

A Pattern of Invention: Burteck



The Bloomfield, Connecticut mold manufacturer relies on AGIE CHARMILLES EDM and MIKRON MILL machining technology to hold critical features within one to two ten-thousandths of an inch.

In 2010, after years in the moldmaking industry, Peter Burgess founded Burteck, a custom plastic injection mold manufacturer, with a straightforward goal: follow through on commitments and continually find better ways to design and build molds.

"Based on our experiences, we believed we could do better," Burgess said. "We started with two people, grew to five within the first year, and have continued to grow steadily to 35 employees today."

Burteck's steady growth is rooted in experienced people, disciplined processes and continued investment in AGIE CHARMILLES and MIKRON MILL technology.

Core expertise: Class 101 injection molds

Burteck combines high-precision mold design and manufacturing in the United States with established manufacturing resources in Asia, giving customers flexible options based on program requirements, timing and cost.

The company designs and manufactures high-performance Class 101 injection molds for medical, automotive and consumer-product

A Pattern of **Invention**

For IMTS 2026, UNITED MACHINING SOLUTIONS is marking the occasion with A Pattern of Invention, a celebration of the pioneering spirit that permeates the company—as well as the inventive and innovative manufacturing prowess that UNITED MACHINING SOLUTIONS customers have.

Burteck is one of those customers.

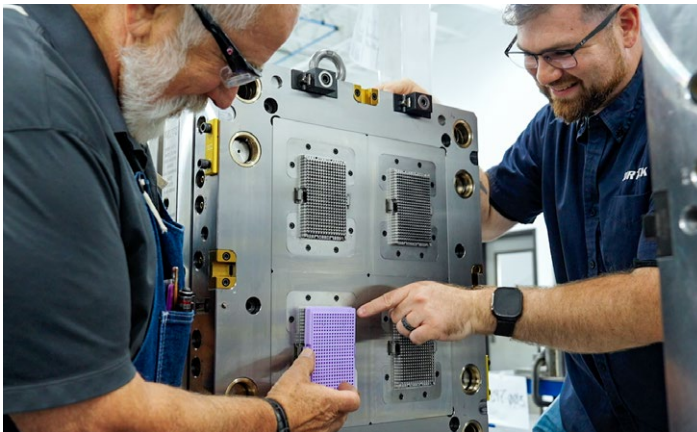


A Pattern of Invention: Burteck

applications. Customers return to Burteck for responsive service, consistent quality, strong engineering capabilities and proven moldmaking experience.

SPI Class 101 molds are designed for demanding, high-volume production and are commonly built with premium hardened steels. Depending on the application, maintenance and operating conditions, they are typically intended for more than one million cycles.

This work demands equipment and processes that deliver consistent, repeatable accuracy across long unattended runs. That is why Burteck relies on AGIE CHARMILLES and MIKRON MILL equipment.



"We really focus on accuracy at Burteck," Burgess said. "We make molds as close to perfect as possible, and the right equipment makes that easier. That's the kind of equipment we get from UNITED MACHINING."

Five AGIE CHARMILLES EDM machines and four MIKRON MILL machines form an integrated part of Burteck's manufacturing process.

EDM technology at Burteck

On the EDM side, Burteck operates three FORM 20 die-sinking EDM machines alongside two newer FORM X 400 machines supported by a System 3R WorkPartner 1+ automation cell.

"I've worked with these machines since the mid-1990s, and their ease of setup and operation, along with their dimensional stability, is unlike anything else I've experienced," Burgess said. Because Burteck's tight-tolerance components must be verified, repeatability is critical. "AGIE CHARMILLES repeats unbelievably. It makes our job so much easier."

One example is a medical-industry mold requiring replacement cavity steel to match existing components year after year within tenths of a thousandth of an inch. The job began on the FORM 20 machines and later moved to the FORM X 400 machines.

The FORM 20 machines performed well, but Burgess and his team saw a clear improvement with the FORM X. Burteck can now load multiple cavities, qualify a single reference location and rely on consistent results across the remaining locations. "It was refreshing to see the improvement the FORM X brought us," he said. "We constantly marvel at the positional accuracy from one location to the next."

Dustin Terrio, CNC Manager at Burteck, is experienced with both the FORM 20 and FORM X platforms. On this medical job, the FORM 20 process required about four weeks of machining. With the FORM X, total machine time has been reduced by more than 75%. "Our total machine time is less than one week for multiple stacks," Terrio said. "Now we can set up multiple blocks, complete the first stack and finish the remaining work—all within one week."

Five-axis machining and automation at Burteck

In 2014, Burteck purchased its first two MIKRON MILL machines: a pair of HSM 500LP three-axis mills. "They're rock-star machines," Burgess said. "The accuracy is the same today as it was when we bought them 12 years ago."

In 2020 and again in 2022, Burteck expanded its simultaneous five-axis capability with two MILL S 600 U machines. On this particular operation, indexed five-axis positioning allowed the team to machine more efficiently. "With the HSM three-axis machines, we had to remove material one layer at a time. With five-axis positioning on the MILL S 600 U, we can tilt, lock and side-mill while maintaining the required tolerances. Machine time is a fraction of what it was before," Terrio said.

Each of Burteck's four MIKRON MILL machines is integrated with System 3R WorkPartner palletized automation. Together with HEIDENHAIN controls, this supports unattended production, repeatable setup and efficient movement of work between operations.



A Pattern of Invention: Burteck

"A lot of things with the HEIDENHAIN control just make sense," Terrio said. "We run large, complex programs without control lag. The machines are extremely fast, and the linear motors help produce excellent milled surface finishes."

With high-speed STEP TEC spindles, rigid machine construction and high-performance HEIDENHAIN controls, MIKRON MILL technology is built for speed and accuracy. At Burteck, the four machines support offline tool setup, on-machine probing, laser tool measurement and high-quality surface finishes.



The accuracy and flexibility of Burteck's MIKRON MILL machines allow the team to select the best finishing process for each feature. Hard milling and EDM are complementary processes, with the choice driven by geometry, tolerance, surface-finish requirements and machine availability.

"Our process can include soft machining before heat treatment, followed by hard milling or EDM in the finished condition. Sometimes EDM handles the final details, and sometimes hard milling is the better choice," Burgess said. "The decision is schedule- or geometry-driven. We're a custom mold builder, so every job is unique. These machines give us the flexibility to handle all of it."

Continuous improvement at Burteck

Burteck operates in a demanding sector of advanced manufacturing: each mold is custom, yet it must deliver precision and repeatability over hundreds of thousands—or, in many cases, more than one million—cycles. That combination requires practical innovation on every program.

The company continually refines its processes to improve accuracy, lead time and manufacturability. Its engineering team develops each mold around the customer's part and production requirements, while manufacturing determines the most reliable and efficient way to produce every component.

Burteck approaches challenging work with confidence grounded in experienced people and dependable equipment. "We've definitely taken things on over the years that made some people wonder why we did it," Terrio said. "But with AGIE CHARMILLES and MIKRON MILL in our corner, we believe we can take on the most demanding projects."

Founded on a willingness to take on difficult work, honor commitments and improve continuously, Burteck applies that same approach to drive the company today—and aligns closely with the precision, repeatability and innovation built into AGIE CHARMILLES and MIKRON MILL equipment.

