



PHOTOS: PESMEL

## Pesmel automated coil packing lines: the elimination of rust

Zero rust, no handling damage, minimised material wastage – all thanks to Pesmel coil packing solutions.

**R**ust is a considerable problem when it comes to the production of metal goods. Keeping product quality uniform from the production line to the end user represents a considerable challenge. Pesmel has developed a range of packing technologies that are unparalleled in their ability to keep metal coils watertight and rust free, whilst also considerably reducing the amount of packaging material used and speeding up the packing process.

In the production of metal, sudden temperature differences are common. As water is present in the atmosphere in practically every environment, condensation of water on metal surfaces is a common occurrence. If this happens inside a semi-sealed environment such as a packaged coil, the chance of rust

formation drastically increases – if salt is also present, as might be the case when in close proximity to oceans or in polluted environments, the reaction is greatly accelerated.

### The cost of manual labour

This is a significant problem for metal producers of all types, as storage and transportation in challenging environments is not always avoidable and customers demand high quality products. In short, packaging and moisture protection are essential to delivering rust-free products. Traditional, manually-applied packaging incorporates a VCI laminated sheet that is folded into the coil's eye, outer surface, headers and corners. However, it is impossible to



Automated body wrapping with board and steel

Outer edge protection machine

Automated outer edge protection

Inner edge protection machine

get an air-tight seal, as manually-folded paper cannot be perfectly seamed. This leads to external air coming into contact with the VCI sheet, thus diminishing its VCI effect within 6 months and losing its protection from oxidation.

VCI-laminated packing also poses an environmental concern due to difficulties separating the paper and plastic components. When this is coupled with the real risks to personnel posed by proportionally high numbers of workers manually packing extremely heavy objects on mill floors in close proximity to potentially hazardous materials, the need for a new system becomes clear.

### Automated wrapping and mechanical protection

Pesmel utilises Through Eye Wrapping (TEW) machines that stretch PE film through the coil eye and form an air-tight seal. This drastically reduces the amount of air trapped inside packaging, limiting the potential for condensation. An additional crepe paper layer can be applied under the protective film. This low cost paper has excellent moisture absorbency properties, and it can also be treated with VCI for protection against particularly harsh external conditions or multiple handling situations. This duo of protective measures isolates water droplets from entering the package whilst locking residual humidity away from the metal in the packaging interior. The end result is packaging that can remain airtight for more than 2 years.

This method of packing can only be achieved by machine operation. However, 20 normal-sized coils can be wrapped in 1 hour at significantly

lower operational costs than traditional wrapping methods. When a freely-adjustable packing material overlap is taken into account, material usage can be optimised without compromising on rust protection.

A second layer of mechanical protection can also be applied to products that face long delivery distances or significant storage periods. This lightweight, robust solution provides considerable protection during transportation and helps achieve balance between protection and cost optimisation. Any combination of packing materials can be used to deliver the highest returns on investment in any situation.

Pesmel's coil packing line can easily handle different packaging types and sizes without additional setup. One line can serve several slitter lines simultaneously and only requires manual material replenishing on average once per work shift. In addition, the line cuts and optimises materials according to coil size, eliminating the need for several pre-cut packaging material variants and storage. Typically, automated packing can reduce packing material costs by 30%.

### Modular solutions

Pesmel has created a range of modular packing line components that can easily be arranged in optimal layouts for individual customers. Upon deciding the level of packing required and the degree of automation, Pesmel can easily integrate the packing line components and control systems with your existing mill. Our modular packing line can be expanded or automation can be increased in line with production

requirements. Integrated automation means all packing line controls can be accessed via standard PCs, and a multilingual, user-friendly HMI offers advanced functionality and real-time packing line performance information.

### Significant cost savings

Packaging materials, labour costs, maintenance and designated packing space all contribute to the operational costs associated with packaging. However, hidden costs such as compensation for damaged goods and intangible costs such as poorly visible branding on packaging, or visible branding on poor packaging, should also be taken into account. While initially higher in terms of investment costs, automated packaging lines increase packaging quality, lower the amounts of material used and lower labour costs, all located on a smaller factory footprint.

### Protect your reputation

Mills can be optimised to produce the best quality coils in the world. However, this is irrelevant if your customer has to discard the first few layers of coil due to rust damage or dirt. Our TEW technology can be supported by a range of add-ons, such as Automatic Film Roll Changing (ARC) that further increases the reliability of your operations by allowing the machinery to run continuously without production breaks. From palletising to additional cardboard lids, Pesmel packing lines ensure your products arrive at your clients in the best possible condition. Reliability is equally as important as quality – Pesmel's packaging technology helps you deliver both. •