- BEVERAGE INDUSTRY
- BRAND PACKAGING
- CANDY INDUSTRY
- CONFECTIONER
- DAIRY FIELD
- FLEXIBLE PACKAGING
- FOOD & DRUG PACKAGING
- INDUSTRIA ALIMENTICIA
- MEAT & DELI RETAILER
- THE NATIONAL PROVISIONER
- PL BUYER
- REFRIGERATED & FROZEN FOODS
- REFRIGERATED & FROZEN FOODS RETAILER
- SNACK FOOD & WHOLESALE BAKERY
- STAGNITO'S NEW PRODUCTS MAGAZINE

Retort pouches build up steam

by Pan Demetrakakes
Executive Editor

Big food companies are taking advantage of technical advances to bring out retorted products in flexible material.

Ever since the Napoleonic Wars, retort packaging has meant rigid containers.

That canned response is changing. Now, flexible and semi-rigid packages are increasingly finding their way into retorts, and out again onto store shelves.

Flexible retort packaging has been "the next big thing" in packaging for more than a decade. But now some big names are coming out of the can. Major tuna brands like Star-Kist, Chicken of the Sea and Bumble Bee have been in retort pouches for years. Tyson Foods rolled out white-meat chicken in a foil retorted pouch in October 2002. Sara Lee recently introduced Sweet Sue Kitchens, a line of retorted chicken, ham, turkey and other products in retortable pouches. Masterfoods Inc. shipped Ready Rice, its line of cooked, shelf-stable rice in pouches, at the beginning of this year.

Users and suppliers say technological improvements, in both materials and machinery, are behind this surge in alternative retort packaging. Other innovations, such as reclosable zippers, are available and waiting for commercialization.

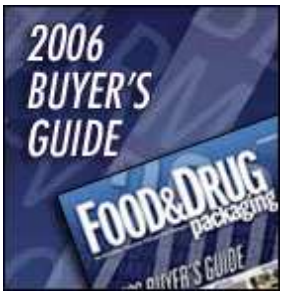
"After a lot of years of being confined to some selected military and institutional applications, it really has started to jump out into the consumer market," says packaging consultant Huston Keith. "It seems to be growing quite a bit."

The military has for years been the biggest user of retortable flexible packaging, for its field rations known as Meals Ready to Eat (MREs). The advantages of pouch retorting are especially applicable to MREs, above all their light weight, easy opening and slender profile compared to cans.

Retort pouches have found more acceptance overseas, especially in the Pacific Rim. This stems partly from other countries' greater willingness to embrace shelf-stable products, and partly from sheer American inertia.

Leslie Gurland, president of the U.S. branch of CLP Packaging Solutions, an Israeli company that supplies retortable pouch material, notes that she has worked in textiles and tires: "It doesn't matter what industry I've been in. Traditionally, America's always behind." U.S. consumers are reluctant to accept innovations, and businesses hesitate on capital expenditures; the combination holds back innovations long after they catch on overseas, Gurland maintains.

Dennis Calamusa, president of AlliedFlex Technologies, a consultant and machinery manufacturers' rep, says the problem is simple unfamiliarity with the concept of a shelf-stable pouch for certain foods.



"When [a retort pouch is] presented to consumers, they sort of scratch their heads and don't understand what it is," Calamusa says. One of the problems, he says, is that in early applications, the pouch was put inside a carton: "Most people, when they see a cartoned product, they think it has to be prepared."

Unique features

Current applications, like the fish products that came out several years ago, are more likely to be line extensions that supplant canned goods, rather than compete with them. But extensions or not, the best applications for retort pouches take advantage of their unique features. Because heat is distributed more evenly and quickly throughout the package, particulates often can be retorted with less water. Star-Kist and others play up this aspect in advertising that touts the "no-drain" feature.

Rethinking the product's relationship with the consumer was the primary motivation behind the development of Fall River Wild Rice. The company, based in Fall River Mills, Calif., started shipping shelf-stable pouches of wild rice last year to Wal-Mart.

"What we were attempting to do is really solve from the consumer standpoint what we saw as barriers to wild rice adoption," says company president Hiram Oilar. Wild rice is expensive and takes a long time to cook. The retort process cooks the rice while sterilizing it, allowing consumers simply to microwave it.

In an initial rollout to Trader Joe's retail stores, the rice came in a foil pouch. Falls River then made the switch to a laminated film, converted by CLP Packaging Solutions. This film, which includes a layer of polyethylene terephthalate gly (PETG) coated with silicon oxide, allows the product to be microwaved. The new film cuts the shelf life from 20 to two years vs. the foil pouch, but Oilar says two years is still plenty.

Silicon or aluminum oxide coating is one of the important material advances in flexible retort applications. Retort pouches use material fundamentally different from standard ones. The sealant layer typically is polypropylene (PP) or PET instead of polyethylene (PE), which can't stand up to retort temperatures.

Sticky issue

The adhesives that hold together the layers are another concern, says Dennis Carespodi, director of commercialization for retort laminate supplier RJR Packaging. Retorting demands adhesives based on aliphatic rather than aromatic hydrocarbons on the product side of the barrier layer, which are more expensive and harder to cure, Carespodi says. The adhesive interface between the foil and the ink on the reverse-print outer layer is especially tricky.

Retort pouches have been executed in form-fill-seal applications, but premade pouches have about 90% of the market. Observers say this is because the stakes are higher in retort applications; a blown seal could lead to food poisoning.

"If a pouch has to be made in-line, you're making three or four seals," says Roger Stainton, president of filling equipment supplier Bossar USA. "If you're filling a premade pouch, you only have to worry about closing up one seal."

Other conveniences in pouch retort applications await commercialization. Zippers that are compatible with PP sealants, and otherwise suitable for retorting, are available from suppliers including Zip-Pak, Alcoa and Presto Products. CLP Packaging Solutions holds a patent on a process for laser scoring, which can be tricky in retort packaging because of concerns about weakening the inner layer.

As retort pouch applications grow, the pioneers of the niche hope to see a mass consumer education process. That's why Oilar says he doesn't fear Masterfoods' rollout of rice in retort pouches.

"The reason I'm not apprehensive about it is I think what they'll bring is

some of the advertising dollars that we can't afford to put into it. And they will create consumer knowledge," he says. "As consumer preference is driven toward this item, and the volume goes up, we just hope to take advantage of that." F&DP

Packaging Group holds retort pouch seminar

The Packaging Group is holding a seminar on retort pouches April 21-22 at the Radisson Inn, Princeton, N.J. Retort Pouch 2004 will feature industry leaders from Pechiney, Sonoco, Alcan, Bossar, Tredegar, Clemso n University, Pyramid and others, speaking on topics that include a market overview and projections, consumer reaction to retort pouches, innovative materials to meet rigorous requirements, premade pouches vs. form-fill-seal equipment, convenient opening and closure systems, and more.

The Packaging Group Inc.
732-636-0885

Recart brings retorting to cartons

Bonduelle, the largest French vegetable packer, is using Tetra Pak's Recart, which is being introduced in the U.S.

Tetra-Pak plans to introduce a significant twist on non-rigid retort packaging to the U.S. this quarter: the Recart (retortable carton).

Recart containers consist of laminated paperboard that can stand up to a water-spray pressurized retort system. They are shipped as blanks, filled and induction-sealed from the top and bottom.

"For all intents, it's an alternative to a metal food can, but it's very similar in construction and performance to a retortable pouch, with some obvious mechanical differences," says Steve Hellenschmidt, general manager of Tetra Recart.

Tetra Recart has been used for pet food and vegetables in Europe. In the U.S. market, Tetra Pak is concentrating on prepared meals like pasta, chili, stews, beans and soups, Hellenschmidt says.

Tetra-Pak
847-955-6454; www.tetrapak.com

TABLE OF CONTENTS TOP OF PAGE