- No hydraulics
- Automation helps ensure hygiene
- Capability to process a large range of roll sizes