

PRESS RELEASE

Weinsberg, 3 May 2021

Easy ballast coating at Liebherr

At the Liebherr plant in Ehingen, Vollert planned and built a new ballast painting plant with friction wheel and rope conveyor technology for the coating of crane ballast elements. These are used as counterweights for mobile lattice boom and telescopic cranes with lifting heights of up to 245 m. Depending on the product carrier, elements weighing up to 20 tons can be coated in an overhead, suspended manner. A total of 25 product carriers are in circulation.

The Liebherr-Werk Ehingen GmbH is one of the world's leading manufacturers of mobile cranes. The crane portfolio includes state-of-the-art telescopic and lattice boom cranes on mobile and crawler undercarriages with lifting capacities of up to 3,000 tons. They are used, for example, in ports, for bridge construction or for erecting wind turbines. A new wet painting plant is used to coat steel ballast elements, which serve as the necessary counterweight for the heavy lifting work.

Ballast in its most beautiful form

Liebherr offers its customers a wide choice of colors for the paint finish. At the same time, the ballast elements have different shapes and sizes up to a maximum of 4.5 m x 2.45 m and a weight of up to 12.5 tons, depending on the type of crane. In order to reduce the previously high proportion of manual work, Vollert was commissioned to redesign the coating process. On an area of around 110 m in length and 20 m in width, the work stations for washing, adhesive water drying, grinding, priming, evaporating, top coating, as well as for drying, cooling, gluing and marking are now lined up one after the other. Vollert coordinated the planning of the entire plant and supplied the conveyor technology with control system as well as the steel structure for the conveyor system and the steel structure for the newly built hall section. The painting technology was supplied by Heimer Lackiertechnik from Bielefeld.

Overhead coating with friction wheel and rope conveyor technology

After delivery on transport trolleys, a loading crane takes over the ballast elements at the start of the new line. They are attached to a product carrier individually or in groups of up to 20 tons. For this purpose the overhead crane lowers the empty product carrier and optimally positions the same by radio control with the aid of a trolley and its integrated

slewing gear. It then lifts the product carriers, turns them by up to 270 degrees depending on their position, and feeds them into the painting system. At the end of the line, an unloading crane of the same design places the finished workpieces back lengthwise onto a waiting transport trolley at 30-minute intervals. The empty product carriers are then returned to the starting point via a parallel return line using a rope conveyor system. Up to eight product carriers can be transported simultaneously and a total of 25 product carriers are in continuously synchronized circulation.

Instead of chain conveyors or individual drives on the transport units, the Vollert concept uses permanently installed friction wheels for individual feed. "The high total weight of the parts and the requirement for ergonomic height adjustment in the painting booths would not have been possible with a chain conveyor," explains Lukas Gänslar, project manager at Vollert. When washing, grinding, painting and processing large parts, the lifting and lowering devices ensure an ergonomic working height. Individual loading and unloading can also be easily solved with a trolley, slewing gear and the known friction wheel concept.

Easy coating for heavy weights

Vollert has already developed heavy-duty painting systems for Liebherr on several occasions, including for plants in Kirchdorf, Nenzing, Colmar and Nizhny Novgorod. In 2008, the specialists designed the world's first overhead paint shop for parts weighing up to 50 tons for Liebherr. In doing so, the engineers relied on their know-how from the precast concrete and automotive industries and for the first time transferred the conveyor systems used in these sectors to large-part coating lines. Since then, these have been successfully implemented in numerous coating plants for construction machinery, truck trailers and large transmissions.

About Vollert Anlagenbau GmbH

As specialists for heavy loads and large parts, Vollert Anlagenbau GmbH develops turnkey intralogistics concepts for the aluminum and metal industry. As a general contractor and full-service provider, the service range encompasses state-of-the-art material flow, storage and packaging technology as a stand-alone solution or integrated into a larger logistics environment.

Whether fully automated mega-high bay systems for aluminum coils, intelligent material flow systems for the leading aluminum extrusion press manufacturers, the world's most efficient stacker cranes for the storage of sheet metal plates, automatic crane systems for 50 tons and more or the most modern surface coating systems – Vollert is everywhere.

Vollert's plant and machine solutions are deployed in more than 80 countries around the world and in Asia and South America the company's own subsidiaries strengthen in addition the sales activities. Vollert employs more than 250 people at its company headquarters in Weinsberg. **www.vollert.de**

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Image 1



Image 2



Image 3 + 4

A new coating system from Vollert speeds up and simplifies ballast coating at the Liebherr plant in Ehingen. The heavy counterweights for mobile telescopic and lattice boom cranes are coated individually or in ergonomically suspended groups - up to a total weight of 20 tons.



Image 5 (Source: Liebherr)

Lattice boom crawler crane with Derrick ballast.