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PMP boosts efficiency, expands training

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Precision Molded Plastics Inc. of Upland, Calif., has 14 presses, including nine efficient electrics and five hydraulics.

Precision Molded Plastics Inc. of Upland, Calif., has invested in more electric presses, boosted quality efforts and expanded employee training.

The custom injection molder has 14 presses, down from 18 in 2011, said David VanVoorhis, CEO and president. The 14 include nine efficient electrics and five hydraulics. The 18 included three electrics and 15 hydraulics.

"Every year or so, we pull off one or two hydraulics off the floor," he said. "Realistically, we will probably always have a hydraulic on floor" for certain functions.

Among the CEO's objectives: "Closed-loop manufacturing, more effective fully autonomous work cells and more parts going out the door."

His father, Ted VanVoorhis, now 78, retired and living in Upland, established the business in 1979. David VanVoorhis acquired the business from his parents in 2006 and plans special observances of next year's 40th anniversary.

Pursuing ISO

In August, PMP hired Debbie Hlava as quality and engineering manager. Hlava helped shepherd the completion of upgrades to achieve certification under the ISO 9001:2015 quality management system.

"We went through the audit in late January," VanVoorhis said in a telephone interview. "We will run that for 18-24 months and then go to [ISO] 13485" for more medical work.

PMP's current end markets include medical device components, with 17 percent of 2017 total sales of $4 million; sports bottles at 15 percent; commercial building products and wiring grommets for electronics at 10 percent each; and irrigation system parts at 3 percent.

In a nontraditional agricultural livestock application, PMP supplies epoxy applicators for use with cows in the dairy industry. The guns dispense a two-part epoxy-based adhesive to adhere wooden blocks to cloven hooves that tend to get bacterial infections. Gluing a block to one hoof takes the weight off the opposing side. A wrap is applied to encourage healing.

David VanVoorhis

Shuffling work

During 2018, PMP plans to "do some shuffling" within its four rented contiguous buildings totaling 26,000 square feet.

"We will move the mold shop into the back building and expand its footprint by about 50 percent," VanVoorhis said. The firm's one mold maker maintains and repairs tools.

Before the end of 2018, PMP will build a new quality laboratory in the mold shop's former space.

"We will add 3D printers," he said, anticipating the purchases of a S2 industrial-grade filament unit from Stacker LLC and a desktop stereolithographic machine from Formlabs Inc.

During a visit to the Feb. 6-8 UBM Advanced Manufacturing Expo in Anaheim, Calif., VanVoorhis shopped for both a coordinate measuring machine and visual inspection equipment for the quality lab.

Training and lean manufacturing

Since 2009, PMP employees have benefited from services of the nonprofit California Manufacturing Technology Consulting Inc. in Torrance, Calif.; undergone scientific molding and processing instruction from FimmTech Inc. of Carlsbad, Calif.; and since January 2017 used injection molding training from Paulson Training Programs Inc. of Chester, Conn.

PMP has a core group of 20 full-time employees and often uses 10-20 temporary employees for labor-intensive jobs.

CMTC adviser-consultant Dennis Sonney has worked with PMP on numerous subjects, including lean manufacturing, workplace organization, flow/pull, planning and diversification over nine years.

"I look at David as not only a good student but a good teacher," Sonney said in an email. "Working with a company so passionate about growth and evolution is exciting for me."

In 2014, VanVoorhis became a founding member of CMTC's Inland Empire Peer-Council Program. The group of C-level manufacturing leaders meets monthly in an executive roundtable format.

In the spotlight

The U.S. Commerce Department's Hollings Manufacturing Extension Partnership program is a key CMTC funding source.

The Wall Street Journal quoted VanVoorhis in a Feb. 15 news article about the importance and value of ongoing federal funding for the MEP program. Expressing concern, he told *Plastics News*, "The new budget may pull funding for this program."

PMP plans this year to focus on continuous improvement of quality and inspection functions and perhaps conduct another program on lean manufacturing.

As part of the lean effort, PMP built fully outfitted shadow boards and placed one next to every molding machine. The firm's lead process engineer wears a Fitbit activity tracker and noticed a difference immediately. He was taking 5,000 fewer steps per day.

As a benefit of the multiple training efforts, PMP has dramatically increased its inventory turns from 1.5 in 2008 to a highly desirable 18 turns in 2017.

"It takes a lot of real estate to store obsolete product you might or might not sell," VanVoorhis said. As an alternative, "we make sure each machine is right with a mold process that can run good parts repeatedly."

PMP operated a split shift in 2011 and is now staffed 24 hours a day.

PMP reports annual compounded growth of 23 percent since 2004.

"We had a record year on both the top and bottom lines," he said, envisioning significant growth in 2018. PMP relies on having a diverse business mix with "not more than 20 percent in an industry or more than 10 percent with a specific customer," VanVoorhis said.

PMP operates eight late-model electric injection molding machines from Toyo Machinery & Metal Co. Ltd. They include four Si-V-55s, two Si-55-6s, one Si-V-110 and one Si-110-6.

The presses are matched with auxiliary dryers, loaders, granulators and thermolators from Matsui (Asia) Co. Ltd. and robots from Yushin Precision Equipment Co. Ltd. In addition, PMP has four machines — one electric and three hydraulics — from Woojin Selex Co. Ltd.

Two other presses are from Dr. Boy GmbH & Co. KG.

Still in use perhaps three days per each month, a 24-ton Boy hydraulic 15S with a vertical injection unit and a horizontal clamp was one of the first molding machines the business bought in 1979. The company added an 80-ton Boy hydraulic in 1995.

In 2017, PMP purchased 18 new pieces with the capital expenditures totaling almost $300,000.

PMP works closely with distributors of original equipment planning to exhibit May 7-11 at NPE2017 in Orlando, Fla.: Maruka USA Inc. for Toyo in booths W1103 and W911, Matsui America Inc. in booth W2413, Woojin Plaimm Inc. in booth S10001 and Boy Machines Inc. in booth W2503.