

SSAB and Pesimal: Partners in high quality sheet packing solutions



PHOTOS: PESMEL

As a Swedish manufacturer of high-strength wear and structural steel, SSAB has enjoyed a long relationship with Pesimal. Upon witnessing pre-commissioning test runs of a coil packing line to be delivered to Bluescope Steel in China, Pesimal agreed on supplying 4 automated coil packing lines to SSAB's mill in Borlänge, Sweden in 2007.

The productivity and efficiency of the lines led to Pesimal being invited to tender bids for supplying 2 sheet packing lines. At the time, SSAB had a pre-existing sheet packing line that had been supplied by another company 10 years previously. However, the challenges and requirements SSAB faced to deliver new high performance steel worldwide meant that the development of their packing system was essential.

High quality, high performance

Pesimal was successful in securing both sheet packing line commissions and began working on the delivery in 2009, with the 1st line commissioned in 2010 and the 2nd following in 2011. SSAB had an extremely clear set of requirements for its packaging – alongside significant capacity and efficiency upgrades, SSAB required total airtightness, zero moisture present inside the packaging, accurate and robust edge protection and the option to create custom palettes for each package. Rust, returns and material wastage had all been significant issues associated with the previous packing line.

After a long pre-commissioning phase during which thousands of packages were tested, the result was 2

fully-automated packing lines that significantly reduced material wastage, offered greatly improved capacity and were pre-calibrated to perform effectively upon installation.

Automated total packing solution

In practice, longitudinal timber wood stacks and cross log stacks are loaded by an operator onto a roller conveyor by forklift. At the same time, sheets are stacked in an existing stacking unit and conveyed to the packing line receiving conveyor, or by crane. The width, height and weight of the package is automatically calculated before transfer to the packing machines. The package is then straightened and centralised.

A bonding machine then makes finger joints on the ends of the wood lengths, which are then jointed and secured by a staple that is “shot” into the finger joint positions. Saw machines then cut the wood into appropriately long lengths that correspond to the dimensions of the package. Longitudinal wood pieces and cross logs are then either conveyed to the pallet making area or to the strapping position.

After the package's ID is verified, the wrapping machine starts automatically reeling paper wrapping or plastic foil according to the length and height of the sheet package. The wrapping machine then raises the package and applies wrapping to both sides of the package, cutting and folding the material underneath the package when the end of the package arrives between conveyors.

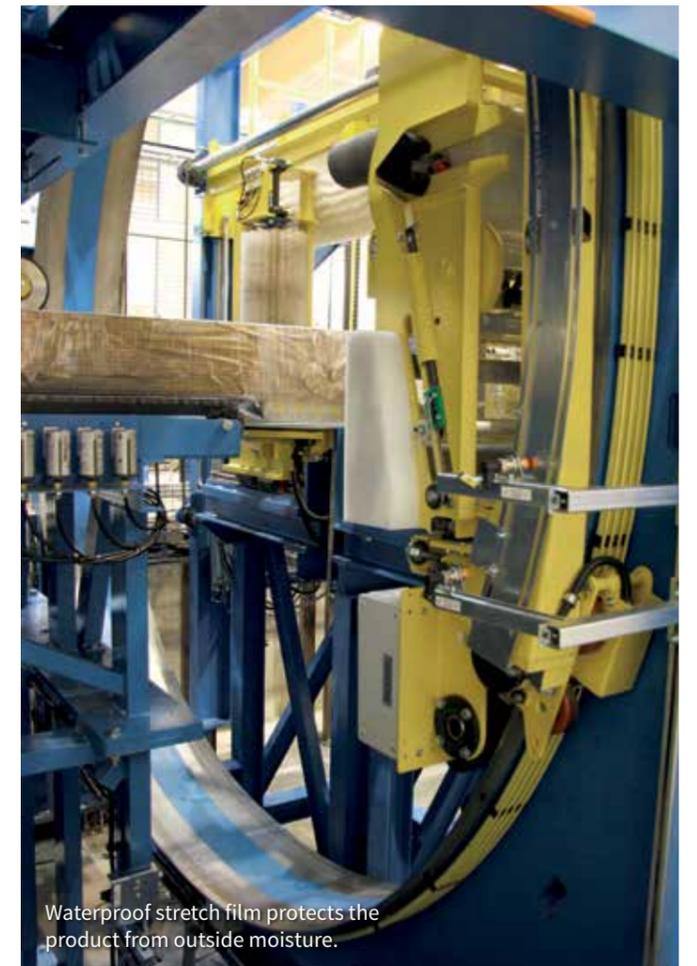
The package is then brushed smooth and a wrapping head begins travelling forward along the package and applying a several passes of stretch film according to requirements. The film is then heat sealed to the package. Packages are then lifted and positioned onto the constructed pallet, and edge protection is automatically applied to upper and lower corners of the package before automatic strapping and labelling. Conveyors then transfer the packages to the storage hall prior to shipment. All wrapping materials and strapping are easily replaced by way of magazines.

Future-proof technology

Throughout the whole packaging process, no wastage occurs as every piece of packing material is cut to order. The lines are capable of delivering up to 40 packages an hour at 4 metre lengths, and manual oversight is now only required for observation and loading new packing materials. This means SSAB can safely expand production without worrying about extra packing capacity. SSAB has frequently expressed its satisfaction with the line, especially with the inclusion of potentially the 1st integrated automatic pallet maker on a sheet packing line. Other customers have also expressed great interest in this solution. The limiting factor is the availability of high quality wood outside of Scandinavia, but as ever, Pesimal is working on a solution! •



Cover sheet applied under and over the sheet absorbs internal moisture.



Waterproof stretch film protects the product from outside moisture.



Fully automated packing line needs only one operator.