Lawn tractors to suit every customer’s taste

Homeowners mow their lawns with pride—using motorized lawn tractors with a modern look and stylish colors. This equipment, however, must not only look sleek and of course result in a perfectly groomed lawn, they must also fill the highest quality requirements. Here special demands are placed on the coating, which must be extremely corrosion resistant. At MTD in the German city of Saarbrücken, though, the time allowed for coatings is very tight. The new powder-coating system from Gema does an excellent job of filling all these requirements thanks to modern technology.

MTD Products AG in Saarbrücken-Bübingen (Germany) manufacturers lawn tractors and is the European headquarters for MTD Inc. in Cleveland, Ohio (USA). That company has more than 20 manufacturing and sales locations around the world, and it is among the world’s leading manufacturers of motorized lawn equipment. In Europe, its product line includes the MTD, WOLF-Garten and Cub Cadet brands. The Bübingen manufacturing facility includes an assembly plant with its own pre-production in the areas of punching, bending, welding, laser cutting, gear assembly, tire pre-assembly and powder coating.

MTD produces an impressively wide spectrum of lawn tractors. The continually growing number of special requests from specialty retailers along with seasonally changing preferences
The goals of this process were:
- improved paint adhesion
- cover an increasing variety of colors
- meet the individual requirements of every do-it-yourself store and specialty retailer
- provide suppliers with clear definitions regarding paint formulas

To achieve these goals, a search was started for a new, faster application system. Then they became acquainted with the Magic series of quick color change systems from the application manufacturer Gema, their partner of many years in powder coating. Based on a detailed cost analysis it soon became apparent that such a system would pay for itself in a short time. The first MagicPlus system with a powder-supply center was installed in 2003. Two years ago, the Coating Department was expanded with a second MagicPlus system that is more or less a "mirror image" of the first system. With it, capacity and in particular flexibility were once again significantly improved.

MTD, however, did not dispose of the existing steel booths but instead plans in the future to use them as mobile monochrome booths. The distances between the components is just

in colors and shapes have led to MTD in Saarbrücken manufacturing in small lots. Jörg Moltz is the Finishing Manager in Saarbrücken, and in this function he is also the Head of the Powder Coating Department. “Even during just one shift we might make as many as 20 model changes. This presents a major challenge to the coating technicians and applications engineers as well as in process planning,” says Moltz as he explains the main problem.

The product program is based on a building-block system with eight basic models from which the customer can individually combine elements such as color, features and power to create the desired configuration. Because of this, it is entirely possible that a tractor could be created that until then had never been built before. “This is our strength. On our production lines, we can manufacture to meet special requests and thereby can deliver interested parties with actual models for a preview,” notes Uwe Simon, Plant Manager and Head of Manufacturing in Saarbrücken. He continues, “The purchaser can thus count on the delivered series units corresponding exactly to the preproduction model.”

Because this is a seasonal business, production starts in December and reaches its peak in March before it then drops off somewhat towards the end of summer. “This seasonal load demands highly flexible production, from the supply of materials, to mechanical processing and coating through to final assembly,” according to Moltz. Production is based on the “Just in Sequence” strategy. Parts are delivered from the paint shop exactly matched to the batches in the assembly line. High priorities at MTD thus also include speed and quality, and here the powder-coating system is designed to address exactly these aspects.

Work first began with electrostatic power coating and four steel booths in 1996, all equipped with Gema’s application technology. At that point in time, a “2-color strategy” was put into place; in other words, primarily red and black were processed. A changeover to special colors took at least two hours, something that is difficult to imagine today. “Further, that only worked if we had the corresponding filter boxes that were docked to the booths,” recalls Simon. Moltz joined the coating group in 2002 and initiated the Quality Improvement program.

The assembly lines at MTD combine all shapes, colors and models of lawn tractors. The two MagicPlus quick color change systems from Gema have brought about a long-term increase in productivity and coating quality at MTD.
always fast and excellent service make Gema one of our top suppliers,” adds Moltz.

All of Gema’s products are represented at MTD, from the PG1 to the PGC and the OptiStar through to the OptiGun 2. Even “Waggler” model reciprocators are still in operation, which today is a rarity! “This proves that Gema manufactures not only innovative products but also those that above all have a long service life, and which produce optimal coating quality even after many years of operation,” summarizes Moltz with satisfaction.

Making room for a powder-coating system in the existing space is really not very simple. At MTD, absolute precision was also required because the space available for the new booths was very tight. “The high flexibility and the expedient, pragmatic collaboration between MTD and Gema, however, led to a major success. It was possible to put the new systems into operation in a very reasonable time,” notes Moltz. The quick color change technology was something quite new for the operators, and it required a modification in work methods and processes. Here, Moltz had to make sure he selected the best people for specific jobs. In other words, be selective in choosing them, and put each person in that job where he can be of most value. Through training in Switzerland and on site, within a very short period, the time needed for a color change was brought to within 15 minutes. “Gema actively assisted in the fine-tuning of the application. This was extremely important because this technology is significantly different from the analog control systems on the previous booths. This support and the adequate for the color change, and the steel cabinets dedicated to the main colors are then moved into the gaps and the corresponding line.

The booths are easy to enter during color changes. Coating quality, fast color changes and high coating performance are the key criteria at MTD in Saarbrücken, Germany.