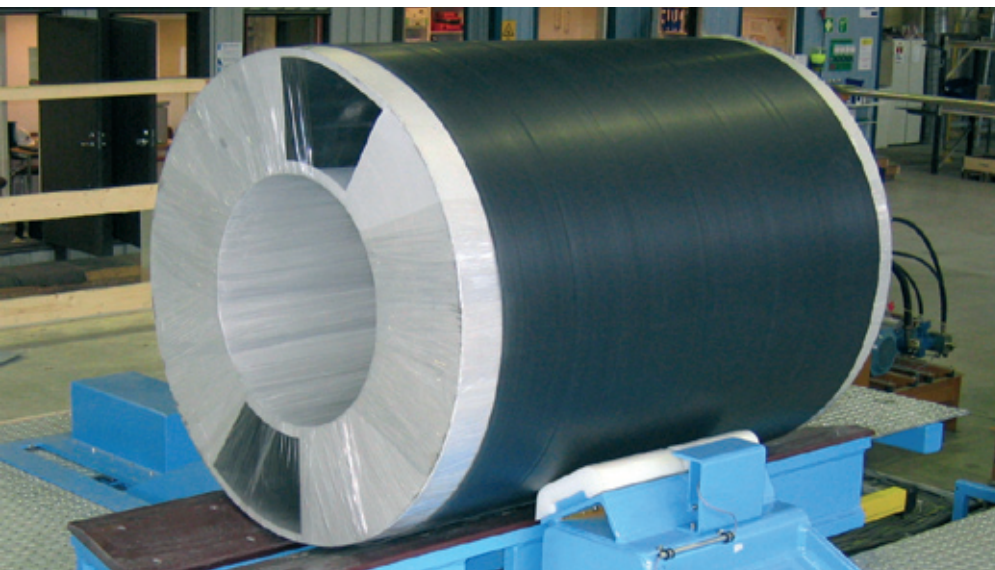


MODERN PACKAGING TECHNOLOGY FOR ULTIMATE PROTECTION

– Pesmel coil packaging system for the new BlueScope Steel mill in China



Australian steel giant BlueScope Steel is investing in China by building a new state-of-the-art flat-steel metallic coating and painting facility at Suzhou, in Jiangsu province. Pesmel will deliver a complete packaging line, which will be in full operation by the end of February 2006. The plant itself will be completed in mid-2006.

BlueScope Steel is a leading steel producer in Australia and New Zealand, supplying most of the flat steel needs of these markets. The company's customers are in the building and construction, automotive, packaging and general manufacturing industries. Their existing rolling, coating and painting plants are situated in Australia, New Zealand, Thailand, Malaysia and Indonesia. The new facility in China is the company's biggest investment to date and will employ approximately 300 people.

BlueScope Steel has been operating in China for over ten years and has already established a strong presence in the market. This new investment will enable the company to increase its supply of steel products to China's growing building and construction markets, for example.

The project is a good example of Pesmel's ability to deliver heavy-duty material handling equipment to the steel industry. "The ability to supply a competitive and complete wrapping system with control automation and mill interfaces was the customer's key requirement when choosing a supplier," according to Pesmel's Project Manager, **Markku Marttila**.

All the wrapping functions on the packaging line are fully automated, which totally eliminates the need for manual working, thereby increasing capacity and enhancing safety. The

packaging line includes a through-the-eye wrapping system with an automated film roll changing magazine. The magazine can be loaded with 12 film rolls, which ensure continuous wrapping for approximately eight hours, depending on coil size and the number of stretch film layers.

An innovation in the packaging line is the so-called 'body wrapping' function, where an air-textured plastic is wrapped around the coil mantle over the stretch film. This thick plastic layer provides strong extra protection of the mantle. Before wrapping, the system automatically selects the right plastic roll, according to the width of the coil, from the six-roll magazine.

After wrapping, the end labels and the inner and outer edge-protectors are added to the package, which is totally waterproof and weather-resistant. Perfect protection ensures >

MANAGING DIRECTOR HANNU MÄKI-RAHKOLA



Effective and high-quality automatic conveying and packaging systems give a clear competitive advantage to us as well as to our customers. In order to obtain and maintain this type of advantage, every company must constantly develop its products and processes. Companies frequently outsource the development and implementation of their product packaging to a specialist in order to focus on their essential expertise: ensuring the competitiveness of their products.

Working in a specialist role, Pesmel Oy has been able to create competitive solutions for customers, especially in cases where the production and packaging lines have high capacities or handle particularly heavy products.

We have had the opportunity of applying highly automated innovations to packaging lines for steel coils and glass tissue rolls as well as to the conveyor systems for car tyres. These projects are more fully described later in this publication. However, we have produced fast, automatic conveying and packaging lines where the emphasis has been placed on the aspects of most value to our customers: quality, safety, automation and user-friendliness.

Implementation of these lines exemplified customer/supplier co-operation at its best. Our customers had confidence in our professional skills and gave us the challenging responsibility of developing significant sections of their production lines. Successful development and implementation resulted in modern, cost-effective

systems, which respond to customer needs.

Co-operation between the customer and Pesmel has been a feature of many other projects. The philosophy of working closely together has made it possible to deliver new systems with minimal disturbance to the production chain.

Close co-operation is of increasing importance in today's global market, because it provides the basis for trouble-free operation. It also minimizes risks and facilitates the start-up of new production lines. With long-term co-operation, when the partners understand each other's operations, the outcome is a project, which is executed as planned, on time and of high quality •

With good wishes for successful co-operation,

Hannu Mäki-Rahkola

< safe long-distance transportation, regardless of weather conditions, and significantly enhances the durability of the steel. Pesmel has many years of experience in packaging different products in order to keep them in top condition during transportation and warehousing. The cost savings achieved by correct product packaging can be considerable.

In addition to equipment, Pesmel's delivery includes project management, test runs at our factory, installa-

tion supervision and training services at the customer's premises. "We install the systems at our factory in order to carry out test runs and to obtain so-called 'factory-approval'. During this stage, the various devices are adjusted, functions optimised and capacities ensured, which speeds up installation and start-up at the customer's premises," comments Markku Marttila. Test runs were performed for the BlueScope Steel project and the customer was satisfied with both the packaging line and the results of the test run •



NOKIAN TYRES - Long-standing co-operation

Nokian Tyres is a steadily growing company, whose operations are amongst the most profitable in the world. It produces over 350 different tyre models and its production capacity is constantly growing. However, increasing capacity requires not only automation of the production, but also of the handling of finished tyres. Pesmel has taken part in automating the tyre handling operations and has delivered systems to Nokian Tyres for a decade.

Nokian Tyres is a well-known brand in the Nordic Countries and the biggest tyre producer in the area. The company manufactures summer and winter tyres for passenger cars and tyres for heavy machinery. There is a long tradition of tyre production in Nokia: the company's best-known brand, Nokian Hakkapeliitta, has been in production for 70 years.

Co-operation between Nokian Tyres and Pesmel has also become a tradition. Nokian Tyres has been an important customer of Pesmel for ten years. During this time, Pesmel has delivered conveyor systems to the production plant in Nokia: for tyre handling, for the automated stretch film wrapping of tyre piles, for warehouse handling and for the automated truck loading of tyre pallets. "With these systems, we have been able to boost our material flow

and increase capacity," explains Keijo Ylitalo, the development manager in charge of passenger car tyre production, technology development and capital investment.

The benefit of long-standing co-operation is that the supplier understands the customer's product and production. This simplifies and speeds up the work and facilitates a successful outcome. "For example, space is very limited at the factory in Nokia, so we needed creativity, flexibility and the ability to customize when making the layout," observes Reijo Marttila, the sales manager from Pesmel.

"In addition to product knowledge, we need to consider both the reliability of the system and technical competence when selecting a supplier. These issues are crucial for us, because our production runs some 350 days a year," adds Keijo Ylitalo.

Russia and the Baltic countries form another important market area for Nokian Tyres, in addition to the Nordic countries. Recently the company has put lot of effort into these markets and last year a new Nokian tyre factory was established in Russia; it is another main production centre along with the Nokia plant in Finland. Nokian Tyres plans to manufacture ca. 1,9 million passenger car tyres in Russia in 2006, rising to 4 million a year by 2008.



Pesmel has also played its part in getting the new factory up and running. Pesmel's delivery included the tyre handling, transfer and checking systems at the end of the production line. "We have co-operated successfully with Nokian Tyres here in Finland, so it was relatively easy to expand deliveries to the Russian plant," comments Marttila.

Successful co-operation between customer and supplier requires not only a good delivery but also keeping in continuous contact between projects. "Good technical support and an efficient spare part service have an important role to play, especially in Russian deliveries, because they are so-called 'full deliveries', which include both equipment and control systems," stresses Ylitalo •



QUALITY PRODUCTS ALL THE WAY TO THE END CUSTOMER - Pesimal's new roll handling and packaging system for glass tissue



Ahlstrom is known worldwide for developing and manufacturing high quality fibres. Even though the products often need to be transported over long distances, their quality is never in question. During transportation, top quality is ensured by the use of tight and durable packaging.

The Ahlstrom mill in Karhula produces and packs glass tissue rolls 24 hours a day non-stop. Pesimal's fully-automated roll handling and packaging line, which was delivered to the mill last spring, sorts the rolls coming from the production line, inserts

board headers, packages and labels the rolls and then transfers them for further processing.

"Waterproofing and other protective qualities were important when designing and implementing this packaging line," explains project leader Juha Suksi from Pesimal. Initially, board headers with core plugs are inserted at both ends of the roll. The roll mantle is then protected with three different packaging materials. Kraft paper wrapping is used on the roll edges to give extra protection, and bubble wrap is then applied to protect the roll from impact damage during transpor-

tation. To produce a totally waterproof package, the roll is wrapped in a final layer of stretch film. Labels are used to ensure electronic identification and tracking of the packages. Labelling is done in two ways: during stretch film wrapping of the mantle and by a robot at the roll end.

"The project required us to include a wide range of functions in a limited area. We are satisfied with the outcome and it is important for us that we can produce such a technically advanced solution which also satisfies the customer's requirements," comments Juha Suksi •

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