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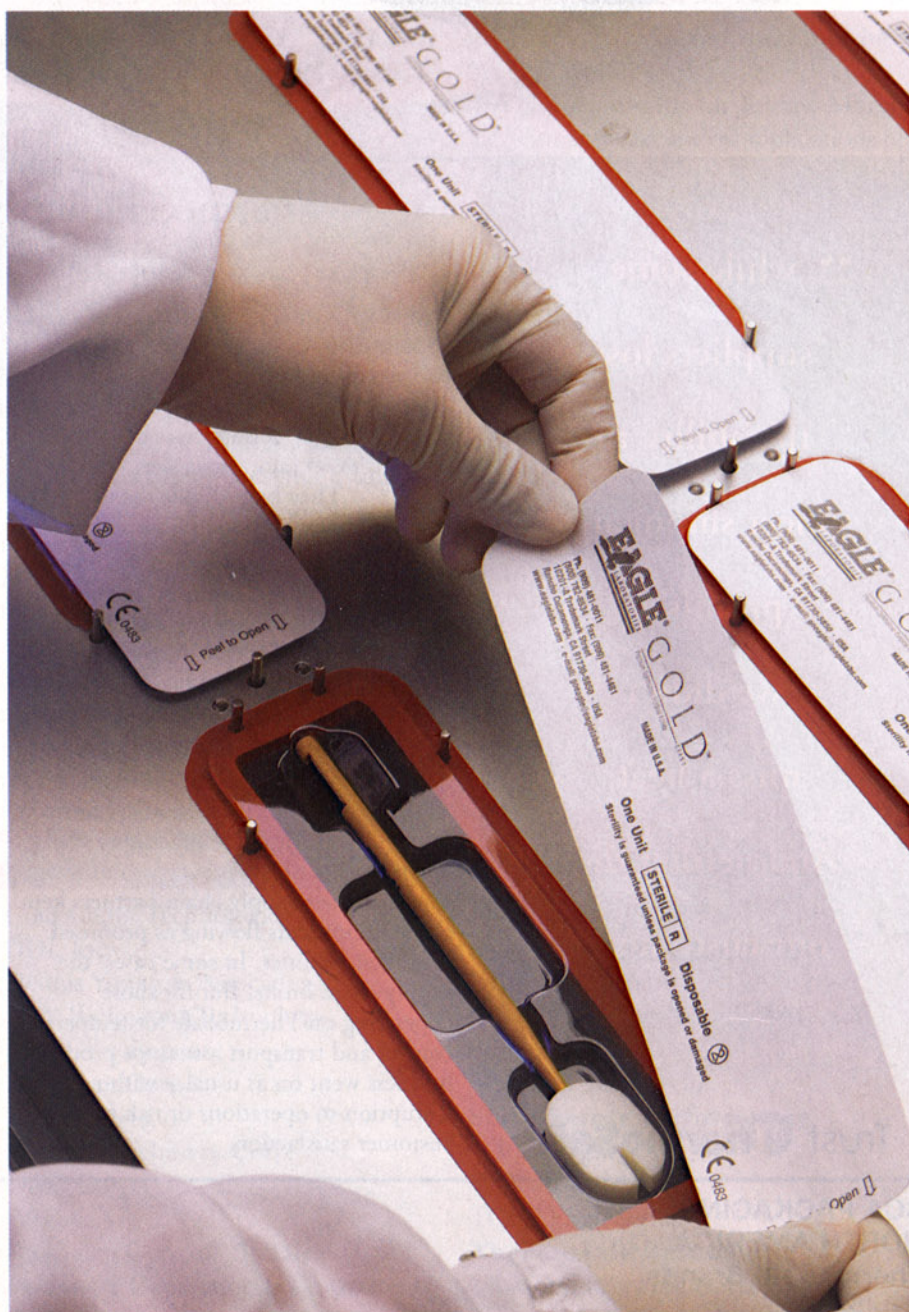
Clear Vision—and Packaging—Increase Sales for Surgical Laboratory

Clear trays lend visibility to surgical blades and knives.

Dennis De Camp is a man of vision. In the medical products manufacturing field since 1963, he developed a line of surgical blades to be used mostly by ophthalmologists and others during eye surgery. His company, Eagle Laboratories (Cucamonga, CA), which he founded in 1988, enjoys \$5 million in sales per year worldwide. “Eagles are known for their eyesight,” he says. “We are a leading source of single-use surgical products with one of the largest selections of ophthalmic cannulae available today.”

In July 2003, De Camp embarked on a quest for new packaging. “We were using an opaque Tyvek pouch for the 40-odd variations of blades we manufacture,” he states. “But we make a high-quality product, and we want packaging that reflects that higher technical quality.” De Camp decided to switch to a clear thermoformed tray with Tyvek lidding.

To get started, he turned to Belco Packaging Systems Inc. (Monrovia, CA). Eagle Laboratories had received such good results from a shrink-wrap machine purchased from Belco that the firm didn’t talk to any other manufacturer before buying another Belco product, the BM Standard 2020 medical tray sealer. A hallmark of Belco’s tray sealers is that their machine frames are not constructed using bolts, so they won’t loosen and weaken the machine. Adds Tom Misik, vice president for sales and marketing at Belco:



"All our machines are Class 10,000 cleanroom compatible for minimal maintenance, fast tooling setup, and repeatability."

De Camp also wanted the ability to package different products during the same packaging cycle. Belco delivered such a system. "Eagle Laboratories can put two different products in sequence as long as they share the same temperature and pressure," says Misik.

For tray thermoforming, Misik recommended Flexpak Corp. (Phoenix). The company runs an 84,000-sq-ft plant under a successful kanban, JIT, and min/max inventory program with a dock-to-stock supplier rating. De Camp asked Flexpak to help design a family of trays with one footprint. The final package for Eagle is 2 in. wide, ½ in. deep, and 7 in. long. The list of products to be packaged includes lamellar and sclera, myringotomy, miniature-edge, refractive (LASIK), and needle blades, the last of which are useful in pediatric surgery for capsulotomy and paracenteses. Also included are precise microsurgical knives for controlled depth-incision blades.

"Each of those blades has to be packaged individually. We might run our packaging machine only one or two days a week. So it's important that the design features a simple process regarding turnover parameters for the change-seal fixture," De Camp says. There are six blades per box, which costs between \$35.25 and \$97.72.

For the tray material, Flexpak recommended a film from its rigid-vinyl supplier, Klöckner Pentaplast of America Inc. (Gordonsville, VA). "We're a big user of their films," says Ed Berger, Flexpak's vice president of business development. "One reason we can be so responsive is due to the responsiveness of Klöckner Pentaplast. They have a sterling reputation with us for the past 25 years."

Eagle Laboratories chose Klöckner Pentaplast's Pentamed PETG. The film is gamma sterilizable, offers

superb clarity, and is of consistently excellent quality, reports Rich Ryder, business manager for medical device films. "Another important factor is our global sourcing capability," he adds. "With production facilities across the United States and abroad, we can get our films to market in a hurry."

Pentamed's stability was also a benefit. "Our custom-seal fixtures are designed around the thermoformed and lid materials," says Misik. "Once the product is nested, it's necessary to hold the components in registration. There can be no shifting during sealing. Pentamed film provides a sure-strong seal because it doesn't curl, it lays flat, and it feeds without interruption, so there are never any real production issues."

Once the surgical blades are placed into the thermoformed trays, the trays are loaded into the seal fixtures and

indexed into the Belco two-station tray-sealer chamber. The unit automatically applies process parameters for time, temperature, and pressure that were established and validated by Eagle Laboratories. The typical sealing temperature range for medical device packages is 235° to 250°F. Belco's machines offer a unique temperature alarm circuit to ensure that the sealing process occurs at the proper temperature.

Most important is the accuracy of the heat platen incorporated into the medical tray sealer. The seal fixture shuttles into the sealing chamber. A heating platen then applies pressure and heat through the lid that activates the adhesive, which melts to the thermoform, creating a seal between lid and tray. The adhesive needs to peel easily for no-fuss access in the operating room by a nurse.



Surgical blades from Eagle Laboratories are packaged in thermoformed trays utilizing Klöckner Pentaplast's Pentamed PETG film.

According to Misik, the BM Standard 2020 handles moderate production volumes. Consequently, Eagle Laboratories can package millions of products per year, depending on the size of the tray. It also depends on how

fast the operator works, as the machine must be handfed.

De Camp says he is very pleased with Belco, Flexpak, and Klöckner Pentaplast. For instance, "Flexpak works fast. There was an urgency to

get the new packaging on the shelf quickly, and Flexpak met the deadline by several weeks," he says.

Since the first new packaging hit the shelves in March 2004, "Sales are going well," De Camp reports. "They are exceeding our forecast. I would say the increase has to be due to the new packaging. It's very handsome. The Pentamed PETG film has superb clarity, which achieves the higher-quality look we want."

Cost-wise, the new packaging is more expensive, De Camp admits. "But it presents the desired image of higher technical quality that Eagle Laboratories was looking for. And the increased sales would indicate that the extra expense is justified." ■