

## MSK

# New Energy-Saving Packaging Line at Mayr-Melnhof Karton

For the packing of the cut-sized carton products of Mayr-Melnhof Karton in Frohnleiten (Austria), the packaging machine manufacturer MSK installed an efficient pallet wrapping line. After the sheeter, the system packs the pallets with an energy-saving safety shrink device and automatically transports the pallets into the warehouse.

### Confidence in the new packaging technology

The decision to give MSK the task of installing the new system marked the beginning of improved packaging technology. The replacement of the aged packaging



The safety shrink frame with the new Shrinkcover energy-saving module provides high energy-efficiency during shrink wrapping



With the film sleeving machine Flowtech, different pallet formats can be packaged individually and cost-effectively

line, including the shrink oven, is a project that was developed together with the project managers in Frohnleiten, who first had to become familiar with MSK's shrink frame technology. During a reference visit at the paper manufacturer UPM Nordland Papier in Dörpen, the project managers were able to take a look at the packaging solution and its benefits finally convinced the cardboard manufacturer. MSK's new energy-saving system "MSK Shrinkcover," currently awaiting patent approval, was also presented. The clean solution of a shrink frame in comparison to the known shrink oven made a particularly good impression. Due to limited spatial conditions, a specific space-saving machine layout was necessary.

The order given to MSK included the whole end-of-line packaging after the sheeter with load centring device, scale, sheet counter, labeler, shrink packaging system as well as a pallet conveyor system down to the bottom floor of the finished goods warehouse. The software MSK EMSY visualises the whole process from the production to the pallet stock. "The automated data acquisition and labelling of the packaging items for identification purposes, the time saved due to less film roll changes as a result of a bigger diameter of the film rolls, the energy-saving module MSK Shrinkcover, the well maintained facility we visited in Kleve, the EMSY visualisation system and finally the price for the entire facility com-

pared to other competitors were the main reasons that led us to buy the MSK packaging system,” Louis Kraxner, Corporate Finishing Manager at MM Karton, explained. Since the commissioning, MM Karton has offered reference visits as well. As a result, cardboard manufacturer, Mel Paper, has also decided to use an MSK system.

**Film sleeving process for safe product protection**

The packaging system at MM Karton packs up to 80 pallets per hour. After applying a film cover sheet, which is accurately tailored thanks to an automatic identification of the pallet length and width, the system applies a tight tailored film sleeve around the pallets. With a safety shrink frame device, the film sleeve is shrunk together with the bottom film, resulting in an all-around waterproof packaging, which protects the carton from dirt and moisture – even for outdoor storage. When attaching the sleeves, every single one of them is individually customised for the packing items. “The film is so tight around the load, that no further adjustment, such as the pre-shrinking of the edges for the continuous transport to the shrink system is necessary. This is a big advantage of our system, because it allows crease-free packaging results and reduces film and energy costs. In addition, the packing item can be transported over any distance to the shrinking system without slipping off the sleeve. We were therefore able to easily adjust the machine layout



The horizontal film roll arrangement on one side of the packaging machine simplifies the roll-handling and extends the intervals for film exchanges

to the space conditions at MM Karton,” pointed out Uwe Jonkmanns, Sales and Marketing Director at MSK. For a simple film roll exchange, all film rolls at the facility in Frohnleiten are located on one side of the machine. Due to its horizontal position, the rolls can have a bigger diameter, making the need to replace them less frequent.

**Controllable shrinking process lowers costs**

The more targeted the film for the different packing units is heated up, the better and more stable the shrink packaging becomes. For this reason, MSK uses the safety shrink frame MSK Synchrotech for pallet packaging at MM Karton. The shrink frame adjusts the hot air stream to any pallet size and shrink zone. The shrink process for the bottom and cover film sheet can also be individually adjusted. “Especially the heating process offers the biggest energy saving potential. The films are shrunk with low temperatures, because our shrink frames work with high air volume, which provides, aside from energy savings, a high level of security for the product and film. Overheating the film and soot formation are avoided as



The image-supported visualisation software EMSY facilitates the operation of the machines



Shuttle cars flexibly connect several conveyor lines to each other



Transtech conveying systems transport packing units fully automated from the production to storage

a result. Moreover, no pre-heating is necessary, because only the shrink process requires energy," stated Uwe Jonkmanns, explaining the differences to a shrink oven which constantly needs to be intensely heated.

**New development: MSK energy-saving module**

Aside from equipping the shrink frame with a heat recovery system, MSK uses the new MSK Shrinkcover at MM Karton. "The MSK Shrinkcover convinced us due to its higher performance and energy reduction," explained Louis Kraxner. Depending on film thickness and pallet size, the energy-saving module allows further energy savings up to 30% of required thermal energy. It increases the energy efficiency significantly and is already successfully used in many other industries.

**Fully automated data identification of packing units with load-centring system, scale & labelling**

First, the packing units are aligned flush to the pallet from all sides with the MSK load-centring device. At the same time, the length and width of the load is measured and saved as pallet data in the system. "The control of measuring of the packing unit in the centring device, the automatic registration of the weight and sheet count in the scale section and the subsequent labelling underneath the film for identification purposes by a fully automated robot are crucial benefits of the MSK system for us," confirmed Louis Kraxner.

**Pallet handling process all the way to storage**

For the entire pallet handling within the pallet packaging line, an extensive pallet conveying system with stationary and mobile plastic belt conveyors is used in Frohnleiten. Via conveying lines, turning tables, shuttle cars, vertical conveyors and shuttle conveyors, pallets are transported completely automatically to the pallet storage area. The MSK EMSY software's overall control records and transmits all requisite pallet data.

**Simple handling with the MSK EMSY 5 controlling software**

Facility operators in Frohnleiten control the entire packaging line with MSK EMSY 5 software, which is specifically tailored to MSK machines. The intuitive 3D-animation-supported visualisation software facilitates the handling and shortens the training period. The software allows tracking of the packing units as well as comprehensive controlling. Besides production statistics, the system also offers consumption statistics for film, energy, gas and air, provides debugging and offers fast help around the clock through remote maintenance.

**Partner of the industry for more than 40 years**

For over 40 years the MSK Covertech Group has worked with pallet packaging system companies and pallet conveyors in the paper, carton and printing industry. The company offers engineering, production and service from a single source. Looking back on decades of experience, our specialists create customised solutions to fit client-specific needs. With more than 500 employees and locations in Germany, France, Hungary, the USA and China, MSK is one of the leading international suppliers of pallet packaging systems. ■

**Exhibition at the drupa 2016**

At drupa 2016 in Dusseldorf (May 31st to June 10th), MSK will present its latest developments and machine solutions at their booth in Hall 12, Stand C32