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### **Marzetti dresses up with shrink sleeves**

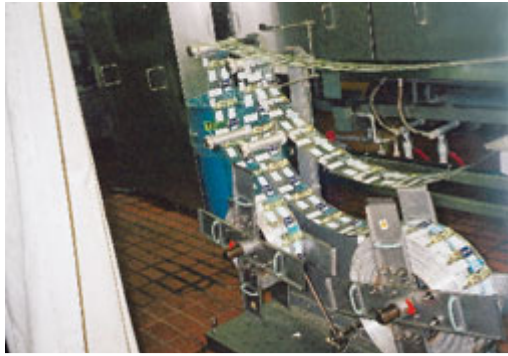
A new shrink-sleeve labeler at T. Marzetti Co. applies labels to updated 15- and 24-ounce 'soft-square' glass bottles of produce dressings at speeds to 160 per minute.

Jack Mans, Plant Operations Editor



T. Marzetti Co. has had a line of superb dressings for produce for many years. However, there had not been many changes in the package design, or the flavor offerings, for some time. "After reviewing the situation, we decided that the line needed revitalization," says director of research and development Lou LeMoine. "This was a very large product line [it currently has 30 flavors and/or bottle sizes], so the first thing we did was evaluate each flavor to determine the items to be retained, the items to be updated to more contemporary flavors, and the items to be discontinued. Next, we evaluated the packaging.

"The dressings had originally been packaged in traditional mason jars with basic paper labels to provide a rustic look, but it became apparent that this packaging was out of date. We decided to change to a 'soft-square' glass bottle with distinctive, shrink-sleeve labels that are clear except for where there is printing or graphics, so the consumer can see the product. The labels also go over the top edge of the cap to provide tamper-evidence and eliminate a separate tamper-evident band. Another feature that adds to the elegance of the total package is the smooth-wall metal cap with the T. Marzetti name embossed on the top."



Two rolls of labels for the bottles are mounted on horizontal shafts in a twin-unwind system configuration. When the roll in use runs out of material, the labeler is manually switched to the new roll during a brief splicing stop.

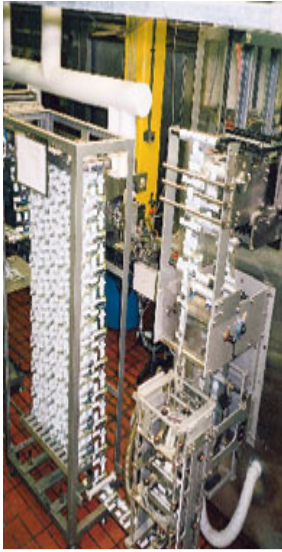
To run the new bottle and labels, Marzetti installed a Model AW-400 high-speed, vertical, rotary shrink-sleeve labeler from NAFM Engineering Service ([www.nafm.com](http://www.nafm.com)) on an existing line. "The main reason we chose NAFM was the quality of their shrink-sleeve labeler. Their heat-tunnel system produced the smoothest and most uniform sleeve application that we found in the industry," says plant manager Foster Hartman. "Our packaging engineers traveled to Yokohama, Japan, to the NAFM factory to test-run the machine prior to delivery. We were very impressed with NAFM's attention to detail and the overall quality of their machine. We have found their service in the United States to be responsive, and they helped us greatly in the startup of our new machine."

Quick Pak, a leading provider of promotional packaging as well as assembly and fulfillment services, is using a shrink-sleeve labeler from NAFM Engineering Services to apply shrink-sleeve labels to a unique, small jar for haircare products. Read about it at [www.packagingdigest.com/info/quickpak](http://www.packagingdigest.com/info/quickpak)

In this operation, filled and capped bottles are conveyed to the labeler, where they enter a lengthwise screw that extends beneath the labeling station and maintains the proper spacing throughout the labeling operation. Two rolls of labels for the bottles are mounted on horizontal shafts in a twin-unwind system configuration. When the roll in use runs out of material, the machine at Marzetti is manually switched to the new roll during a brief splicing stop. A variety of semi- and fully automatic roll-feeding systems for the AW-400 are optional.

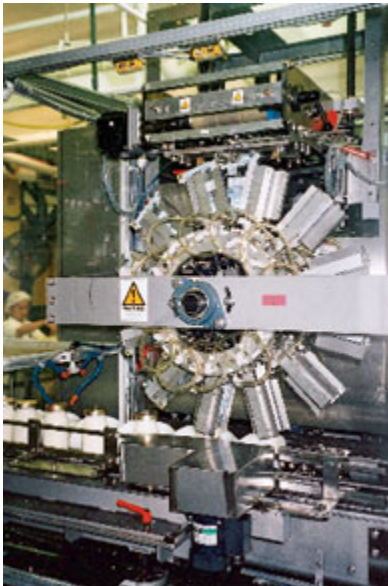
We were very impressed with the labeler manufacturer's attention to detail and **the overall quality** of their machine. We have found their service in the United States to be responsive, and they helped us greatly in the startup of our new machine.

In the labeling process, the labels are pulled over a roller and then make 12 vertical passes over upper and lower rollers to provide label accumulation to handle stoppages during label splicing and other momentary supply interruptions. The upper and lower rollers are normally about 8 ft apart, providing a total of nearly 100 ft of accumulation. During an interruption, the lower rollers are pulled upward as the label web is used, and then slowly return to their normal spacing when regular operation resumes.



Labels make 12 vertical passes over upper and lower rollers to provide label accumulation to handle stoppages during label splicing and other supply interruptions. The tube of film is cut into individual labels by a reciprocating blade.

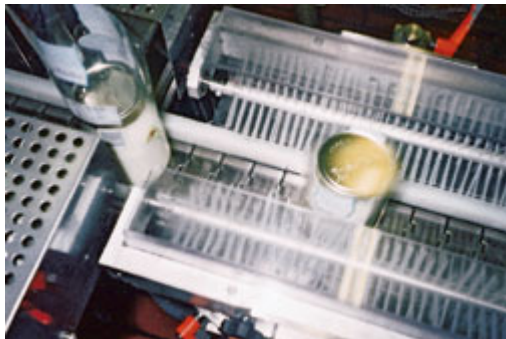
From the accumulator, the film is pulled over a bottom roller and then travels up the back of the machine through a refolding device that opens a tube of sleeves and orients the tube so that the graphics will be properly oriented on the front and back of the bottle, and the vertical seam will be on the corner of the bottle. This refolding device consists of two circular units mounted about 2 ft apart. The bottom unit opens the tube and eliminates the initial crease in the film. The upper unit creates a new crease in the film that will coincide with the corner of the bottle. The operator can also turn the film slightly at this point, so that the graphics on the sleeves will be perfectly aligned on the front and back of the bottles.



The labels are then transferred to a vertically rotating turret that accepts the sleeves and pulls them open for application to the bottles that are passing below on the conveyor.

The film then passes through pinch rollers that close the tube into a flat web. The film travels through a vacuum box for tension and tracking control and then through a perforating unit, where a reciprocating blade cuts vertical perforations in the film where it passes over the cap, as well as horizontal perforations that will be beneath the cap when the label is applied. These perforations make it easy for the consumer to remove the tamper-evident section of the film over the cap. The film then travels over another roller and down into the application section of the machine.

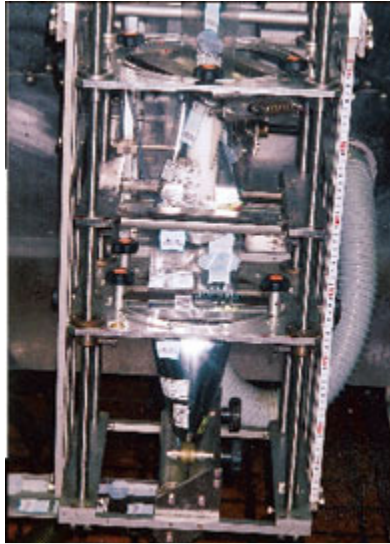
As the film descends, the individual sleeves are cut apart by a reciprocating guillotine blade. The cut is triggered by a sensor that detects the clear section between the graphics on the sleeves. The individual sleeves are then transferred to a vertically rotating turret with 12 sets of vacuum grippers that accept the sleeves. As the turret rotates, the grippers pull the labels open, after which they are applied to the bottles as they pass below on the conveyor. Bottles leaving the machine move through a flail device consisting of rotating brushes on both sides of the conveyor that push the labels down to be flush against the conveyor surface. A sensor checks bottles leaving the flail device for missing or too-high labels and initiates an air-operated reject cylinder.



Bottles leaving the labeler move through a flail device consisting of rotating brushes on both sides of the conveyor that push the labels down to be flush against the conveyor surface.

***The machine features servo drives and microprocessor controls from Yaskawa America, Inc. - Drives & Motion Division ([www.yaskawa.com](http://www.yaskawa.com)).*** The label cutter, label opener and transfer mechanism, as well as the vertical turret that transfers the sleeves to the bottles, are servo-driven. The labeler is interfaced through a color human/machine interface with a touchscreen. During operation, the current production data is constantly displayed, and malfunctions can be displayed as plain text and graphs. Settings and data for different jar sizes are stored in the computer and can be recalled by touching the screen, when changing to another jar size. Different bottle heights are accommodated by turning a handle on the back of the machine that activates a hoisting mechanism to raise or lower the machine.

From the labeler, the jars are conveyed to a 12-ft-long steam tunnel that shrinks the labels firmly into place. The steam tunnel is equipped with tiny plastic steam nozzles, each with a toggle valve that must be turned on to admit steam. This enables the steam to be directed exactly where it is needed for optimum shrinkage of the label. For the Marzetti bottles, steam is directed to shrink the lower portions of the labels first and then shrink the upper portions as the bottles continue through the tunnel.



A refolding device opens the tube of sleeves and orients the tube so that the graphics will be properly oriented on the front and back of the bottle, and the vertical seam will be on the corner of the bottle.

The seamed shrink-sleeve labels for the new jars are supplied by Salem Label-Seneca Printing ([www.salemlabel.com](http://www.salemlabel.com)). Marzetti's design firm provided a preliminary art file to Salem, which digitally predistorted, imaged and applied a prototype label to the new bottle for review by the core Marzetti team. The new graphic design floats on the bottle, providing maximum clarity where there are no graphics or copy, enabling the consumer to get a true 360-deg view of the contents through the clear glass. The 50-micron polyethylene terephthalate glycol film is reverse-flexo-printed in eight colors utilizing digital technology from computer-to-plate printing plates. The design spans the height of the jar and the sidewall of the lid, meaning that the seamed shrink-sleeve label not only provides a floating design, but also serves the tamper-evident requirements of the container. With T. Marzetti's approval, Salem was able to work closely with Marzetti's marketing team, design firm and NAFM to meet the design print goals, material specifications and timing requirements for the project. This included the timely supply of test material and printed commissioning labels. Salem continues a synchronous working relationship with NAFM personnel to be sure the film and applicator are working at optimal levels. This communication helps ensure the smooth delivery of the label to the product jar, and its subsequent shrinking for the best finished appearance.

Saint-Gobain Containers, Inc. ([www.sgcontainers.com](http://www.sgcontainers.com)) supplied the new soft-square glass bottles for these products, and Penn Wheeling Closure ([www.p-wc.com](http://www.p-wc.com)) supplied the 63-mm, smooth-wall, continuous-twist caps.

Other than the shrink-sleeve labeler, the packaging line running the new jars required no other new equipment except for bottle-handling changeparts. Other equipment on the line includes a bottle cleaner from McBrady Engineering, Inc. ([www.mcbradyengineering.com](http://www.mcbradyengineering.com)), a 21-head piston filler from Elmar Industries, Inc. ([www.elmarworldwide.com](http://www.elmarworldwide.com)), a 10-head Consolidated capper now handled by Pneumatic Scale Corp. ([www.barry-wehmillerco.com](http://www.barry-wehmillerco.com)), an Excel ink-jet printer from Videojet Technologies, Inc. ([www.videojet.com](http://www.videojet.com)) that prints a use-by date on the shoulder of the bottle just before it enters the labeler, a Hartness International, Inc. ([www.hartness.com](http://www.hartness.com)) case packer and a Marsh ink-jet unit from Videojet that prints on both sides of the cases.

**More information is available:**

NAFM Engineering Service, 714/974-9006. [www.nafm.com](http://www.nafm.com)

Elmar Industries, Inc., 716/681-5650. [www.elmarworldwide.com](http://www.elmarworldwide.com)

Hartness International, Inc., 864/297-1200. [www.hartness.com](http://www.hartness.com)

McBrady Engineering, Inc., 815/744-8900. [www.mcbradyengineering.com](http://www.mcbradyengineering.com)

Penn Wheeling Closure, 800/999-2567. [www.p-wc.com](http://www.p-wc.com)

Pneumatic Scale Corp., 330/923-0491. [www.barry-wehmillerco.com](http://www.barry-wehmillerco.com)

Saint-Gobain Containers, Inc., 765/741-7136. [www.sgcontainers.com](http://www.sgcontainers.com)

Salem Label Co.-Seneca Printing, 888/274-7465. [www.salemlabel.com](http://www.salemlabel.com)

Videojet Technologies, Inc., 630/860-7300. [www.videojet.com](http://www.videojet.com)

***Yaskawa America, Inc. - Drives & Motion Division, 847/887-7000. [www.yaskawa.com](http://www.yaskawa.com)***