



STROUSE

| 1-PASS PRODUCTION

FROM ROLL GOODS TO HEAT-SEALED PRODUCTS IN ONE PASS



PUSHING POSSIBILITIES TO PROVIDE CUSTOMERS WITH GAME-CHANGING BENEFITS

Most flexible material converters are good at combining multiple materials and die cutting them into finished products. It's a widely used – and incredibly valuable – service that converters have become quite efficient at providing. If the product needs to show printed variable data, that usually requires an additional pass, which adds to production costs.

One innovative, elite-level flexible material converter has gone further. What once sounded nearly impossible – converting roll goods into finished, heat-sealed products in a single pass (including inkjet data) – is now a reality, providing a significant value-add to their customers while allowing for product traceability.

“Roll goods” are bulk materials such as plastic, paper, foil, foam, non-woven cloth, and many others. Similar to [“master rolls” of adhesive tape](#), these are large, heavy, and can be challenging to use in manufacturing if unfamiliar with them. The finished product is typically a single-use product, requiring the user to tear, rip, or cut open the flexible packaging or pouch.

Why 1-Pass Production?

- Increased production speed
- Better accuracy and quality
- Added efficiencies
- Reduced hand labor
- Less cost, less transportation, less hassle
- Minimized intrusion of biological matter

That final point requires more exploration. Just about every medical product is required to be sterilized at some point. How, when, and how often that happens dramatically affects the overall converting process. There are different ways to sterilize a product under FDA certification guidelines, and a converter has to determine what's best while considering efficiency (fewer sterilization steps is always the goal).

A medical material may have to be sterilized before being converted, the individual products may also require sterilization before being packaged, and then perhaps even a third time before being loaded into a shipping box. When everything is completed in one pass, however, it reduces handling and requires less sterilization.

Plus, the entire run is entirely traceable, so it's easy to find out the material, operator, time/date, etc. of every product. Having a visible expiration date or shelf-life can be vitally important for today's converted products.

ROLL GOODS TO HEAT-SEALED PRODUCTS...

Several Passes



1-Pass Production

Here's a side-by-side comparison of the two methods, with a "pass" being one run within the production process. It's easy to see how multiple passes add up to increased time and costs (labor, transportation, materials, and more).

Pass 1: Combining materials

Pass 2: Die cutting to the proper shape

Pass 3: Packaging (automated or hand labor) products and sealing them

Pass 4: Printing variable data, if required

Step 1: Multiple materials are combined and cut to their needed sizes

Step 2: Transfer the product between two layers of packaging material

Step 3: Specialized tooling heat-seals the two layers

Step 4: Variable data is printed on the packaging

As mentioned above, when sterilization needs to be done, it requires yet another pass in the "several passes" model but is seamlessly incorporated into 1-Pass Production.

CUSTOM TECHNOLOGY ENGINEERED INTO A PRODUCTIVE PROCESS

There are no magic machines that instantly turn roll goods into finished products. It takes advanced engineering – often reverse engineering, from a final product to the raw materials – to determine how a product can be designed for manufacturability.

When the goal involves high-volume production – say 1 million parts – the entire process needs to be engineered to meet that number, including the number of raw materials, machine speed and size, type of adhesive, heat-sealing equipment, etc.

A single step in the process (printing variable data, for instance) requires expert engineering and knowledge to correctly inkjet data while the product is on press. More and more products need a lot number, expiration date, or other data for tracking purposes. Also, if a product has multiple variations, printing variable data on the packaging makes it possible to track those variations.

Similar engineering expertise is needed for the heat-sealing step, the most common way to complete 1-Pass Production. Heat-activated adhesive, often polyethylene, is placed on particular areas of a pouch, and the correct temperature to bond the adhesives together must be reached for them to create a reliable seal. Space is also vitally important; heat-sealing requires space around the product to create the seal while not potentially damaging the product itself.

A final word on engineering. A sales representative is not an engineer. With multiple possibilities of how a process could run, sales reps don't have the expertise to determine which of the many moving variables is correct or how to reverse engineer a product to run smoothly. An engineer works with operators on the press to implement continuous improvements from the beginning to the end.





BIG PICTURE THINKING = SIGNIFICANT ADVANTAGES

Some flexible material converters are project-based thinkers, taking on one project at a time. Many projects require nothing more than that. However, for high-volume, high-quality converting needs, added efficiency and speed can quickly drive a product to market, providing a significant competitive advantage.

Yes, creating a 1-Pass Production process requires extra setup time and an investment in engineering. Yet as opposed to multiple setups, having one overall setup simplifies efforts and results in efficiencies and advantages that far outweigh the initial time/cost. Limited setups and passes also means having fewer vendors involved in the production, including sources for raw materials, a driving factor in modern manufacturing.

Combining multiple materials and die cutting them is standard for today's flexible material converters. What's revolutionary is the ability of Strouse to engineer multiple passes into 1-Pass Production. Inspired by customer needs, Strouse now completely converts roll goods into finished, heat-sealed products in a single pass.

Discover other ways Strouse is making the impossible a reality. Our goal is to hear you say, "We solved it with Strouse."