

PRACTICE

Simple powder coating

Bicycle manufacturer Cycle Union now coats bike frames and forks itself

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How can you start with powder coating if you don't know how to do it? This was the task facing Cycle Union GmbH in Oldenburg, which manufactures bicycles and e-bikes of the brands Rabe-neick, Kreidler and VSF-Manufaktur. „In the past, we used to have paint components such as frames and forks powdered by a contract coater. But in order to optimize production, we brought this manufacturing process in-house,” says Production Manager Sebastian Belkin. „We had no experience and were looking for a system that would guarantee high coating quality and ease of operation. The choice fell on Wagner's „E-Line application solution”, which consists of three modules: “Quick Cube”, the energy efficiency recovery system “EEP” and the “PXE powder center”.

For the operation, control and monitoring of the system, the bicycle manufacturer hired coaters who were trained together with other Wagner employees. „The training began with a supervisor on site,” explains



After applying the paint and passing through the oven and cooling zone (right), the frames receive their decors (center) and pass through the process a second time for the application of the clear lacquer.

Picture: Editorial office

Hans-Joachim Heyn, Key Account Manager at Wagner. „The responsible employees of the bicycle manufacturer helped with the installation and now know very well about the technology and construction of the system. The introduction to powder coating took place in several phases. Among other things, there was training, then the

practical work came and a few weeks later the in-depth training followed. Thus, the employees successively learned all the work steps of powder coating.

Cycle Union buys the components of a bicycle and assembles them. The company has commissioned the manufacturers of the components to pre-treat the workpieces. The coating pro-

cess therefore begins with fine grinding, cleaning, blowing and masking. The employees then place the workpieces, which are made of aluminium or steel, in the circular slope conveyor. „We coat frames and forks simultaneously and sort them according to colour batches,” reports Sebastian Belkin. The conveyor transports the workpieces to the auto-

matic booth, which is equipped with twelve guns (six per side). In the „PXE powder center“ the programmes for paint, gun guidance and air volume are stored. „A special feature is the separate height control, because there are many free areas between the bicycle frame and forks. There, the control switches off the powder output in order to save material,“ explains Heyn. The booth has a double-tube suction system that is arranged on the side of the floor. This makes it easy to clean. „For a color change, we need about 15 minutes including booth cleaning,“ confirms Bel-

kin. As customers are increasingly able to choose the color of their bicycles, Cycle Union has up to ten color changes per day, depending on the brand. Directly behind the booth, the company has installed an area for manual re-powdering if necessary.

In the first coating step, the paint is applied. Then the workpieces pass through the curing oven. After cooling down, the frames receive their decors - water transfer or a 3D decor - and are then transported again to the booth by the conveyor. There the clear lacquer is applied. The workpieces are re-

moved after passing through the curing oven and cooling zone again. Cycle Union documents the coating process within the framework of process and quality assurance and can track it by frame number in the case of enquiries.

For over a year now, Cycle Union has been powder coating the frames and forks itself. What are the experiences? „Very good,“ Sebastian Belkin is pleased. „The results exceed our expectations. We are now in a position to coat our bikes ourselves in high quality. With the system we have created a very good basis and are

now looking at how we can continuously improve the process in terms of output and efficiency.“ ■

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