

Flexible packaging starts as a custom-printed plastic film called Rollstock, which is then formed into a package, and filled at customers' locations. Image courtesy of Premium Labels & Packaging Solutions.

RECONSIDERING RIGID PACKAGING?

TAKE A DEEP DIVE INTO THE FUTURE WITH FLEXIBLE PACKAGING

By Leslie Gurland, Vice President of Sales and Marketing at Premium Labels & Packaging Solutions

Lifestyle changes, societal shifts, security concerns, economic factors, and a global pandemic have all led to the growing importance of product packaging. Over the last few years, there have been many exciting changes in the packaging world, and one of the most significant shifts has been the proliferation of the flexible packaging market. According to the Flexible Packaging Association (FPA), it's the fastest-growing segment within the U.S. packaging industry and worldwide; and the North American Flexible Packaging Market is projected to be worth \$47.58 billion by 2026.

This article examines the burgeoning format and what companies should consider when switching from rigid.

The History of Flexible Packaging

It's rare to walk down any retail store aisle without coming across several products contained in flexible packaging. In fact, if flexible packaging did not exist, neither would frozen foods that steam right

in their packages, antibacterial wipes, or single-use samples. But even though it is perceived to be a relatively new format, flexible packaging dates back to the 14th Century, when the Chinese utilized thin layers of mulberry bark to cover food items.

Other milestones can be traced to a succession of advancements in the 1800s. These include the introduction of collapsible metal tubes for artists' paints in 1841 and the development of toothpaste in the 1890s.

The 20th century saw some of the most significant flexible packaging innovations. In 1963, the Department of Defense began developing the Meal-Ready-to-Eat (MRE) to replace the canned food soldiers ate in the field. Made out of thick foil and film, MREs, which relied on packaging technology, eventually led to the development of today's microwaveable pouches.

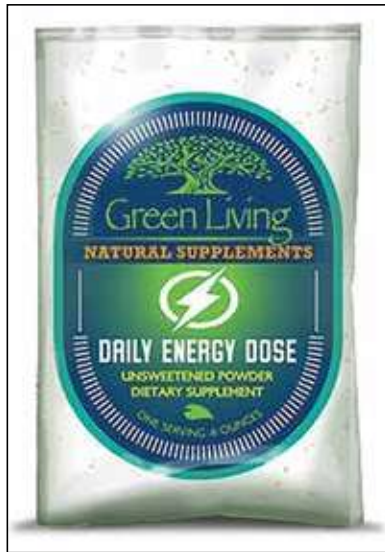
The last century also saw the invention of cellophane, a clear layer of film to wrap food in that was entirely flexible and water-resistant. This technology led to Ziplock storage bags, which utilized a zipper, and the introduction of flexible tubes as a packaging option for yogurt.

Innovation continues by making it easier for consumers to use and store these products. The current generation has added features, including flip-top caps, pumps, dispensing possibilities, pre-made straw holes, self-heating pouches, child resistance, and pourable spouts. On the manufacturing side, advancements in machinery include increased line speeds, lower production costs, and more in-line capabilities that make flexible packaging more competitive than rigid packaging, such as folding cartons, corrugated boxes, and cans.

You've Got Options

Multiple types of flexible packaging exist and are typically determined by product characteristics (size, shape, weight and functionality), environmental exposure/barrier considerations, and end-use (how it will be displayed). Flexible packaging starts as a custom-printed plastic film called Rollstock, which is then formed and filled at customers' locations. Common examples of Rollstock are:

Sachets: Also called packets, they are appropriate for dry products, tablets, capsules, liquids, and powders. They are ideal for small items and individual servings of condiments and medicinal or beauty products. Brands commonly use them in trial/sample sizes for beauty and food products.



Sachets are ideal for small items and individual servings of food condiments and medicinal or beauty products. Image courtesy of Premium Labels & Packaging Solutions.

Flexible wrappers: Individual candies, mints, and nutrition bars are wrapped with flexible packaging materials.



Products like candy, nutrition bars, and soap are frequently wrapped in flexible packaging material to preserve freshness and showcase branding. Image courtesy of Premium Labels & Packaging Solutions.

Stick packs: These long, skinny, flexible packages are often used for drink mixes, nutraceuticals, spices, and other single-serve items. They are easy to open and simply require tearing at the top to enable the contents to be tipped or poured into a bottle, cup, or mug for use.



Flexible packaging allows brands many branding and format options, including pouches and matching single-use stick packs.

Image courtesy of Premium Labels & Packaging Solutions.

Pouches: Perhaps the greatest rise in the growth of the flexible packaging category is the popularity of flexible pouches. Often more cost-effective than traditional packaging options like glass, metal, and cardboard, these are an excellent choice for food, beverage, pet, cannabis, and nutraceutical packaging.

Laminate Tubes: Squeezable, functional, and eye-catching, laminate tubes are a hybrid of aluminum and plastic often used in the beauty and personal care industry.



Laminate tubes typically consist of a hybrid of materials for stronger barrier properties. They offer numerous options for eye-catching finishes and are often used for personal care and beauty products.

Image courtesy of Premium Labels & Packaging Solutions.

Bountiful Benefits

There is clearly a plethora of format options, but flexible packaging offers even more benefits.

- Lightweight and easy to store, carry, and reseal
- Provides tamper-evident, reclosure, and dispensing options
- Efficient product-to-package ratios
- Offers a smooth surface for high-quality images, so it's visually appealing on store shelves.
- Less material is needed to produce this format. Some studies have estimated the potential savings from using flexible packaging to be as much as 40%
- Cheaper to ship — the weight of flexible material can be up to 70% lighter than that of traditional packaging, and it takes up much less volume.
- Extends the shelf life of many products, especially food
- It is at the forefront of important packaging trends in product protection, design, and performance

Yes, It's Plastic, But Still Planet-Friendly

While most flexible packaging materials contain some plastic, the format has numerous eco-friendly aspects, especially compared to rigid packaging. It requires less material and uses 60 % less plastic than rigid packaging. It also utilizes fewer resources during production, like water and fossil fuels. Since less material is required to make the same product, the energy needed to convert the raw material into finished packaging is reduced. This decreases total greenhouse gas emissions and reduces the carbon footprint.



Significant strides have been made in sustainable flexible packaging including recyclable and compostable materials.

Image courtesy of Premium Labels & Packaging Solutions.



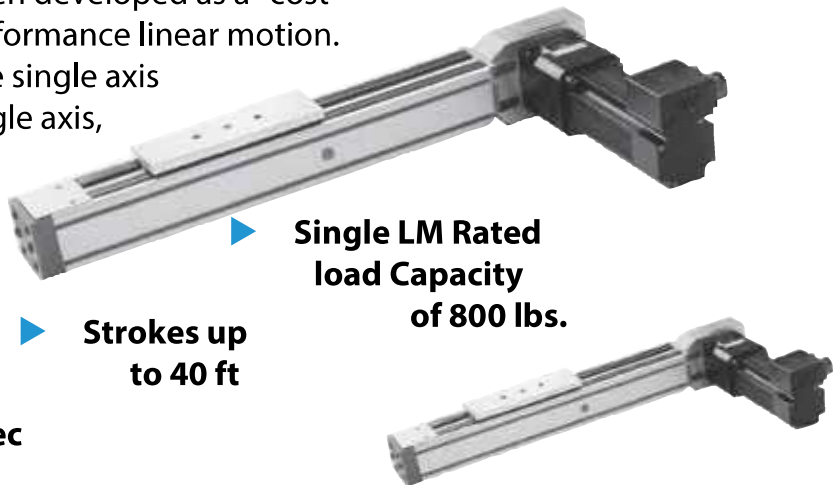
UNDERSTANDS THE INS AND OUTS OF LINEAR MOTION

These Linear Modules have been developed as a "cost effective" solution for high performance linear motion. Possible configurations include single axis driven/idler, parallel linked single axis, XY and XYZ systems.

▶ **Speeds up to 200"/sec**

▶ **Strokes up to 40 ft**

▶ **Single LM Rated load Capacity of 800 lbs.**



RACO International, L.P.

3350 Industrial Blvd. Bethel Park, PA 15102

412-835-5744 • www.racointernational.com

In addition, because flexible packaging is usually shipped either flat or on a roll, more packages can be shipped on a truck than rigid packaging. Because fewer trucks and pallets are needed, energy consumption and the use of other valuable natural resources are reduced. Flexible packaging requires less space and comprises only 4 % of the packaging material in landfills.

Lastly, significant strides have been made in sustainable flexible packaging materials. Recyclable options are made from 100% Polyethylene (PE) films, while compostable flexible packaging is biodegradable. However, be careful with these “green” materials because they may not provide enough barrier for creams, liquids, and oil-based products.

Five Steps to Make the Switch

- 1. Meet up:** Switching from rigid to flexible will impact several people inside and outside any organization. It’s crucial to bring all stakeholders together to discuss their part in the project and to decide on elements, including size, shape, closures and graphics. This could include product development, marketing, sales, creativity, logistics, operations, and other internal departments. Bring your external partners, like your ingredient suppliers, retailers and ad agency, into the process early on to discuss any ramifications regarding the format change.
- 2. Makeover:** This type of transition is a great opportunity to refresh other aspects of the packaging. Consider new graphics, updated copy and revised messaging as additional ways to entice new consumers.
- 3. Mock-up:** Produce package prototypes to ensure the packaging idea is viable. This can help catch and resolve any issues before investing money in printing a large run. If the budget allows, produce a limited quantity to test run the product in a small region.

4. Mimic: Arrange for stability testing, which is the process of determining, through storage at defined conditions and testing at specific intervals, how long a product remains safe and effective at particular storage conditions. When products are perishable, this testing is essential to your project.

5. Make sure: Do you have the right suppliers for this project? Packaging converters are “scientists” and must be well-versed in how the different layers of materials work together and interact with the product. That’s why working with an experienced printer who understands the manufacturing process and has expertise in recommending the correct combinations of barrier foils and films, sealant layers, and tie layers is crucial. When sourcing a new vendor, ensure their MOQs and lead times meet your needs and ask for samples of their work to ensure that the materials are up to the brand’s quality standards. ■

About the Author

Leslie Gurland, Vice President of Sales and Marketing at Premium Labels & Packaging Solutions, is a veteran of the label and packaging industry and has expertise in a variety of areas, including sales, marketing, product development and operations. Learn more at www.premiumlabelsandpackaging.com





Electronic Article Surveillance
RFID-Labels
Airline-Tickets
Inmould-Labels

Development and design of machines,
modules and spare parts for the
production of
Labels

Register Punching
Parking-Tickets
Price Labels/Hang Tags

Bottle-Labels/Wet Labels/Razor Blade Holders
Perforating Rules
Hollow Spring Knives
Entry-Tickets
Transport Holes
Punch Cards
Selfadhesive-Labels
Tea-Tags/Tea-Bags





Vector technology, suitable for Digital, Flexible packaging and Foil printed materials

With the RSM-DIGI-VARICUT, a new generation of Rotary die cutting, using a modular system for materials with a web width upto 850 mm wide and a print length up to 1.220 mm. There are several systems available for the collection and distribution of the finished product including the High Speed Robot "Spider". Contact us.

www.schoberusa.com
if you are interested in Die Cutting, Punching,
Cutting, Perforating, Creasing, Scoring,
Embossing, Sealing, Ultrasonic
Welding, Dispensing, Cut & Place,
Collating, Folding, Gluing/Bonding
or Laser Applications ...

Please contact us, we can assist you!

SCHOBER USA
4690 Industry Dr., Fairfield, OH 45014
Ph: 513-489-7393 Fax: 513-489-7485
solutions@schoberusa.com

