

Seeing is believing

Quality solution controls and documents gauge consistency of plastic sheet.

Impact Plastics knew they had a good thing going. So after they installed a Mahlo QMS-12 system in 2010 and saw firsthand what it could do to enhance their business, they bought two more. Within just a couple of years, the company has invested nearly a quarter million dollars to bring Mahlo quality and service to their manufacturing facilities in Putnam, CT. and Hamlet, NC.

As Impact Plastics Technical Director Bill Burke says, “Not only have our Mahlo systems ensured gauge consistency with German-engineered hardware, their software has also proved to be very user-friendly. In fact, our technicians got up-to-speed so quickly after our most recent Mahlo installation, they were able to demonstrate the beta sensor during a customer visit the very next week.”

Impact Plastics’ core business is extruding plastic, primarily polystyrene, polypropylene, HDPE and ABS, to produce high-speed, consistent, tight-tolerance and ultra-clean extruded sheet in various sizes and thicknesses. Its customers in the medical, food, cosmetic, display, construction and automotive industries depend on having plastic sheet with extremely consistent thickness or gauge.



Fig. 1: Web gauging with Qualiscan QMS

Why is gauge consistency so important to Impact’s customers? For two reasons -- first, plastic continues to get more expensive. Customers buy plastic sheeting by the pound, so if areas of it are too thick, or “over-gauged,” they weigh more. Customers end up paying more than they need to for the heavier, over-gauged sheet.



Fig. 2: Easy handling for operator

Upholding product integrity

In addition, some customers put the plastic sheet they buy from Impact Plastics through secondary processes that require extremely consistent gauge. “For example,” Burke says, “one of our customers uses our plastic sheet as the substrate for a Saran® coating. This secondary process allows only a ½ of one mil variance, a very, very tight specification.” The Saran-coated sheet gets thermoformed into items such as the little foil-topped, plastic containers of strawberry jam you see on your table at the pancake house. For that application, packaging consistency is as important as product quality and consistency.

Most of Impact Plastics’ customers are either custom thermoformers or proprietary thermoformers. Basically, custom thermoformers take plastic sheet, design a mold and use it to make packaging parts. For example, a cosmetic box may have a formed plastic tray inside it that starts with plastic sheet; the same is true for surgical kits that hold sterilized instruments in the operating room. Both of these tray applications often have very intricate cavity patterns to hold bottles or instruments. Plastic sheet made with inconsistent gauge control compromises the integrity of the entire package or kit.

“The industry standard for gauge control is something like plus-or-minus five percent,” Burke says, “so if a Mahlo system can cut back to plus-or-minus one percent or less, that makes a tremendous difference for our customers.”

Prove competitive advantages

Mahlo QMS-12 systems have also proved to be exceptional “salespeople” at Impact Plastics’ two state-of-the-art facilities—facilities with more than 150,000,000 pounds of extrusion capacity. When used alongside a hand-held micrometer to evaluate competitor’s products, the Mahlo system can print out documentation that shows the gauge consistency of Impact’s plastic sheet when compared to other plastic sheet manufacturers. “The real ROI, return on investment, for us is being able to prove our competitive advantages to customers and prospects,” Burke says. “Our customers, in turn, reap economic benefits from the gauge control we can achieve. If someone is buying three-to-five million pounds of plastic sheet a year that’s two-to-three percent too heavy, it’s costing them quite a bit.”



Fig. 3: Typical Impact Plastic Sheet

In one specific case, a prospective Impact customer had been purchasing sheet to use as a substrate for flocking from another plastics firm for 25 years. Impact Plastics issued a challenge that involved comparing production from a 150,000-pound shipment of plastic from Impact against a shipment from the incumbent supplier. The manufacturer was able to produce 15 percent more product from Impact’s rolls, because better plastic thickness control supports tighter tolerances. In other words, better control eliminates the need for overcompensation to achieve minimum thickness specs. After seeing how it could gain substantially more feet per roll or pound, the customer made Impact its sole supplier.

In another instance, Impact Plastics was able to use its Mahlo system to show a customer how a cheaper plastic’s inconsistent surface caused application of glue in a secondary process to be faulty, resulting in additional product rejects and returns.

“We ran our first Mahlo scanner every day for three years. In all that time, we only had one day when we had to regroup and make adjustments,” Burke says. “From quality to delivery times, everything Mahlo commits to do, they do. Though they are not always the least expensive alternative out there, they are the best value. We found the Mahlo sales team to be extremely market savvy about plastics and how our business works.”

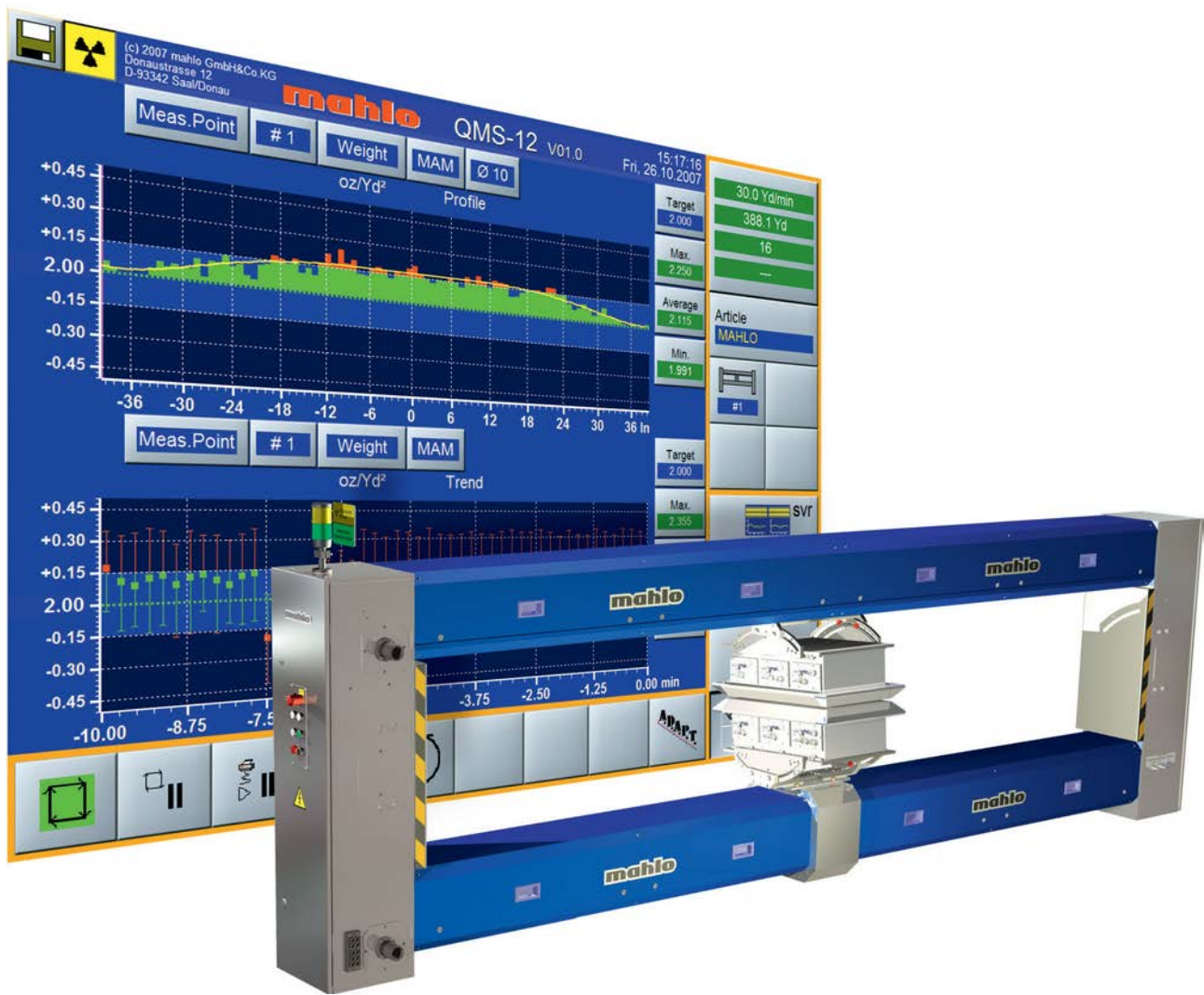


Fig. 4: Qualiscan QMS-12