

Gema Coating of Office Furniture with Bisley



Bisley Office Furniture is one of Europe's largest manufacturers of steel storage furniture, with a reputation for producing high quality products that are instantly recognizable in offices throughout the world.

Operating from its state of the art manufacturing facility in Newport, South Wales, Bisley have a philosophy of investing in innovative technologies as they continuously push back the boundaries of world class manufacturing excellence.

The facility delivers an output in excess of 20,000 pieces of furniture per week. Bisley employs the most advanced manufacturing processes from in-house tool making and computer aided design, precision folding; laser cutting; the latest in robot handling and welding thorough to cutting edge technology for fully-automated powder coating.

As part of their continuous improvement program Bisley were searching for a solution within the Newport facility to deliver increased output, improved quality and reduced manual coating on their pedestal range of products.



Martyn Walters, Senior Project Engineer explained, "We were looking for a solution to increase the level of automation and productivity on our range of pedestal storage products and asked Gema to provide a solution." Martyn continued, "A selection of pedestal product was sent to the Technical Centre at Gema where their technicians

evaluated our product and process and developed the optimum solution."

Extensive tests were conducted to ascertain the ideal gun configuration to ensure full and consistent coating on the sides, back and top of the product, but the key breakthrough was the ability to coat the pedestal internal without any manual touch in.



Richard Hawkins, General Manager Gema UK commented, "We have worked closely with Bisley over a number of years on a number of improvement programs to reduce coated part cost. Having an in depth understanding of Bisley products, processes and requirements was absolutely vital in enabling us to provide the best solution"

Martyn went on to explain, "The solution provided by Gema delivered on all fronts. The coating on the external surfaces is maintained within tight tolerances, whilst the tracking guns provide a high level of coating on the internal surfaces. The Magic Cylinder booth also enables us to rapidly colour change in less than 10 minutes which provides the high flexibility we require to meet customer demands."

The selected system comprises of:

- Gema Magic Cylinder booth systems
- EquiFlow floor design with unique homogenised air flow and self-cleaning function
- Multi-axis reciprocation with tracking axis
- Fire detection and suppression system to meet latest ATEX regulations
- 22,000m³ Mono-cyclone and Swing-wing filter for ultimate powder recovery

- OptiCenter© powder management system
- 28 GA02-AX automatic guns
- Full height and width recognition system for optimised coating automation
- CM30 operator interface

Challenges

When specifying the coating process a number challenges were faced which pushed the traditional boundaries. With a line speed of 5.0 metres/min and the requirement to eliminate manual touch across the product range, maintain a consistent coating and the requirement that the plant should have full flexibility to run other products in an extensive range such as cabinets, lockers, door panels and the newly introduced workshop storage range.

In order to meet these challenges Gema utilised light grid product recognition to identify product types and automatically select the correct application configuration to achieve the required result. A series of eleven axes was used to position the automatic powder guns at the optimum target distance as well as tracking and locating to coat the tops and product internals. The precision powder flow achieved with the OptiCenter Powder Management system and the precise powder control and switching through the DVC technology with the OptiStar gun control ensures that powder outputs can be accurately adjusted to avoid over applying, producing the highest quality finish. The use of the unique Magic Cylinder ensures minimal powder deposits within the booth cabin minimising colour change time but also ensuring that the powder remains in optimum condition when recycled, particularly important when applying metallic and textured materials.

If you require further information on the range of Gema powder coating products please contact us at 00 44 1202 763 942 or at uk.sales@gema.eu.com