

## **Vertical Bagging Machines Improve Sustainability While Cutting Material and Labor Costs**

By Robin Thurgood, Vice President and general manager, Rennco LLC

Sustainable practices change the way companies approach packaging. Improving sustainability means consuming fewer resources and less energy, optimizing transportation, and reducing waste.

Vertical bagging machines support sustainable practices by reducing material consumption. For example, in volume applications — 500,000 or more pre-made bags a year — converting to vertical bagging technology can decrease the amount of material used and cut material cost by as much as 40 to 70 percent. Because shipping bags produced on vertical equipment effectively replace corrugated boxes in some applications, order fulfillment for instance, they are a sustainable option — the light-weight, compact bags require less energy to transport than the larger and heavier corrugated boxes. Less material enters the waste stream when bags rather than boxes are used to ship products.

Sustainable packaging advantages come from the fact that vertical bagging machines make a bag around the product or loose parts in the exact production numbers required with little waste. This means on-demand bagging where, when, and how it is needed. Flat or center folded polyethylene, polyolefin shrink wrap, PVC, and other roll stocks feed the bagging equipment.

High volume contract packagers, kit making operations, order fulfillment houses, and consumer packaged goods companies may also see a decrease in inventory and shipping costs when they convert to vertical bagging operations. There may also be a reduction in warehouse space requirements because keeping large inventories of shipping boxes or pre-made bags on hand will no longer be necessary. Rolls of feed stock are not only more compact, but also usually available locally on short notice.

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### **Vertical Bagging**

Volume vertical bagging offers higher throughput and less direct labor than operations involving pre-made bags. In pre-made bag operations, employees take the bag out of a box, open it, fill the bag, and seal it. Contrast that process with employees only having to place the item or parts in the machine and then remove the finished bag with product safely sealed within. There are similar throughput and labor savings for order fulfillment operations going from boxes to bags.

Because the film travels vertically around and down over the product, vertical equipment is ideal for bagging:

- Cylindrical items — paper cups, wall paper, ribbon rolls (items that are longer than they are wide)
- Odd shaped, products — footballs, toys
- Kit packaging — auto parts, puzzle pieces
- Bulk packaging — bottle caps, nuts, bolts, knives, spoons, and forks
- Products not easy to handle on a flat surface — tennis, golf, and soccer balls
- Mixed products — books and CDs, shoes and shirts

Vertical bagging machines are used in these industries: automotive, consumer products, contract packaging, electronics, food, food service disposables, hardware/tools, health and beauty aids, household goods, kitting, pharmaceutical, printing and publishing, order fulfillment, textiles, and toys.

When evaluating a supplier for vertical bagging equipment, investigate the longevity of the company, its record of innovation, and commitment to service and support. Ask the company to provide samples of your items bagged on one of its machines.

In terms of specific features, look for a constantly heated, coated “seal bar” for high throughput smokeless and odorless sealing. All machine functions — bag length, seal opening, heater setting, dwell time, and other parameters — should be controlled from a state-of-the-art operator interface. The interface should be easy to use and intuitive for employees, especially entry-level personnel. Look for film feed and seal assembly controlled by servo motors for fast, precise operation.

Leading suppliers provide equipment suitable to the widest possible range of film roll stock materials. They offer a choice of closure options, including easy open and re-closeable. For printed film, a photo-eye registration option is available. Suppliers should also offer options for on-the-bag printing for lot number and other print requirements. Look for both semi-automatic and fully automatic bulk bagging equipment in the supplier’s line. This implies extensive application expertise on the part of the supplier.

Sustainability means decreasing the environmental footprint of the package. Vertical bagging not only accomplishes this, but also delivers material and labor savings and increased throughput.

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