Weld-Arm Powder Coating System

Fast, efficient in-line coating system for three-piece containers.
The need for more cost-effective, environmentally compliant manufacturing methods is driving changes to the can manufacturing industry. Meeting these issues is critical to three-piece can manufacturers who face increasing competition from alternative forms of packaging.

Nordson can help you meet this growing competition. The Nordson Weld-Arm Powder Coating System applies durable, FDA-approved powder coatings to three-piece containers. Coatings are applied at the weld arm, eliminating the need for sheet coating and side-seam coating operations. You can improve productivity, reduce manufacturing costs and eliminate VOC emissions from the coating process.

In addition, powder coatings are applied to cans at weld-line speeds as they exit the weld station. Cans are coated and cured in line, allowing you to reduce inventory using just-in-time manufacturing methods.

The powder spray station
The spray gun is located at the end of the weld arm, similar to a conventional side-seam coating gun. Powder feed tubing is attached to the weld arm and connected to the spray gun with a quick-disconnect coupling.

Cans are conveyed along the weld arm from the weld station to the spray station, where powder coating is sprayed through a Nordson powder spray gun. The powder particles receive an electrical charge as they exit the spray gun. Because the powder coating is charged, it is attracted to the grounded can. The spray nozzle provides even distribution of powder throughout the inside surface of the can cylinder.

The small amount of powder that sprays between the cans is captured in the exhaust hood. The system is capable of achieving material transfer efficiency in excess of 95 percent.

Induction curing provides speed, quality and economy
Once coated, cans are conveyed through an induction curing oven, where the powder melts to form a smooth, durable finish. Innovative Nordson advanced induction technology heats only the can, not the air around it. This provides a complete cure in seconds, while using only 20 percent of the energy of conventional sheet coating and side-seam coating ovens. The induction oven provides fast, thorough curing at line speeds.

Instant on/instant off induction heat is another feature of induction curing. No preheating time is needed. When the line stops, the oven stops heating, which saves energy. When the line restarts, the oven restarts with it.
Improved coating quality
Pack tests indicate that powder coatings can provide a barrier that is superior to conventional liquid sheet-coating processes. And when needed, you can easily apply heavier film builds in one pass for added protection for aggressive packs. FDA-approved powder coatings, developed specifically for container-coating operations, are available from coatings manufacturers.

Productivity and savings...all the way down the line
The Nordson Weld-Arm Powder Coating System will improve the efficiency of your line several ways:

• The elimination of sheet coating reduces labor costs and saves valuable floor space.

• You will reduce energy costs by replacing conventional curing ovens with energy-efficient induction technology.

• In-line coating and curing lets you employ just-in-time manufacturing, reducing your inventories of coated can stock and finished cans.

• Powder coating eliminates solvents from the coating process and reduces your waste disposal costs while providing a clean, easy-to-maintain work environment.

High-capacity powder feed system
The powder feed system, which is located adjacent to the weld line, includes a feed hopper, pumps and controls. Powder can be supplied to the feed hopper directly from the powder shipping containers. The amount of powder supplied to the feed hopper is controlled using high and low level sensors.

Powder densification maximizes transfer efficiency
Powder pumps, mounted to the feed hopper, siphon powder and deliver it to a set of powder densifiers. The patented densifiers remove excess conveyance air, increasing the density of the powder, which passes through the feed tube set and enters the powder spray gun. The system allows densified, concentrated powder to exit the spray gun with minimum air turbulence, producing a stable powder flow pattern. The end result is excellent material utilization and even, consistent powder distribution can-to-can.
Container Systems’ Best Practices Pledge

At Nordson, our technology, equipment and expertise work together to offer the best solutions to our customers for their applications. This may result in better quality, improved manufacturing efficiency, less downtime, reduced coating material consumption, faster line speeds, or combinations of these and other factors that enable manufacturers to produce a better product at a lower cost. We work with our customers to improve their coating and manufacturing processes overall. It is with this continuous focus on Best Practices, that we partner with customers to find successful solutions for improved quality and productivity.

Nordson Package of Values®

Our exclusive Package of Values backs every Nordson product and system in every region and locale. The Nordson Package of Values includes: production testing, system engineering, installation assistance, customer service and operator training.

The combination of these features provides added value that is unmatched in the container manufacturing industry.