

PRACTICE

# Integrated coating process

Compact automation ensures quality and cost-effectiveness

Getting into automated powder coating is a big step, especially for SMEs that previously had little experience with coating. This was also the case at Schürer GmbH Metallwarenfabrik, a family-owned company from the Erzgebirge region in Saxony. The company has been in existence since 1904 and has always been a manufacturer of household and stove goods and is now also active in contract manufacturing. Meanwhile, even the automotive industry is among its customers. In-house coating has now led to significant improvements in efficiency and quality.

Originally, the company did very little coating itself. Two small manual booths and a small curing oven were used for this. „That wasn't enough at all,“ explains company owner Thomas Schürer. „We put 80 to 90% of our goods out for third-party coating,“ he adds. That wasn't worth it, he says, and was becoming more and more expensive. That's why he wanted to invest in automatic coating. The big issues were the investment costs and, above all, the limited space available, he recalls. It was quickly decided to invest



Integrated powder coating ensures significantly more output with higher quality.

Photos: Editorial office

in the compact „E-Line“ from J. Wagner GmbH as automation solution. Thomas Schürer is visibly satisfied: „By a huge margin, Wagner made the best offer at the time and provided us with a perfect system in the tightest of spaces.“ With just under 4,500 m<sup>2</sup>, the company premises of Schürer GmbH are not small, but the production halls were already well filled.

#### Automation to the point

„The ‚E-Line‘ is designed for exactly such cases,“ adds Hans-

Joachim Heyn, Sales Manager Powder Industrial Solutions at Wagner. The system was designed specifically for users who want to get into automatic powder coating. „Mr. Schürer needed an affordable system with which he could reliably coat his products,“ he explains. The „E-Line“ dispenses with high technology such as 3D laser scanners or unnecessary convenience features. Not only for reasons of space, but also to keep the system economically attractive.

Hans-Joachim Heyn explains further advantages: „The ‚E-Line‘ system can be assembled from a modular system, eliminating engineering costs in planning.“ In this case, for example, there is no need for an ultrasonic sieve, as the environment of the booth is kept very clean. Even if the system does not offer all possible functions, Wagner does not skimp on quality. All components that contribute significantly to high coating quality, such as the guns, control modules and fee-

ding systems, are also used in highly automated plants. Wagner is proud of the new design of the piping. Just a few years ago, the company used round pipes in which turbulent flow must be maintained. In the new square pipes with L-shaped pipe bends, on the other hand, laminar flow occurs, which, according to Wagner, results in approximately 40% lower energy consumption.

## Simple operation

Personnel was also an issue on the project. Of the just over 80 employees, none is a trained painter. With the „E-Line“, the company now has a powder coating system which, thanks to its high degree of automation, carries out many activities safely and in a standardized manner. „The system is so self-explanatory that there are no problems at all in operating it,“ says the managing director happily. Even though the automatic powder coating system was ready for operation very quickly, he says there have been a number of improvements over the course of time. For example, color change times have become even shorter, and powder application has become even better.



The system is installed in a very confined space.

Schürer's success so far has been resounding. Compared to manual coating, the powder application is much more consistent and better. Most importantly, the volume of products coated in-house has increased by a good 800%. „We give almost nothing out for contract coating anymore,“ Schürer explains. If he were to paint in a third shift, it would even be possible to completely dispense with external service providers. However, he says, there is currently a lack of personnel for

this. Automation is economically worthwhile because it is cheaper than contract coating. Otherwise, the company would no longer be able to offer many products, explains the managing director. Pretreatment has moved into the company along with the coating. Iron phosphating, for example, now provides the necessary surface activation.

The fast color change also ensures better use of storage capacity. It no longer makes a difference whether the same

color is painted all day or whether it is changed once or twice. Previously, they followed through with one color, and products of that color had to be stored until they were sold out. Today, the company paints exactly the quantity that will be needed the next day.

However, there is definitely still potential for optimization. Due to limited space, the oven is currently the bottleneck, he says, as it only has a limited distance. With sufficient space, it would be possible to coat even more and faster. For Schürer GmbH Metallwarenfabrik, however, the changeover has been worthwhile even as it is. ■

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