

Gerhard Warning Verschleißtechnik und Industrieprodukte GmbH, 33619 Bielefeld, Germany

New sorting and packaging system in a “mobile factory hall” for Lakan Betoni, Finland

Neither in Finland are any compromises made with regards to antique concrete goods like paving blocks, palisades or wall elements. For this reason, Lakan Betoni, a Finish company with its administrative centre in Joensuu, only produces real tumbled paving stones and palisades. The results of market research carried out by Lakan Betoni show that customers for the most part want these products. Previous sales practices, whereby the product was sold loose, i.e. in big bags, are nowadays no longer accepted by the customer. For quite some time then, Lakan Betoni had been looking for an alternative way of cost-effectively manufacturing, packaging and placing real tumbled products on the market from its five different sites in Finland. After investigating market conditions over a period of more than two years, they were able to view a patented, mobile sorting and packaging plant at Nüdling, a company in Fulda, Germany. The decision was then made for a similar plant made by Gerhard Warning Verschleißtechnik und Industrieprodukte GmbH from Bielefeld, Germany.



The Lakan Betoni concrete production facility at Joensuu, Finland



The mobile sorting and packaging system is utilised at five different sites



Besides thermal blocks, Lakan Betoni includes antique concrete goods like paving blocks, palisades or wall elements amongst its most important products

Lakan Betoni was founded in 1965 and around 120 employees produce a whole range of construction material products from paving blocks, hollow blocks and wall elements right up to dry mortars at five sites in Finland. As some sites already possessed ageing drums, Lakan Betoni found the idea of a mobile ageing unit very convenient. This idea accomplishes two purposes with the one same answer. Firstly, it was not necessary to install a sorting and packaging plant at every site; secondly, there was no need for a production hall to accommodate an ageing, sorting and packaging plant at any of the sites. This is, of course, a major advantage when the investment is seen from a costing point of view. The complete plant is mounted on a trailer which also simultaneously serves as a roofed production facility in all types of weather, besides

being the means of transport to the next site. No matter what the concrete products may be – ordinary concrete blocks, masonry blocks, paving blocks, palisades, split blocks, etc. –, at Lakan Betoni they are transferred to the existing ageing drums with a conventional forklift. The ageing drums already in place and able to produce real antique concrete paving were integrated into the sorting and packaging system's master unit with the help of the advanced control unit and torque converters. This made it possible to discharge the aged products evenly from the drum into the patented sorting system.

After the drum, the aged products are brought by a conveyor belt – a component part of the system – to the patented sorting plant, “the Organizer”. The concrete paving



The patented, mobile sorting and packaging plant from Warning



After the drum, the aged products are transferred to the patented sorting plant

blocks and stones are sorted lengthways on this organizer and are carried at great speed towards an intermediate storage belt. Quality control takes place at this stage. The machine operator is also able to take appropriate measures to control and programme the plant here via a large monitor. At all transfer points, e.g. from drum to conveyor belt, from conveyor belt to organizer from organizer to intermediate storage belt, separator grids have been installed so as to include the least amount of rubbish possible, which could cause disruptions in

the sorting process. The machine operator can very easily stop the production process by applying either a foot or knee brake, should he want to remove defective products.

The down-stream intermediate storage belt has the job of smoothing out this type of stoppage in the production flow so that the packaging system can continuously stack products at full rate. After the intermediate storage belt, the products advance to a feeder plate. Here, a power-assisted side sli-



The concrete paving blocks and stones are carried at great speed to the intermediary storage belt



The blocks can also be horizontally stacked biaxially offset from one another in order to achieve greater stability



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The loaded pallets automatically advance to the turntable of the packaging unit

ding device takes over the products for any pallet size specified by the customer and thrusts them in rows at fixed intervals onto a service sheet above a pallet. Once the side sliding device has filled one service pallet, the layer sliding device takes over the entire pallet and brings to its final position on a retractable sheet. This then carefully transfers the concrete goods to a pallet located on a shearing elevating platform.

This procedure is repeated as often as needed until the desired number of layers, which can be freely selected by the customer, has been made ready on the pallet. The blocks can also be horizontally stacked biaxially offset from one another in order to achieve greater stability.

When the release contact switch is engaged, the loaded pallet automatically advances to the turntable of the packaging unit. An entire foil shrink wrapping machine has been installed in the most confined of spaces here to package the pallets in the most secure manner possible. After being wrapped in foil, the pallets are placed into intermediate storage on a heavy-duty roller conveyor, from which they can be removed with a traditional forklift truck with no problem at all.

This acquisition has allowed Lakan Betoni to serve five sites with a modest volume of investment. The great demand for real aged products on pallets can be met at short notice.

FURTHER INFORMATION

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