

High-Speed Tipping Adds Value for Converters

By Craig Jasper, Director of Sales, Roberts PolyPro

“Tipping” is an old packaging process with new technology twists that is enabling converters to not only differentiate themselves and win new orders, but also helping them to improve throughput and lower labor costs.

Open most consumer magazines today and you will find postcard-sized advertisements scattered throughout its pages. These small cards were “tipped” into the magazine at the printer. New credit cards are routinely tipped onto a printed sheet with a spot of glue and inserted into a mailing envelope.

When it comes to packaging, any value-added component, such as a paper or plastic handle or substrate that is married to a paper carton prior to folding and gluing, is said to be “tipped” on. Tipping on handles, spouts, or fitments to a carton isn’t new. What is new, however, is the growing demand by consumers for these convenience features and the high production rates required to satisfy this demand. High speed production requires precise alignment and control and that involves leading edge technology. Equally new is the push by retailers and club stores to make packaging more sustainable. For example, the use of metal spouts is declining, while spouts made from recycled and recyclable plastic are increasingly used.

Tipping opens up new sales and productivity opportunities, but you have to know what to look for

As industries all over the world discovered in the 1980s and 1990s, every problem related to quality was in actuality a new opportunity for improvement.

The same can be said for tipping. For example, the converter for a leading manufacturer of laundry detergent utilized a labor intensive two-machine process for tipping on four substrates and a handle for the brand's large-sized packages. These operations required multiple steps for inserting the handle and for marrying substrates prior to folding and gluing. Considerable material handling and storage was also required for these processes.

The converter worked closely with a top packaging machinery company to design and install a single integrated machine for feeding and tipping right at the folder gluer. The result was significantly higher overall throughput, reaching an average of 250 blanks per minute through the folder gluer, and 40 fewer workers involved in the process. Today all of the brand's North American large-sized packages, seven liters and up, are converted on two fully automated machines. In this case, the problem with a slow, costly process led to production improvements and a stronger relationship between converter and customer.

A similar opportunity arising from a problem is emerging for a converter of paper/plastic composite hangers for the dry cleaning market. Composite hangers are a competitive offering when compared to imported metal hangers. The problem for this converter was two fold: Throughput needed to be increased in order to achieve economies of scale and the design needed to be revised in order to improve consumer acceptance of composite hangers versus metal.

This manufacturer is now working with a machine supplier on an all new “eco hanger,” consisting of a plastic hook tipped onto a paper flat and fed into the folder gluer. An advanced tipping machine will not only boost hourly production of hangers to 20,000, an increase of 150 percent, but the hangers will also consume less material. The eco hangers will contain a high percentage of recycled paper and plastic and will be 100 percent recyclable. The only means of taking advantage of this new market opportunity is through state-of-the-art integration of feeding and tipping with a folder gluer.

A medical records company employed several hundred people to produce 250 sequentially labeled envelopes an hour. A high-speed tipping machine automated the labeling process and eliminated manual labor. The company now produces 250 sequentially labeled envelopes per minute on a single integrated folding and gluing line.

What to look for in today’s state-of-the-art tipping solution

Every converter that wants to offer something special to customers or to regain a customer lost to a competitor should consider integrating advanced tipping capabilities with an existing folder gluer. Look for systems that offer the following features.

High-tech feeders and tipping applicators should be able to replace the existing feeder and integrate with the folder gluer that is already in place. This means the footprint of the machine should be close to what is on the plant floor now. The solution should not incur additional labor cost for the process.

Carton feeding should be timed through computer sequencing, independent from belt speed. This is one of the key features for improving throughput. The optimum system will also incorporate a cam to gently and accurately feed blanks without scuffing.

All successful high-speed tipping requires control and accuracy. Make sure that the machine supplier offers fixture placement accuracy of at least +/- .005 inches. One of the ways to ensure high accuracy in registration is for lugs to be placed at the leading edge of the blank rather than the rear edge, which is commonly done in most feeding machines.

Low maintenance and safety are important factors to examine. Roberts PolyPro, for example, has perfected a vacuum-bed technology that removes the need for hundreds of top belt bearings and nip points that tend to require frequent and time consuming adjustment. Fewer moving parts reduce maintenance costs and help to ensure a safer environment for workers.

Another key consideration has little to do with the feeder and everything to do with how the tipped-on plastic handles, spouts, hooks, and fitments are delivered. Don't accept anything less than "organized" components — components that simply slide into a magazine much like staples into a stapler. Unorganized parts require a sorter that not only adds complexity and potential problems, but also increases the footprint of the machine. Make sure the supplier of the organized components is focused on

sustainability, offering paper or plastic products that either have recycled content, are recyclable, or preferably both.

It is counterintuitive to believe that adding an operation like tipping to a carton can actually increase overall throughput, but that is exactly what can happen when advanced feeding technology is integrated with an existing folder gluer.

Some converters today are performing tipping but in steps requiring intensive labor and material handling. Advanced systems consolidate these operations and lower labor costs. Most converters are looking for ways to differentiate their services. Tipping answers this need. Tipping can also improve sustainability in terms of light weighting and the use of greener materials.

While tipping is an old process, converters and consumer packaged goods companies interested in growth and profitability will benefit from renewed interest in this value-adding application.

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