

WELD-ARM POWDER COATING SYSTEM

Fast, efficient in-line coating system for three-piece containers.



Now you can eliminate sheet coating of can stock and improve the quality of your products.

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 Corporation 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.

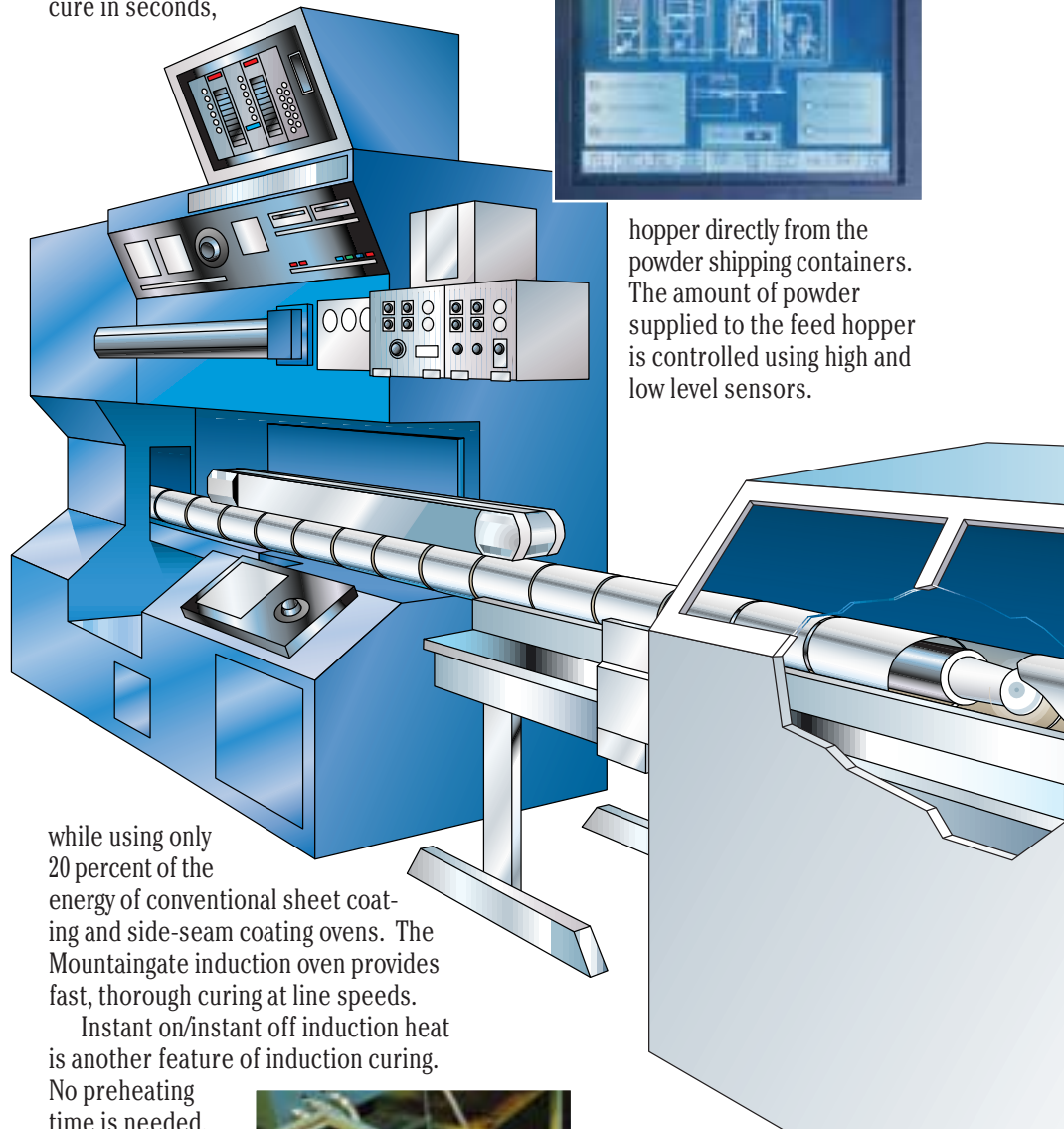
The small amount of powder that sprays between the cans is captured in the exhaust hood. The system is capable of achieving material transfer efficiency in excess of 95 percent.

Induction curing for speed, quality and economy.

Once coated, cans are conveyed through a Mountaingate™ induction curing oven, where the powder melts to form a smooth, durable finish. Innovative Mountaingate induction technology heats only the can, not the air around it. This provides a complete cure in seconds,

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.

while using only 20 percent of the energy of conventional sheet coating and side-seam coating ovens. The Mountaingate 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.



Induction curing oven



Cans are conveyed along the weld arm, ...

Powder densification maximizes transfer efficiency.

Venturi powder pumps, mounted to the top of 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.

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 readily available from several 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.

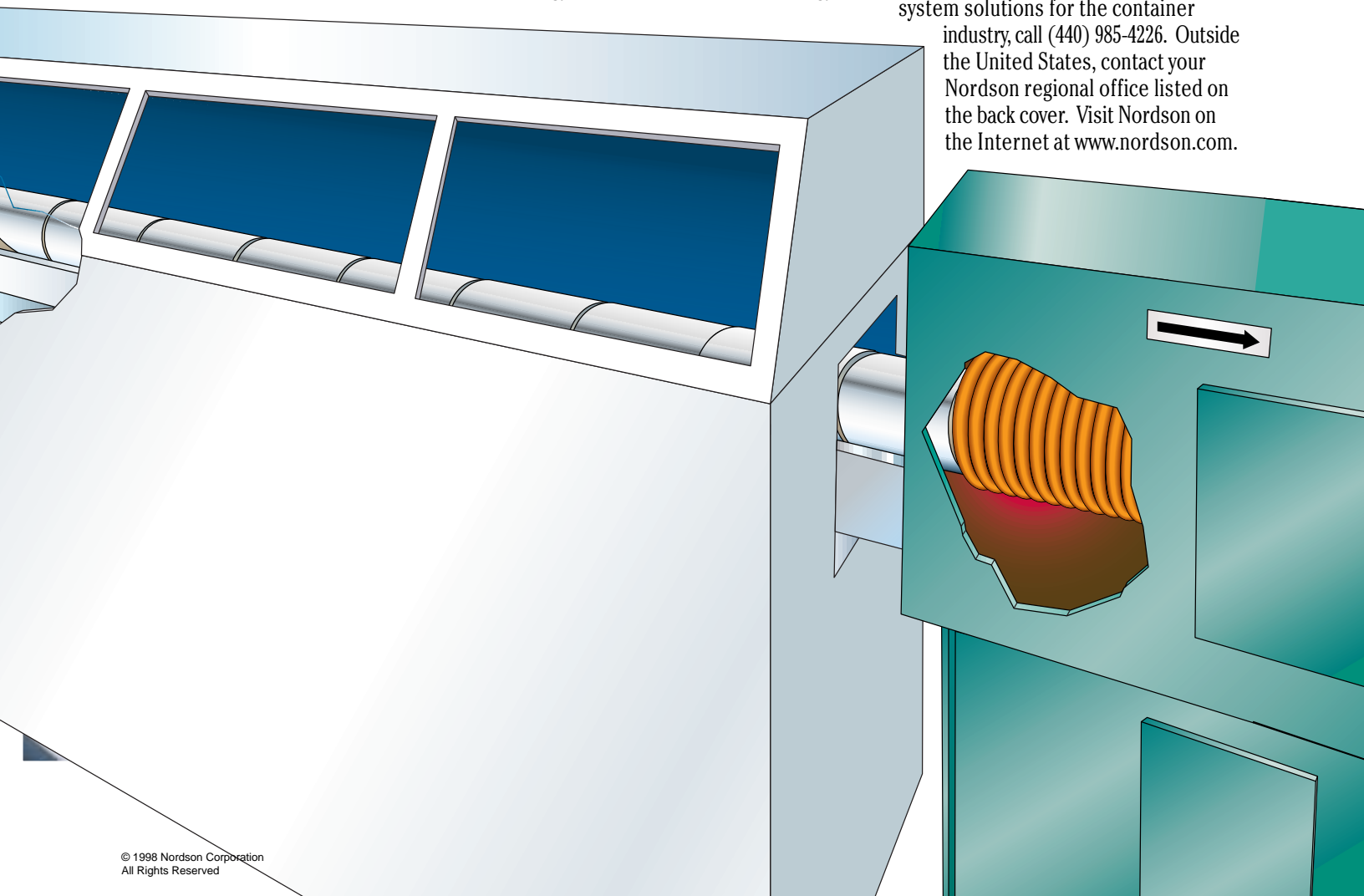
■ In-line coating and curing lets you employ just-in-time manufacturing, reducing your inventories of coated can stock and finished cans.

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

A systems approach to container manufacturing.

Container manufacturers around the world rely on Nordson for a complete line of innovative container coating and curing systems. All Nordson products are backed by a Package of Values®, which includes quality products, installation assistance, worldwide service and a commitment to deliver what was promised.

For more information about the Nordson Weld-Arm Powder Coating System or Nordson's complete line of system solutions for the container industry, call (440) 985-4226. Outside the United States, contact your Nordson regional office listed on the back cover. Visit Nordson on the Internet at www.nordson.com.



For more information, talk with your Nordson representative or contact your Nordson regional headquarters office.

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