

Harvesting The Benefits of Powder



By Sharon Spielman

When the Flory family built a barn in Salida, Calif., in 1909, to raise dairy cows, one might wonder if anybody knew that more than a century later the same family would be running a successful metal fabrication and OEM farm equipment business from the very same location. Read on for the Flory story.

At Flory Industries, the mission of the company is to establish long-term relationships with its customers by providing quality products, parts and service in a professional and timely manner, according to Ben Eller, finishing department manager at the company.

Flory Industries is a maker of nut-harvesting equipment, with sales worldwide for harvesting almonds, cashews, chestnuts, figs, hazelnuts, macadamia, pecans, tung nuts and walnuts.

Their manufacturing facilities and offices are located on the original property purchased in 1909 at 4737 Toomes Rd. in Salida, California. "We have been repairing and building farm machinery since 1936, and now concentrate on building nut-harvesting equipment, flail mowers and vineyard equipment, as well as offer custom contract metal fabrication," Eller says.

From Milk to Nuts

During the late 1920s and early 1930s, the Florys had a 100-cow grade “B” dairy. As far as is known, they were the first family to have milking machines in this country. “We were also the first to have a farm tractor in our area and the first to convert from steel tractor wheels to rubber tires—thanks in part to Harvey Firestone,” Eller says.

The dairy operation eventually expanded into custom grain and bean harvesting that grew to 15 harvesters. Howard Flory designed and built the two bean harvesters for use in its harvesting business, and the machines lasted from 1935 to 1974—a total of 30 harvest seasons. In 1961, the first Flory pick-up harvester was built. It was a small three-point mounted, tractor-powered harvester that was primarily used for almonds.

As the industry grew, so did Flory with the production of a self-propelled harvester with a 4-ft pick-up width. As the speed and cleaning efficiency continued to improve in harvesters, there was a need for faster, more efficient sweepers. Flory met that need in 1972 with a self-propelled heavy-duty sweeper, which featured a hydrostatic transmission, large diameter five-bar sweeper reel, and engine crankshaft-mounted blower fan. Sweepers have continued to improve over the years with more power, larger blower fans, and simplicity of design to the current sweepers with diesel engines, Eller explains.

Flory Industries has been and will continue to work diligently to meet the challenge of providing safe, quality equipment for use by today’s nut grower. The goal is to improve its equipment to better address the competing pressures that farmers of the 21st century now face.

“It is our intent to assist in being good stewards of the land,” Eller says. With this in mind, Flory has actively focused on the dust issue within the nut industry since the early 1990s. One of the design goals of many of its projects since that time has been the reduction of dust emissions.

Additionally, Flory is committed to continuing to apply new technology to its equipment in an ongoing effort to further reduce emissions. “Our goal is to work alongside the grower, and with current researchers, to contribute to the common good of the entire industry,” Eller says.

Environmental Responsibility

Because Flory is committed to being a good steward for the land, it was a natural progression for them to consider powder coating to finish their equipment. “Our decision to move to powder coating was based on cost savings, quality, durability, and the ability to increase our capacity in light of the challenging environmental impact parameters we work in,” Eller reveals. Flory anticipates its annual volatile organic compound (VOC) emissions to be reduced by almost 90 percent. “We powder coat every part that we can, which would be nearly 95 percent of our parts,” he says. Parts such as hydraulic components or items with sealed bearings attached are still liquid painted.

According to Eller, the decision to powder coat was a more-than-five-year project, although its final research, purchase process, and building construction/equipment



A Flory Industries employee manually applies powder to parts using Gema guns.



Parts are tested for quality before they are assembled at Flory.



Parts at Flory Industries are dried/prebaked and cured in one of two 12-ft x 30-ft x 10-ft batch ovens.

installation was right at 18 months. “We spent quite a bit of time researching and planning, visiting other manufacturers and coaters, and came to the point that we thought we knew how we would handle and process our parts with what type of equipment,” Eller explains. “The key phrase here is ‘thought we knew.’ We made the decision to hire a consultant that could look at our operation and give us more direction. We consulted with Michael Cravens of Powder Finishing Consultants out of Yorba Linda, Calif. His complete report and suggestions for equipment and process handling were really close to what we had arrived at. We made some adjustments and moved ahead. Our decisions on individual equipment pieces were a culmination of much research and visiting other manufacturers and coaters who had purchased and were operating similar equipment from the companies we were considering.”

Finish durability and quality, cost of coating, and the ability to assemble coated parts right away were the additional factors for Flory’s decision to switch to powder, he says.

New Powder Line

As for the powder coating line itself, Flory runs a manual batch system. Eller says that most of their parts are mild steel and blasted with steel grit media. “We do this blasting in an 18-ft x 30-ft AFC Airblast full floor recovery blast room using Schmidt 6.5 cu-ft pressure-blast pots. Our small parts are blasted in a Grit Guy Pro 6048 direct pressure cabinet using the same media,” he explains. Parts

are then treated with a two-stage manual phosphate wash on a 30-ft x 60-ft full recovery wash bay and the solution is filtered, treated and returned to use again by its CPR Systems equipment manufactured by T. George Podell & Co. out of South Bend, Ind.

Eller goes on to explain that parts are then dried/prebaked and cured in one of two 12-ft x 30-ft x 10-ft batch ovens manufactured in Norco, Calif., by Industrial Process Equipment Inc. Unless specified differently, Flory typically uses Axalta’s Alesta TGIC polyester powder, which is manually applied using Gema Optiflex 2 equipment inside their Spray Systems Inc. 17-ft x 30-ft powder booth. Eller explains that they do have some contract customers who also specify Cardinal powder. Liquid paint is applied in an 18-ft x 30-ft side down-draft spray and bake booth manufactured by AFC Finishing Systems in Oroville, Calif.

All this equipment was installed inside a new 20,000 sq-ft building on the original Flory property, and they began powder coating in April 2016.

Because many of the parts that Flory makes have machined surfaces that must be masked and threaded fasteners that must be capped or plugged, as well as many shafts that later have bearings and set collars installed on them, Flory uses plastic plugs, caps, and 3M “easy remove” duct tape to protect these areas when blasting and silicone products from Echo or Caplugs and 3M green high-temperature tapes during the finishing process.

Service, Community, Success

In addition to its OEM machinery and contract custom metal fabrication and finishing, Flory also offers a service department. “As a manufacturer, servicing the machinery that we produce and sell is our top priority,” says Eller. “We are committed to honoring our customers’ needs.” The company also can service and repair a range of industrial equipment as well as Ag equipment. “We are committed to 100 percent customer satisfaction as our No. 1 priority, through quality service in a timely manner,” Eller says. In addition to servicing its own products, Flory also offers the following:

- Trouble shooting and repair of hydraulic systems.
- Service and repair of tractor implements.
- Service and repair of commercial lawn and garden equipment.
- Service and repair of gasoline and diesel engines specializing in:
 - CAT
 - Cummins
 - Honda Engine Dealer
 - John Deere Service Center
 - Kohler Expert Dealer
 - Kubota Engine Service Dealer
 - Stihl Power Equipment
 - Wisconsin Authorized Service Center

According to Eller, Flory is committed to the principle of continual improvement. “We strive to build quality and

repeatability into every process. With the latest in machine tool technology and personal attention by team members, we provide our customers with outsourcing reliability.”

Flory Industries also is involved with its community in a variety of ways. For instance, on April 8 of this year, Flory participated in the Love Salida rally, where they joined community volunteers to engage in various clean-up and improvement projects around Salida. Soon, a team of Flory owners and employees will complete a landscaping project at the nearby Dena Boer Elementary school.

In addition to being a good neighbor, Flory also strives to bring equipment solutions to the marketplace that address sensitive environmental issues such as the burning of tree prunings and the dust generated during nut harvest.

When asked what attributes to Flory’s success, Eller says, “Flory Industries strives to foster long-term relationships with our customers and vendors, delivering quality and innovative products, parts and service, while providing a workplace in our community where one can



Flory expects to reduce its VOC emissions by 90 percent this year, since installing its new powder coating line.

be proud to say they a part of the Flory Team. At Flory, we recognize our success as God’s blessing on our business and we strive to be good stewards of that blessing, allowing Flory to serve our employees, our community and our industry well into the future.”

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The new powder coating batch line was installed at Flory Industries in April of 2016.



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For more information on the companies mentioned in this article, visit their websites:

Flory Industries: www.goflory.com

Michael Cravens: www.powderfinishingconsultants.com

Airblast AFC: www.airblastafc.com

Schmidt Blast Equipment: www.schmidtabrasiveblasting.com

Grit Guy: www.tgeorgepodell.com

T. George Podell & Co.: www.tgeorgepodell.com

Industrial Process Equipment Inc.: www.ipeontime.com

Axalta Coating Systems: www.axaltacs.com

Gema: www.gemapowdercoating.com

Spray Systems Inc.: www.spraysystems.com

Cardinal Paint & Powder: www.cardinalpaint.com/powder

www.powdercoating.org