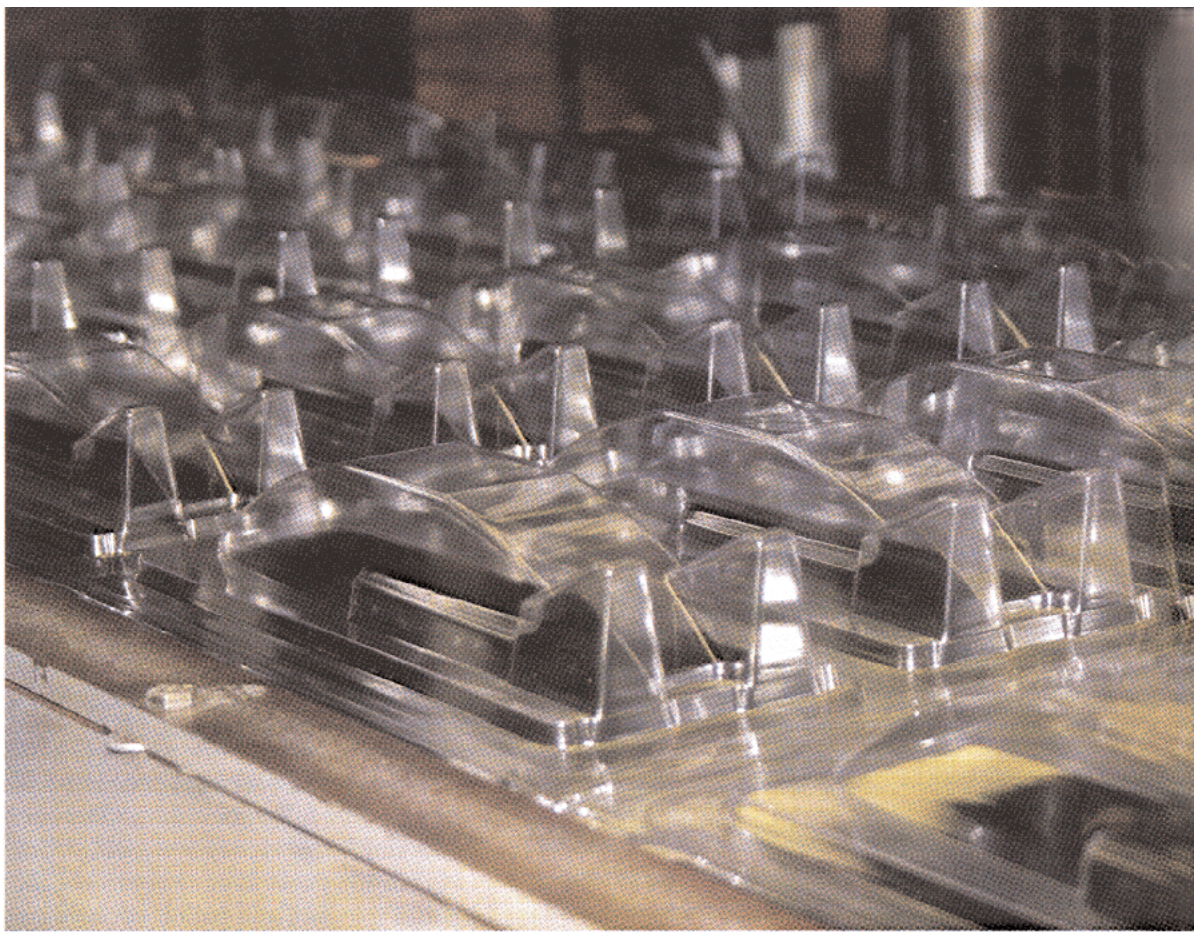

Freshly made, footed PVC blisters travel through the in-house-built thermoforming system during manufacturing, above. The converter/contract packager chose a glass-clear vinyl that it says machines well and holds the blister's shape. Cards are added to the back of the blister, for a 'mock clamshell' effect, below. The blisters come in four versions serving 23 SKUs.

Thermoforms are a gateway to expansion

Transparent thermoformed packaging enhances visibility and prevents pilferage of KidCo's child safety door locks, gates and other products, allowing distribution to expand beyond specialty stores.

Lauren R. Hartman, Senior Editor

For a company that specializes in keeping little hands out of dangerous places, KidCo, Inc. needed a grown-up helping hand to codevelop a new package. The Libertyville, Il.-based upscale baby products manufacturer is a founding member of the Global Safety Cooperation and was instrumental in establishing meaningful and measurable standards of performance for household safety products. KidCo offers products such as child safety gates, strollers, home safety locks and latches and baby food preparation items. Most of these are manufactured in the U.S., Europe and China using a heavy-duty, nylon-reinforced plastic for which the security-conscious parent is willing to pay a premium.

Most of the product designs are conceived and/or refined by the company's president Ken Kaiser, who creates user-friendly, ergonomic innovations that have made KidCo a valued brand in the juvenile arena. Kaiser notes, however, that a packaging problem began toddling its way into KidCo's Home Safety line, impeding distribution of the products beyond the traditional retail customer base (specialty shops usually owned by independent shopkeepers).

The problem was one of visibility. The line's 23 stockkeeping units were packaged in an opaque carton with the exact same dimensions for each SKU. The cartons were illustrated with lavish, four-color photography showing the enclosed product as installed.

Shopkeepers who have an understanding of the products could easily explain the benefits to shoppers, but KidCo wanted to expand distribution to larger retail outlets like Babies"R"Us and Baby Depot and to target catalog companies. These chains, as well as hardware distributors, have customers that insist on viewing package contents in order to make a buying decision. At the same time, retailers want to cut down on pilferage, a factor the carton package format made rather easy. But the big chains were reluctant to place

sales orders for KidCo products until the visibility and pilferage issues were addressed in the packaging.

That's when KidCo decided the packaging needed a leg up and enlisted the help of **Algus Packaging** (www.algus.com). Algus provided KidCo with transparent blister-packs it thermoforms using rigid polyvinyl chloride film from **Klöckner Pentaplast** (www.kpafilms.com). And since KidCo also wanted to postpone having to purchase its own packaging equipment for the task, it asked Algus to perform the final packaging function on a short-term basis at Algus' facility in DeKalb, IL.

Specializing in heat-seal tooling technology for thermoformed packs, Algus is a fulfillment company that also designs, builds and operates packaging systems. Algus seemed very hands-on, observes Tom Fox, vp of operations at KidCo. "They seemed like they would walk us through the entire packaging process. And we felt comfortable with them," he says. "The quality of their thermoforming material is very high. The resulting clarity and malleability of the film to hold the blister shape is a huge draw for us."

With a systems approach to package and tooling design, material specifications and an automation-ready strategy, Algus set out to develop a workable blister-pack design for KidCo by first determining the packaging objectives, the expanded productivity goals and any other requirements.

Ken Hansen, sales/marketing manager at Algus, says productivity determines particular aspects of the overall package design. "We then incorporate as many labor-saving features as possible. Quick-change heat-seal tooling, for example, can get new jobs set up and operational in minutes. Our focus is always to minimize labor and maximize throughput," he says.

Operators load the custom insert cards and products into the clear blisters that are automatically fed on the 8-station heat-sealer.

Fox says KidCo wanted packaging that could maintain an upscale image, offer as much room as possible for graphics, be hangable and be able to stand upright for different types of store presentation. For these reasons, KidCo wanted more than just a blister-card but didn't want the cost of a full clamshell. One challenge was to create a uniform blister-pack structure that could match the footprint of the former carton so that it would accommodate hundreds of existing point-of-sale displays in place in stores. Concurs Kaiser, "We needed a complimentary packaging concept that could be phased in over the course of a year that would work with all of our existing product displays."

Three prototypes later, the design team arrived at a footed "mock" clamshell blister thermoformed of PVC with a hanger-hole at the top. The team standardized the total number of cavity variations down to four shapes to accommodate the different product families within the 23 SKUs—a deep rectangle; a shallow rectangle; a long blister (for items like arched doorstops); and a scissors shape (for items like elongated cabinet locks).

While the package was still in the trial stages, Klöckner's Pete Gianniny, business manager for thermoforming films, and his own team met with Algus to select a film that could offer the right balance of performance, esthetics and cost. The final choice was a 15-mil Pentaform® TH-M280/14, specially formulated in a clear-blue tint with the toughness KidCo needed. The film proved it could die-cut, denest and handle well and it has the degree of clarity and sparkle to maintain a premium image and the product visibility KidCo was after. "Pentaform saves us time and that's always a good return on investment," adds Hansen.

The blister is heat-sealed on the face side to a die-cut .021 SBS backing card from **Dot Packaging Group** (www.cardedpackaging.com). Hansen says that incorporating the cardstock into the design provided an ample "canvas" for the graphics, which include the same high-end phorography as on the previous boxes, with allowances for a hand-folded product-information card to be inserted into the front of some of the blister-packs.

Unifying the package sizes and shapes proved to be cost-effective because KidCo can stay competitive by keeping its pricing down, notes Fox. "Some of the safety products are fairly low-volume so didn't warrant development of individual forming tools for the packaging." Addressing this concern, Algus created common tooling on one of its Model 6S+2 heat-seal machines for 75 percent of the products and made removable [insert] blister plugs for the rest. The plugs can be pulled out and replaced with other tooling in minutes. To save more time and labor, Algus tooled an automatic blister feeder and card feeder for the package sealer.

In April. 2003, KidCo anticipated needing packaging for 300,000 units for the rest of the year, which Algus would produce until such time as KidCo could justify buying its own heat-sealing machine. That time came fairly quickly after KidCo introduced the new packaging at a juvenile product manufacturing show in May, 2003. "The response [to the new packaging] was very enthusiastic. The package got rave reviews," says Fox.

Like little tots learning to walk, sales of the various products have taken a big leap. Fox says sales have stepped up and are on the rise. By August, 2003, sales orders from the baby chains and other retailers were strolling in at a fast pace, and KidCo was ready to purchase its own Algus heat-sealer, an eight-station, reconditioned 6S+2 model, which Algus outfitted with the tooling it had created when it ran the blister-packs in-house.

The 6S+2 rotary sealer has a carousel design that rotates the blister-sealing platens in eight positions. First, the automatic blister feeder picks the blisters from a magazine and loads them into nesting trays in the table. Next, the machine indexes the empty blisters to the product-loading station before it indexes to the card feeder that places the printed backing card on top of the mock clamshell. Indexing again, the table

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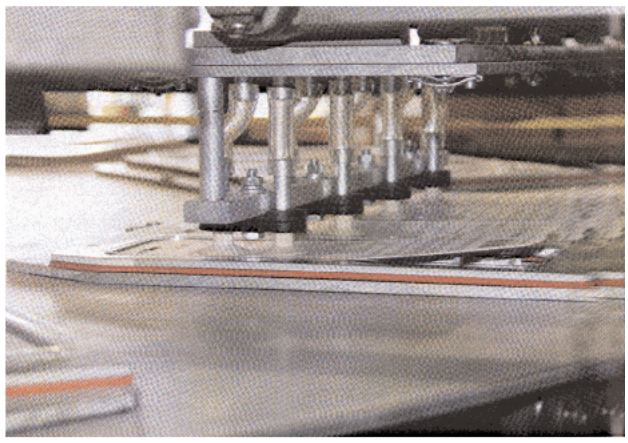
MAVERICK ENTERPRISES uses heat-shrinkable vinyl to produce and gravure-print sophisticated capsules for bottles of Turner Road wine. Turner Road sees the capsules as an important marketing advantage. Read about it at **www.packagingdigest.com/info/trv**

advances the carded blisters to a heat-sealing press where heat and controlled pressure are applied, before an adhesive coating is activated to seal the cardstock to the blister. The finished packages are automatically ejected down a chute to a case-packing area where six blisters are loaded into a case and six cases are placed in a master case for a total of 36 per master.



Printed SBS backing cards are automatically placed on the blisters by the special feeder before being heat-sealed.

Fox is impressed at how much faster the company's packaging operation has become. "Owning our own machine is more cost-effective because we do a lot of short [production] runs," he says. "We can run 1,000 pieces in less than an hour. Before, it would have taken twice that amount of time or more." Labor was cut by half. The company can have the operators on the heat-seal machine doing double time for a quick run.

The project was completed in less than a year. Algus still supplies the vinyl thermoformed blisters to KidCo and is slated to begin work on tooling for two new dies for product packages that KidCo says will be introduced this fall. Both products being launched require larger packages. One is door-lever lock and the other is a doorknob lock. Hansen says Klöckner Pentaplast will continue to supply the same transparent, blue-tinted PVC that has helped KidCo increase sales orders.

Kaiser praises Algus for a job well done. "It doesn't seem like a year has passed," he says. "This huge project is over and our goals have been achieved."

For Algus, it's like a happy ending to a child's favorite fairy tale.