

Corrugated **TODAY**

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AND CANADIAN INTEGRATED AND INDEPENDENT BOX MAKERS

SEPTEMBER/OCTOBER 2009

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Cost Savings at the Diecutter

PRODEN'S NEW CUTTING DIE SYSTEM CAN HELP BOARD CONVERTERS REDUCE TRIM SIZE, INCREASE ROTARY DIECUTTER SPEED AND SAVE MONEY.

In an effort to help board converters save money during the diecutting process, Canadian diemaker Proden, Inc., based in Montreal, has developed a system that reduces the amount of waste produced on rotary diecutters.

"The TrimSaver™ System differs from traditional trim waste management technologies because it can reduce trim waste by up to 66%," says Elio Dell'Olio, Proden Vice President of development. "It could mean on average a reduction of up to 2% of the total sheet size."

The new product enables board converters to reduce their trim size for diecuts to $\frac{3}{16}$ -inch on lead and trail and $\frac{1}{8}$ -inch on the sides, explains Clint Medlock, President of Stafford Cutting Dies, Inc. "This means instead of adding 1-inch in the feed direction and $\frac{3}{4}$ -inch across the press, you can now add $\frac{3}{8}$ -inch to the feed direction and only a $\frac{1}{4}$ -inch across the press."

Stafford is one of four diemakers in the U.S. that offer the new system.

How It Works

Unlike traditional cutting dies, the new system has what Dell'Olio refers to as a "unique apparatus" that rubs against the knife, preventing any short trim from getting stuck between the plastic component and the cutting blade.

The new system involves a three-step process for control and cutting accuracy:

Pressuring — Pressure is applied on the entire surface of the trim area against the anvil.

Blocking — The combination of its features block any gap in which small trim waste can get stuck.

Ejecting — Ejection is supplied to push trim waste further downward even on the smallest trim sizes.

By Jackie Schultz

"With the ability to cut the small trim, you can reduce trim size thus the paper cost," Medlock says. "This reduces the amount of scrap you must get rid of including baling and the cost of transportation."

Board converters save on:

- The sheet size they need to order or manufacture;
- Operational downtime because of the reduction of trim accumulation and improved durability;
- Production speed through faster converting on larger blanks because of the improved trim waste control.

On typical yearly orders, the savings could amount to anywhere from \$9000 or more on the cost of corrugated board.

Suitable Applications

TrimSaver works on any rotary diecutter, however, Dell'Olio says the cutting die has to be new. Existing dies cannot be retrofitted to accommodate the new system. Also, there are no size constraints. "That's the beauty about it," Dell'Olio says. "The only thing that corrugated converters need to do is make their board smaller all around. We can run with $\frac{1}{16}$ to $\frac{1}{32}$ trim. What we suggest is $\frac{3}{16}$ to $\frac{1}{8}$ trim all around. With traditional dies they're using $\frac{1}{2}$ to $\frac{3}{4}$ inch all around so we're saving them about 2% of their board all the time."

The system works with all thicknesses of corrugated board, including miniflute and does not reduce the speed of the diecutter. In fact, it increases the speed, according to Dell'Olio.

"We tell customers that we can give them a 25% minimum

“ON THE LARGER RUNS OVER THE COURSE OF A YEAR IT CAN SAVE YOU SOME SERIOUS MONEY,” SAYS AL GODFREY OF C&B DISPLAY PACKAGING INC.

faster speed with the TrimSaver because it doesn't let any trim accumulate between the rubber like a regular conventional die," he says.

The system is also suited for jobs that require larger dies. "Where it really works the best is where you have a very long die, like 100, 110 inches across the machine and you have a straight lead edge, which usually takes more pressure with regular rubber to diecut," Dell'Olio says. "The system releases a lot of that pressure. You will have less damage to the blades and you're cutting with less pressure."

The TrimSaver System can reduce trim waste by up to 66%, according to Elio Dell'Olio, Proden Vice President of development.



In The Field

C&B Display Packaging Inc. in Mississauga, Ontario, has been using the TrimSaver system for about a year. The independent converter purchased the die from Proden specifically to run a high volume job that consists of a four or five-color label laminated to E/B doublewall.

The job, which runs every month and amounts to about one-half million pieces over the course of one year, is run on a 66- x 113-inch two-color Ward rotary diecutter.

Al Godfrey, C&B Vice President of Operations, says he is pleased with the results. "It did what it said it would do. It allowed us to reduce our trim factor. On the larger runs over the course of a year it can save you some serious money."

C&B saved 3% or about \$1300 in a year, Godfrey says.

Larger volume type jobs such as the one at C&B are ideal for the new system because the die lasts longer than a regular die, according to Dell'Olio. The rubber is made from non crack substances like silicones and

TRACKING COSTS

To illustrate the cost savings of its new TrimSaver system, Proden, Inc. tracked an order for a beverage tray that was 24¹/₈-inch corrugation direction by 17⁷/₈-inch across the flutes. The customer ordered 5.4 million trays annually. The die was a six out, 2 x 3 which translates into 900,000 impressions or sheets. The finished diecut sheet size was 48¹/₄-inch x 53⁵/₈-inch.

Using standard trim sizes for this converter of 1-inch through the press and ³/₄-inch across the press, this translated into a normal sheet size of 49¹/₄- x 54³/₈-inch and 18.597 sq ft of paper per sheet.

Using the industry average of \$50 per msf, the total paper cost in this order was \$836,865.

"Using the TrimSaver specs of ³/₈-inch through the press and ¹/₄-inch across the press, they reduced the sheet size to 18.192 sq ft," says Clint Medlock, President of Stafford Cutting Dies, Inc. "Using the same pricing, the total paper cost was \$818,647."

The direct savings of paper was 364,356 sq ft, and the paper cost savings was \$18,217, according to Medlock.

"There are many additional savings that are more difficult to measure but in this case, this excess trim would relate to 72 additional bales of scrap corrugated that you need to store and transport," he says. "We also know it requires less pressure to diecut since there is no hard rubber on the lead to restrict cutting. As board converters know, less pressure will provide longer anvil life."

Regarding the green factor of this particular order, converting excess waste into the equivalent number of trees equates to a total of 305 trees. "We're talking almost the size of a football field saved," Medlock says. "The same waste would require 899,000 cubic meters of water or 237,490 gallons of water to produce — the equivalent of 4¹/₄ Olympic size swimming pools."

TrimSaver has a link on its web site (www.trimsaversystem.com) that features a savings calculator. Board converters can enter sheet sizes, quantity and msf cost and the savings are displayed.

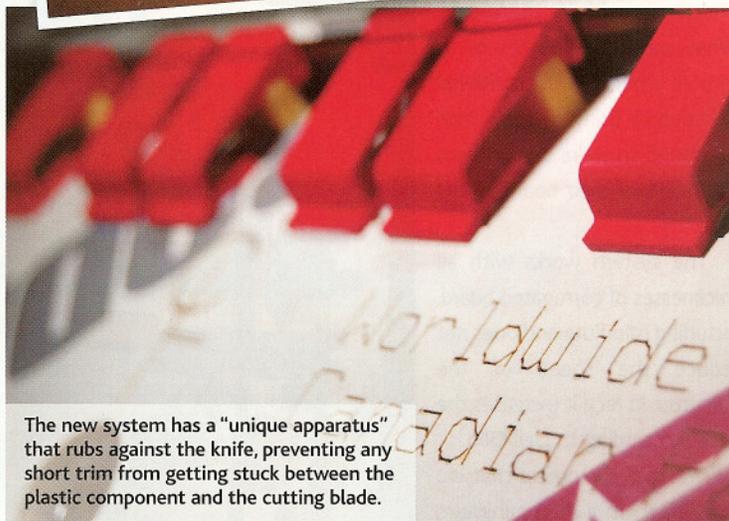
PCA IS TESTING THE NEW PRODUCT ON HIGHER-VOLUME SELF TRIMMING ITEMS IN ORDER TO CUT DOWN ON ROLL WIDTHS ON THE CORRUGATOR.

polypropylenes. "We have dies that have been lasting for millions of impressions," Dell'Olio says.

In addition to saving money, reducing trim and increasing diecutting speed, Godfrey says the die is quite forgiving when it comes to sheets that aren't perfectly flat. "If your board isn't perfectly flat or is warped or rounded it can misfeed or not feed the same as a flat sheet. With the TrimSaver this seemed to be a non-issue. Registration was bang on all the time.

"We're always looking for new things like this. Not only does it save us in cost but it also means that we don't have quite as much scrap to clean up," Godfrey says.

Packaging Corp. of America (PCA) is currently trialing the new system at several of its plants. To



The new system has a "unique apparatus" that rubs against the knife, preventing any short trim from getting stuck between the plastic component and the cutting blade.

Trimming Waste

date, the results have been positive, according to Dave Doberstein, team leader, converting.

In one trial, PCA's Omaha, Neb., plant was running with $\frac{3}{4}$ of an inch trim in the through direction and $\frac{1}{2}$ inch trim across the machine. "We reduced the trim down to $\frac{3}{8}$ inch through the machine and $\frac{1}{4}$ inch across and that helped fine," Doberstein says. "We also had the Top Matrix on the cutting die and we were able to improve our run speeds and get a much better scrap ejection than we had with the existing re-rubbered cutting die."

With the new cutting die the plant was able to run at about 170 kicks a minute with the same results it was getting at 110 kicks a minute with the old cutting die. "When we sped up the old cutting die we had too much trim getting into the units," Doberstein says.

THE SYSTEM WORKS ON ANY ROTARY DIECUTTER AND WITH ALL THICKNESSES OF CORRUGATED BOARD.

PCA chose to trial the new product specifically for higher-volume self trimming items in order to cut down on roll widths on the corrugator. "If we can reduce the trim on the diecutter we can then order narrower rolls on the corrugator and save

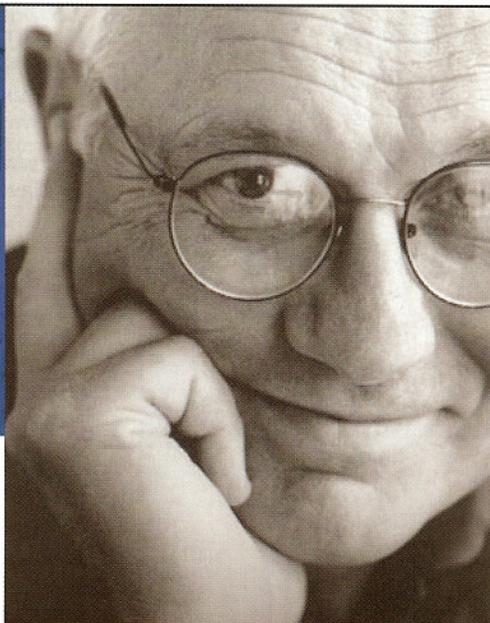
the waste," Doberstein says.

In terms of cost, the dies are more expensive than traditional ones due to material and labor. However, Dell'Olio is quick to point out that the savings will offset the expense. "On a 900,000 sheet run, you will be saving anywhere from \$20,000 to \$24,000 of wasted materials. If a die is \$2000 and you're running one million blanks you'll be saving anywhere from \$24,000 to \$30,000 so what's the cost of a die when you have that type of savings?"

TrimSaver is exclusively licensed and available in North America through Inspirere Innovations members, including Proden, Stafford Cutting Dies, Jonco Die Co. Inc., Dieco, Inc. and Craftsman Cutting Dies, Inc. The product is also available in Europe through Dievision and Raleigh Integrated Solutions.

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TrimSaver™ System

Cutting trim,
Cutting Waste
for Real savings

A New Revolution in Rotary Diecutting



"Our press does not hold register very well, the TrimSaver™ System has eliminated trim build up, reduced pressure and double anvil cover life."

"And the best: no more rejections from our customers due to trim in the loads."

Dave Iverson
Die Technician
Smurfit Stone Containers
Minneapolis

A Cut Above

The TrimSaver™ System (TSS) is a patented revolutionary advance on traditional trim waste management technologies. Cutting down waste through reducing trim waste by up to 66%. It could mean on average a reduction of up to 2% of the total sheet size. A small number that can lead to a big impact on total waste ratio and the "bottom line". The new product enables board converters to reduce their trim size for diecuts to a minimum of 1/8-inch to 3/16-inch.

How It Work

It involves a 3-step process for perfect control and a perfect cut, bump after bump:

1. Pressuring: Pressure is applied on the whole surface of the trim area against the anvil.
2. Blocking: The combination of its high-tech features, block any gap in which the small trim can get stuck.
3. Ejecting: Powerful ejection is supplied to push trim waste further downward even on the smallest sizes.

Visit www.trimsaversystem.com. Try our **Saving calculator** and watch the **TrimSaver™ System animation**.

Cutting down on trim waste Really Pays Off

Corrugated board Manufacturers and converters save on:

- The sheet size they need to order or manufacture
- Operational downtime because of the reduction of trim accumulation and improved durability
- Production speed through faster converting on larger blanks because of the improved trim waste control. On typical yearly orders, the savings could amount to anywhere from \$10,000 to over \$100,000 on the cost of corrugated board alone.

The TrimSaver™ System is available through your *Inspire Innovations* partners exclusively:



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