



Manual and automatic powder coating spraybooth.

## Upgrading for a **Demanding Marketplace**

**UPGRADING** with a new production line is not the type of thing designed to reduce anyone's stress level. The possibilities for making an error in the type of equipment specified, or the configuration of the line, are immense, and there are plenty of headaches awaiting anyone who starts on the process.

Richardson Industrial Finishers Ltd. has been in operation since 1966. It performs spraying with liquid paint and powder coatings, as well as providing abrasive blasting services to a wide range of industries.

The company is based in Scarborough, in the eastern part of Toronto. It recently installed a new powder coating line, to improve output and product quality, and so it had to go through the entire exercise of decision-making to buy the optimal system.

The present facility has 23,000 sq ft, and employs 20 staff,

as well as occasional contract employees. There is sufficient land to permit building an additional 6,000 sq ft of manufacturing space, although new construction is obviously the next step as we expand.

"My father-in-law Blake Richardson started the business," says Richard Lothian, vice-president and general manager. "We only had half of our current building until 2005, and later acquired (and purchased) the entire building."

"We were strictly doing liquid in the earlier years. But we saw powder being demonstrated at a trade show 22 years ago, and we decided, Let's change our focus."

The company serves a wide range of industries which include switch-gear systems, electrical enclosures, metal office furniture and a wide range of general industrial products.

"We provide liquid and powder coatings in our batch systems," Lothian says. "We recently started using thin-coat powder as a replacement to liquid paint but still provide a liquid option for custom colours and protective coatings. We have two batch systems, one for liquid and one for powder.

"Our maximum part size for our batch system is 20 ft x 7 ft x 9 ft so we can accommodate over-sized products. The new powder line can handle items 15 ft long x 6 ft high x 40 in. wide."

While 23,000 sq ft might sound like a substantial amount of floor space, the Scarborough facility was recently starting to feel cramped. Additionally, any company that wants to stay competitive needs to look at its consistency of quality standards, something an equipment upgrade can support.

Lothian's son Michael has been involved with the plant since he had summer jobs there as a teenager. He took time out to take a degree in business administration, and is now in charge of business development and strategic initiatives for Richardson Industrial Finishers. Specifying the new powder line was a key task for him over the past year.

"We looked at equipment from several manufacturers," he says. "We finally settled on Gema, in part because they offered service and parts from their Ontario distributors, ECE Canada Ltd. We didn't want to have to wait on a serviceman coming from a facility in the US if we had a problem, and



Powder Recovery.

ECE is in Mississauga, just west of Toronto.”

The company had previously used Gema’s manual spray guns. However, the new powder line marked a quantum jump in sophistication.

Before anything was installed, however, there had to be some serious engineering about line configuration, existing conveyor system and plant layout.

“We asked our painting staff, to see what they felt we needed in our booths,” says Michael Lothian. “They offered a lot of input.”

The finished line is 800 ft long. The decision was made to take out some of the office space for a cool-down area, which saved considerable space in the plant.

“We started in October, digging pits,” says Michael Lothian. “We were too busy to shut down, so we decided to build it in one push over the Christmas shutdown.”

Start-up went without any serious hiccups, and the line has been functional since shortly after the start of the year. The main human resources issue lay in training staff to perform the cleaning process in the correct sequence, guided by symbols produced on a touchscreen in the Gema OptiCenter, which is the brains of the operation. Establishing that routine took about a month..

The powder for the system is loaded into a hopper at the OptiCenter, then input to the spray guns. Waste powder is collected and passes through a cyclone separator, so that the system is constantly adding back reclaim to virgin material.

“This system collects all the waste powder, so that it’s re-applied,” says Richard Lothian. “We completely realigned the heat system in our cure oven, to make sure we had enough cure-time for the increased line speed.

“We also relocated two batch booths, and made some changes in our washer, so we could ramp up our line speeds. The old system operated at five ft a minute, but with this one, it’s now nine ft a minute. And we use half the material we used before, so we’re seeing quite a saving.”

Additionally, color changes are faster, particularly when compared with old liquid paint system, where a change could take 45 minutes. The plant changes powder colors between five and 12 times a day, and the new line needs just 10 minutes for each change of colour.

“We try to run from dark to light, or light to dark,” says Michael Lothian. “But we can change from white to black in



Richardson Industrial Paint Finishers and Edward Mason, CFCM Magazine.

10 minutes if we need to.”

The whole powder line is totally automated through the OptiCenter. However, it can use one or two back-up painters to handle difficult angles, or crevices in parts.

The operation uses polyester powders, a few hybrid powders and super-durable powders from TCI Powder Coatings Canada, Tiger Drylac Canada, Prism Powder Coatings, Erie Powder Coatings, Protech and Sherwin Williams.

Aside from choosing Gema as the powder system, Ventcor Systems was an integral part of putting the system together along with creating an environmental room. Ventcor Systems



The powdercoat line.





The cure-oven.

worked together with Mike Lothian throughout the project, from engineering to final completion.

The plant uses a multi-stage iron phosphate and zirconium pretreatment. Hooks and fixtures are stripped in a Pollution Control burnoff oven. At one time, they were sent out for stripping, but having an in-house cleaning operation has



Richard and Mike Lothian, Richardson Industrial Paint Finishers.

been found to save significant time.

The new powder line was a significant investment, and a major job of work to install. However, it is already improving throughput and product quality.

“We’re really happy with this,” says Michael Lothian. “It’s delivering all we hoped it would.”

Having it in place means Richardson Industrial is well positioned to prosper in today’s complex, demanding markets. ■

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