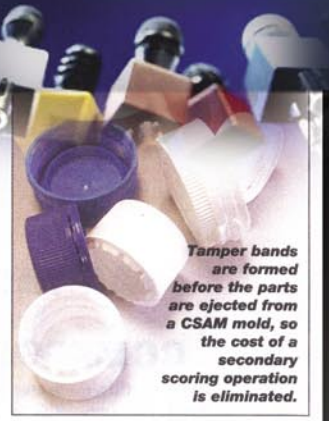


# StackTeck In The Press

nology substantially reduces the distance between rows of cavities, which optimizes the cavitation for a given machine. It eliminates the protrusion of components from the mold by eliminating the components that protrude. It's more compact, with no obstructions between open mold plates, thereby reducing any chance of greasing products. Part jam-ups are also eliminated.

And CSAM molds allow higher cavitation in smaller machines. A CSAM stack can run in the same size clamp as a single-face CSAM in many cases.

**ALL FOR ONE**  
StackTeck developed its CSAM technology all on its own. It has a very active R&D commitment. Henry J. Roze-  
ma, director of commercial operations



Tamper bands are formed before the parts are ejected from a CSAM mold, so the cost of a secondary scoring operation is eliminated.

through the hopper

## TOOLING

### FASTER THAN A SPEEDING COMPRESSION PRESS

Elias C. Joseph didn't particularly like one thing he saw at K 1998 in Düsseldorf, Germany. What he saw was an extrusion-compression molding system producing tamper-evident closures at a 1200-parts/min clip. Why didn't he like it, you ask? The answer's simple. Joseph is the engineering manager for closure molds at StackTeck Systems Inc. (Brampton, ON), a \$50 million-plus injection mold manufacturing conglomerate. He knew it would take several molds running in several machines to match that output.

By the time K 2001 rolled around, Joseph and his StackTeck colleagues had developed something to compete handily with that technology. They call their patented technology CSAM, which stands for Compact Slide Action Mold. At K 2001 they displayed a 32-cavity CSAM mold, which can run in a 90-ton machine and produce 375 parts/min. A 2x32 CSAM stack, which runs in the

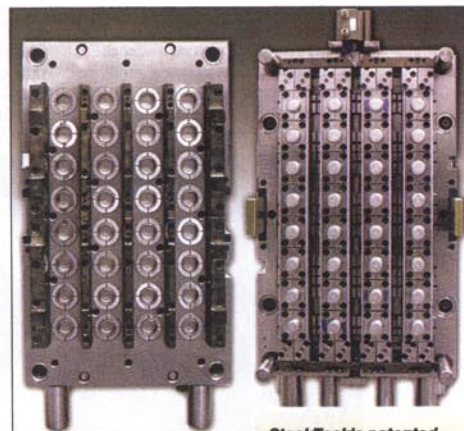
same size press, produces 750 closures/min. Impressive, sure, but that's still not good enough, you say?

Well, a 2x128 CSAM stack, the largest StackTeck has designed, would run in a 500-ton machine and mold 3000 closures/min. And, remember, these are tamper-evident closures—tamper bands are formed in a single step. No secondary slitting is required.

"We were comparing a single extrusion-compression molding system to several injection molding systems. Now, with CSAM, we can compare them one on one. CSAM makes injection molding a more economical competitor and a more technically feasible alternative," says Jordan Robertson, general sales manager.

#### How CSAM Works

StackTeck's CSAM molds are not your typical slide-action molds. In more conven-



StackTeck's patented Compact Slide Action Mold technology allows higher cavitation in a smaller machine for the high-speed molding of tamper-evident closures. This technology is also available in stack mold configurations.

tional ones, the slides have slide bars on which the slide inserts are mounted. Angled horn pins or delta cams mounted to the cavity plate drive the lateral movement of the slide blocks. And slide retainers have components that protrude from the mold sides. These components can enlarge the size of the mold, reduce possible cavitation, and obstruct space between the mold plates during ejection.

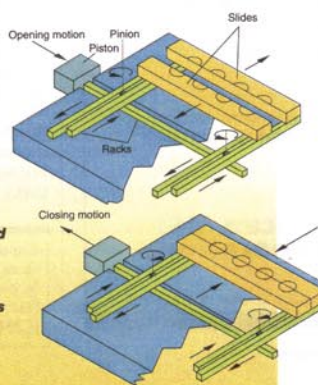
The component lubrication required on conventional slide-action molds can contaminate products when they're ejected. You've got to slow down the mold to handle the actuation of the slide mechanisms as the mold opens and closes. That means slower cycles. Parts can get trapped, too, and the slides can become misaligned, resulting in costly downtime.

CSAM technology is something altogether different. It uses a pneumatic rack and pinion—a reciprocating driving rack drives

two pinions. Each pinion drives a pair of driven racks, which are movable in opposite directions. Slides are always connected to the driven racks, so misalignment is impossible. The entire actuation mechanism is clean, compact, and recessed into the stripper plate, away from the mold parting line. And the slide mechanism is independent. It doesn't rely on mold opening and closing for actuation, so cycle times are reduced.

Modular CSAM tech-▶

A pneumatic rack and pinion opens and closes the slides in a CSAM mold independent of mold opening and closing, thereby reducing cycle times. Also, the entire mechanism is recessed, saving space.



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and innovation, heads a team that constantly looks at new projects and marketplaces to minimize threats to StackTeck's business, while targeting new growth opportunities.

StackTeck is lucky to have a treasure chest of resources to draw on, as well as top management that encourages creativity. StackTeck is a self-described "technology entity" comprised of three moldmaking firms, each one a specialist in its own field: Tradesco (thin-wall packaging, medical, stack molds, housewares), Unique Mould Makers (closures, screw caps, multicavity molds), and Fairway Molds (high-precision technical parts, multimaterial molds).

The StackTeck campus in Brampton includes two 100,000-sq-ft buildings and employs about 250. Fairway Molds, located in Walnut, CA, employs about 100. It builds roughly 170 molds/year in Canada, with machines ranging up to 1000 tons. Lead times for steel prototypes are four to 10 weeks and generally 10 to 22 weeks for production molds, depending on the product.

Joseph says he's pleased with the successful introduction of CSAM technology and promises that new innovations are coming. In CSAM alone, he says a 4x128 stack is the company's ultimate goal. (For more on StackTeck innovations, see "Lean Tool Solutions Found in Stack Molds," October 2001 IMM, pp. 68-70.)—Carl Kirkland

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