Shortages, demand, investing in technology all part of business for thermoformers in 2021

By Frank Esposito
Plastics News Staff

The thermoforming market, like other plastics sectors, is looking for ways to improve products while making it through a global pandemic and handling supply chain challenges. This is no easy task, but Steve Zamprelli and other thermoforming leaders are up to the challenge.

Zamprelli is vice president of engineering and product development at Formed Plastics Inc. in Carle Place, N.Y. He also serves as chairman of the thermoforming division of the Society of Plastics Engineers. The division recently hosted it annual conference, Sept. 20-22 in Grand Rapids, Mich.

In a series of emails with *Plastics News*, Zamprelli discussed key topics important to thermoforming in 2021.

Q: What machinery improvements are the most promising for thermoforming?

Zamprelli: Automation and better controls for temperature and speed to improve throughput and part quality. Also, quicker setups for die changeovers and equipment that works within a cell to minimize operator involvement.

In the area of part trimming, CNC routers and robotics have improved dramatically to decrease time and improve part quality. There also have been many advancements within the thin-gauge industry for full automation and less labor.

AI interactive options for real-time results for FAT and SAT have helped significantly during the pandemic with remote participation and problem-solving. There's been a major push for equipment utilizing features to minimize labor and exposure due to concerns from the COVID pandemic.

New advancements in materials have been optimized plug assists for improved material distribution and down gauging.

Q: Are there other areas that still need improvement?

Zamprelli: Molds and tooling need to be able to talk to machines. Machines need to be able to provide all feedback to the user. Heavy-gauge processing equipment typically doesn't have these features.

Process optimization is key to control cost and throughput.

Advancements that have been incorporated into the equipment within the thin-gauge industry would also significantly improve efficiency within heavy-gauge thermoforming equipment. We need to find ways to make the technology more cost-effective. And there's always an ongoing request for continuous improvement, ease of set-up and quicker throughput.

Q: How have thermoformers responded to the COVID pandemic?

Zamprelli: Thermoformers have responded to the needs of COVID quickly. A major shift in production to first-response products was ramped up for PPE. Many processors were making face shields and masks, ventilators and respiratory equipment, protective intubation shields and even beds.

Q: What have been the biggest challenges for these companies?

Zamprelli: Delays in getting tooling, finding material to make the parts, retaining adequate personnel to produce the products. Challenges of keeping teams together during pandemic and maintaining schedules and commitments were critical.

Employees were very concerned to come to work and others were out unexpectedly throughout the worst of the pandemic when these products were needed most. Many companies had to lay off personnel to survive or lost key team members due to abrupt retirements or due to government incentives. Many continue to struggle with this issue.

Q: What other supply chain issues are thermoformers facing this year?

Zamprelli: Supply chain nightmares is a better description. We cannot get anything. This all starts at the raw material level.

Our suppliers commit to dates and we forecast schedules from this. Suppliers are not able to deliver as promised because they cannot get their materials either. There's also been volatility of raw materials and unpredictable pricing.

Equipment maintenance and downtimes have increased due to inability to receive replacement parts quickly. Cost and lead time of any new equipment and tooling has increased due to raw material shortages.


Zamprelli

We've seen man-made energy issues due to government restrictions. California, for example, has to balance its energy consumption through wind, natural gas and electricity. Between mother nature and government restrictions, this situation continues to be a perfect storm.

Q: What's the outlook for the rest of the year and for 2022?

Zamprelli: Many of us are very busy and some, quite frankly, are busting out of the seams. I've been told the same line from many in our industry: "We have so much work, but can't produce due to lack of material and personnel."

However, others will say business is down, but sales are equal dollars due to the increasing costs of resins. Impacted markets are agriculture, medical and industrial. So, 2022 should be an interesting year for the thermoforming industry.