



Gema

Manufacturer of roof drainage systems acquires
new powder coating plant

Increased quality and efficiency

After 20 years of practical experience in powder coating, the Swedish company Lindab has replaced its old powder coating plant and set up a completely new line. The new powder coating system has led to significant improvements in relation to automation and efficiency as well as surface quality. In addition, the company's employees appreciate the clean and environmentally friendly working environment.

KEY WORDS:

MagicCylinder, Architecture

Originally operating predominantly in the Scandinavian region, Lindab is now a global group represented all over Europe and North America. Lindab is a leading manufacturer of channel systems and develops, produces, markets and distributes products and steel system solutions for building construction and ventilation. The products are used in residential buildings and the industrial and commercial sectors. Worldwide, with the Lindab group employing approximately 4,500 people in 31 coun-

tries. 250 of these work in Båstad (Sweden) where the "Rainline" products are manufactured. "Rainline" comprises a wide variety of downpipes, spouts and accessories.

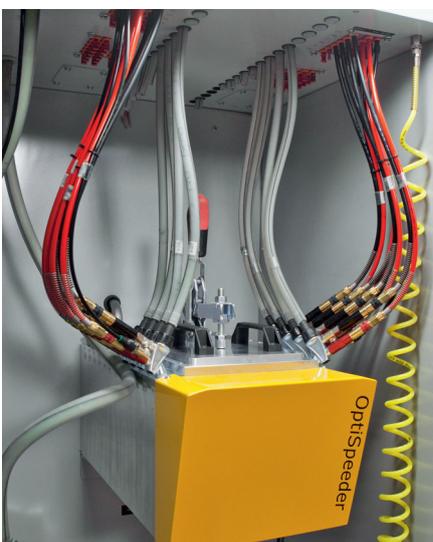
The range of products covers 2,200 Rainline components in various diameters and colors. To manufacture them, 20,000 tons of steel are processed in Båstad every year. The steel is pre-galvanized and is delivered in coils. In the Lindab plants, the individual parts are

then cut, pressed, shaped, coated, labeled and packed. This results in products of constantly high and documented quality: for every single piece, it is possible to find out when, where and how it was manufactured.

Over the years, Lindab has gained a great deal of experience with powder coating, experimenting with pre-coated materials and semi-finished products. However, the results were not and the capacity limits of the plant had been reached. For this reason, the entire production line was upgraded and a new coating system installed in 2009.

As part of an extensive evaluation, the products of various manufacturers were carefully analyzed. The selection criteria were increased levels of automation, reduced powder consumption, enhanced coating quality, ease of operation, minimal cleaning times, and optimal use of the available space. What finally tipped the balance was the MagicCenter manufactured by the company Gema Switzerland. The MagicCenter is the first powder center with a closed loop powder circuit, an innovative concept that integrates all control elements and the complete fresh powder dosing process. The fully automated cleaning process reduces the color changing times to an absolute minimum.

The heart of the MagicCenter is the OptiSpeeder. It combines a powder container with a conveying and cleaning system. During the coating process, the powder is optimally fluidized in the OptiSpeeder and transported to the application guns by means of low-maintenance injectors. In the closed circuit, the powder is protected from contamination.



OptiSpeeder, the heart of the new MagicCenter.

The high quality requirements for the products are achieved first and foremost through precise control of coating parameters and careful selection of the application nozzles. The OptiStar control unit, in combination with the patented Digital Valve Control (DVC) unit, controls the important process parameters for high-precision coating. The DVC technology guarantees extremely accurate powder output and reproducible coating results.

The OptiSpeeder powder container, injectors, powder guns and all powder

hoses are cleaned completely automatically at the touch of a button. No powder can escape, meaning that the workplace remains clean and the environment dust-free.

Lindab has made use of these properties and, moreover, physically separated the coating system from the processing works and the furnace installations. The company has therefore succeeded in creating an optimally comfortable working environment for the operating personnel. An elaborate layout ensures

that while the three areas are directly adjacent to each other, they are separated by wall sections. As a result, each one of the three areas has a different climate which is optimal for the specific production and ensures maximum comfort for the staff working there.

This approach requires space-efficient construction and innovative integration of all the system components. For this a Magic Compact powder coating booth was used which on account of its space-saving design optimally fits into the lay-

out of the system as a whole.

The new line now enables 2,800 elements to be coated per hour, and coating thickness of up to 60 µm are achieved. Pål Abrahamson, the Technical Director of Manufacturing at Båstad is now completely satisfied with all parts of the plant. His goals of attaining higher capacity, top quality, and a good working environment for his employees have been fully met with the new plant.

QUICK COLOR CHANGE SYSTEM

- 1 Optiflex A2 control cabinet with 10 gun controls
- 9 OptiGun GA02 automatic guns
- 1 OptiSelect manual guns
- 2 ZA06 reciprocators
- 1 CM10 system control
- 1 MagicCenter powder management system
- 1 MagicCompact quick color change booth

