



Plants take proactive steps to reduce waste

All box plants generate waste, however, some choose to view it as a normal part of their business while others look for ways to reduce it. Scrap Trakker, a data collection system, is one tool that can assist in the reduction process.

By Jackie Schultz
Editor

In an industry where paper is the biggest cost, it makes sense that companies would want to track its use, or more specifically its waste factor. The task, however, can be tedious and time-consuming. Box plant personnel can spend literally hours manually tracking waste – collecting, weighing and inputting data on a spreadsheet.

That was the case at Acme Corrugated Box Co. Inc., a corrugated plant in Hatboro, Pa. Machine operators would collect the waste, fill out a questionnaire and send everything to the baler.

“Not only did it take a lot of time, but really at the end of the day we didn’t know how valuable or how right our data was,” says Joe Tizol, scheduling manager. “We spent so much administrative time on it that we really didn’t go

deeper into the process to find out if we were reporting it correctly.”

At one point the company was generating about 12%-13% waste. “What made up that mix was difficult for us to find out,” Tizol says.

Last year, Acme became more proactive in tracking its waste when it installed a data collection and software system designed specifically for the task. Called Scrap Trakker, the system is combined with a hardware package that uses touch screen and barcode technologies.

Acme’s 16 pieces of converting equipment as well as its corrugators and shipping and quality departments are tied into the system. It pinpoints where the waste is coming from, when it was generated and why.

Since installing the system, Acme Box has



Paul Baumann, president of RTC Technologies, and founder of Scrap Trakker

experienced a marked drop in waste. In November 2008, controllable waste was 11.08% or \$177,000. In February, controllable waste was 9.64% or about \$142,539.

Tizol says there are several reasons why the waste percentage dropped. Since eliminating the manual tracking of waste, there is more time to train the machine operators. Also, recent lay-offs reduced some lower ranking personnel so more experienced people are operating the machines and generating less waste. And then there's the installation of the new system. "With the aid of Scrap Trakker we now know where to go. I can go to the Martin flexo on second shift and find out that the waste is 1% or 2% higher than anybody else and focus some training time there to find out why this is happening."

Acme runs about 150 to 160 orders of primarily brown box a day. Runs are usually small quantities, as low as 25 to 50 pieces. Average order size is 1000. "We have some flexos that do upwards of 50 to 60 setups in two shifts. The organization is built around that," Tizol says.

Because of Acme's product mix, being able to

track waste was very important. "We didn't want to add another step to our process that was going to slow down setup time and run speed and give the guys an extra job that was going to be more difficult," Tizol says. "That was key for us on the floor. Some of our things are complex. Operators are setting up dies, making sure their boxes are precise, checking print, doing a lot of things."

Significant Savings

Prior to installing Scrap Trakker, Tim-Bar Packaging & Display was measuring yield. "It was a fairly meaningless statistic based on inventory," says Bill Thom, vice president of operations. The company then began using spreadsheets to measure waste by MSF, order by order. Thom admits it was a tedious task.

In 2004, TimBar installed Scrap Trakker at its Miami corrugator plant. Today, the company has the system installed at nine facilities throughout the U.S., including its two fulfillment centers in New York and Pennsylvania.

The system is combined with a hardware package that uses touch screen and barcode technologies.

Waste is weighed at the baler and the information is entered into the Scrap Trakker system.



Tracking Waste

Thom says he had two objectives. "No. 1 was to measure and measure accurately. No. 2 was to use the tool to reduce waste. Until you identify what it is, there is absolutely no logical way to do that."

When TimBar first began using the system, company-wide waste was in excess of 8.5%. "Last year we were at 5.85%. It's only creeping down by tenths now," Thom says.

In terms of savings, Thom says, "Going from 8.5% down to 6%, that movement reflects at current paper prices just over \$1 million. We're not saving much anymore. We're maintaining. Last year over the previous year we saved something like \$100,000."

Thom is quick to point out that Scrap Trakker does not reduce waste. It is only the first step in

ACME CORRUGATED BOX'S 16 PIECES OF CONVERTING EQUIPMENT AS WELL AS ITS CORRUGATORS AND SHIPPING AND QUALITY DEPARTMENTS ARE TIED INTO THE SYSTEM.

the process. "Almost everyone I talk to wants to understand how this reduces waste. It is only a data collection system," he says. "The beauty of Scrap Trakker is the ease in which it lets you collect the data and slice and dice it any way you want and print out reports in as much detail as you want."

All scrap is collected from TimBar's various machine centers and sent to the baler where it is weighed and the information is entered into a database via touch screen. "For example, if we have a pallet of bad boxes from a flexo folder-gluer, that pallet can be identified by up to four different types of scrap," Thom says. "Each machine center and each type of scrap has a barcode. A tag goes to the baler identifying each type of scrap, and the amount on the pallet as a percent must equal 100%."

Waste is identified not only by type and machine center but also by shift. This helps to identify and solve any problems, Thom says.

Every TimBar plant has a waste team. "Every week we're posting data. It's discussed at crew meetings at least once a month," Thom says. "All of these things are characteristics of our Lean process. It is a tremendous tool for us. We're like baseball. We measure everything."

Acme Corrugated Box		Scrap Types by Area	
Date: _____		Corrugator 1	
Shift: _____			
Supervisor's Signature: _____	MUST BE SIGNED BY	SUPERVISOR	
C1 Peel 100 %	<input type="checkbox"/>	C1 Upper Warp 625 %	<input type="checkbox"/>
Cores 60010 %	<input type="checkbox"/>	C1 Lower Warp 626 %	<input type="checkbox"/>
C1 Bridge 140 %	<input type="checkbox"/>	C1 Upper Overrun 623 %	<input type="checkbox"/>
C1 Shear 600 %	<input type="checkbox"/>	C1 Lower Overrun 624 %	<input type="checkbox"/>
C1 Upper Delamination 610 %	<input type="checkbox"/>	Blisters 630 %	<input type="checkbox"/>
C1 Lower Delamination 611 %	<input type="checkbox"/>	Glue Dam	<input type="checkbox"/>
C1 Upper Misalignment 615 %	<input type="checkbox"/>	Stacker Jamups (Shingling)	<input type="checkbox"/>
C1 Lower Misalignment 616 %	<input type="checkbox"/>	Internal Damage Peel 105	<input type="checkbox"/>
C1 Upper Wetboard 620 %	<input type="checkbox"/>	Mill Claim/Roll Damage 60020	<input type="checkbox"/>
C1 Lower Wet Board 621 %	<input type="checkbox"/>		

Acme Corrugated also tracks waste at its two corrugators.

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Each type of waste is bar coded and scanned into a database.

Acme Corrugated Box
Waste Report - Detailed
Date 02/01/2009 06:01
02/28/2009 06:00

	First	Second	Third	n/a	n/a	Total	%	MTD	Total	MTD %	Target %	%Var
McKinley	5,202	229	0	0	0	5,431	0.09%	2,165	0.09%	0.00%	0.00%	0.09%
13605 Setup/Print/Skew	1,206	1,007	0	0	0	2,213	0.04%	2,373	0.04%	0.00%	0.00%	0.04%
13610 Jam-ups	539	0	0	0	0	539	0.01%	539	0.01%	0.00%	0.00%	0.01%
13622 Skating/Registration	73	0	0	0	0	1,051	0.02%	1,051	0.02%	0.00%	0.00%	0.02%
13624 Glue Issues	710	2,344	0	0	0	3,054	0.10%	4,064	0.16%	0.00%	0.16%	0.10%
Total McKinley	7,120	2,344	0	0	0	9,464	0.17%	1,194	0.02%	0.00%	0.00%	0.02%
Serenity	1,154	0	0	0	0	1,154	0.02%	0	0.00%	0.00%	0.00%	0.02%
14102 Setup/Print/Skew	0	0	0	0	0	0	0.00%	646	0.01%	0.00%	0.01%	0.01%
14110 Jam-ups	646	0	0	0	0	646	0.01%	0	0.00%	0.00%	0.00%	0.01%
14122 Skating/Registration	0	0	0	0	0	0	0.00%	0	0.00%	0.00%	0.00%	0.00%
14124 Glue Issues	0	0	0	0	0	1,808	0.03%	1,840	0.03%	0.00%	0.00%	0.03%
Total Serenity	1,840	0	0	0	0	1,840	0.03%	177	0.00%	0.00%	0.00%	0.03%
T-Series D/C	0	79	0	0	0	79	0.00%	177	0.00%	0.00%	0.00%	0.00%
1563 Setup	0	79	0	0	0	79	0.00%	19	0.00%	0.00%	0.00%	0.00%
Total T-Series D/C	0	79	0	0	0	79	0.00%	19	0.00%	0.00%	0.00%	0.00%
Hycoer Tray GL	0	0	0	0	0	0	0.00%	19	0.00%	0.00%	0.00%	0.00%
1599 Setup	0	0	0	0	0	0	0.00%	101	0.00%	0.00%	0.00%	0.00%
Total Hycoer Tray GL	0	0	0	0	0	0	0.00%	0	0.00%	0.00%	0.00%	0.00%
Taper/Gluer	64	37	0	0	0	101	0.00%	16	0.00%	0.00%	0.00%	0.00%
1800 Setup	0	0	0	0	0	0	0.00%	16	0.00%	0.00%	0.00%	0.00%
1820 Skew	16	0	0	0	0	16	0.00%	117	0.00%	0.00%	0.00%	0.00%
1824 Glue/Tape Issues	60	37	0	0	0	97	0.00%	2,504	0.04%	0.00%	0.00%	0.04%
Total Taper/Gluer	80	37	0	0	0	117	0.00%	2,504	0.04%	0.00%	0.00%	0.04%
Mini EMBA	1,229	1,175	0	0	0	2,404	0.04%	527	0.01%	0.00%	0.00%	0.02%
11002 Setup/Print/Skew	299	237	0	0	0	536	0.01%	1,108	0.02%	0.00%	0.00%	0.02%
11004 Jam-ups	757	341	0	0	0	1,098	0.02%	1,393	0.02%	0.00%	0.00%	0.02%
11022 Skating/Registration	1,345	58	0	0	0	1,403	0.02%	4,013	0.07%	0.00%	0.00%	0.07%
11024 Glue Issues	3,731	1,791	0	0	0	5,522	0.10%	1,342	0.02%	0.00%	0.00%	0.02%
Total Mini EMBA	6,062	2,222	0	0	0	8,284	0.15%	801	0.01%	0.00%	0.00%	0.01%
Langston	2,331	1,082	0	0	0	3,413	0.06%	668	0.01%	0.00%	0.00%	0.01%
11905 Setup/Print/Skew	567	835	0	0	0	1,402	0.02%	868	0.01%	0.00%	0.00%	0.01%
11910 Jam-ups	411	395	0	0	0	806	0.01%	868	0.01%	0.00%	0.00%	0.01%
11922 Skating/Registration	411	395	0	0	0	806	0.01%	868	0.01%	0.00%	0.00%	0.01%
11924 Glue Issues	459	149	0	0	0	608	0.01%	668	0.01%	0.00%	0.00%	0.01%

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At The Corrugator

TimBar and Acme also use Scrap Trakker to track waste at their corrugators. For TimBar, the process is the same as what is done at each machine center, collecting the waste and sending it to the baler, Thom says. Most of TimBar's corrugator waste is wet end.

"For us, if you don't track waste in a corrugator plant by weight you're not tracking waste," Thom says. "You have to have it balanced off roll stock."

Acme has two 68-inch Agnati corrugators. "We break down waste at the corrugator into three sections: wet end, dry end and charge back," Tizol explains. "Previously, if it was warp it caused you all kinds of issues through your converting machines, and we would normally charge that back to converting. With Scrap Trakker we have the option of charging that back to the corrugator."

"We tackled a lot of issues on our corrugator because we found that our charge backs were relatively high," Tizol continues. "We were hogging the cores up and throwing them away. The corrugator superintendent suggested we save them for a week and weigh them. They're a couple hundred pounds so now we segment that out and count it as non controllable waste."

Acme Corrugated generates a report that identifies waste by type, machine center and shift.

"IF WE HAVE A PALLET OF BAD BOXES FROM A FLEXO FOLDER-GLUER, THAT PALLET CAN BE IDENTIFIED BY UP TO FOUR DIFFERENT TYPES OF SCRAP," SAYS BILL THOM OF TIMBAR PACKAGING & DISPLAY.

Last year Independence Corrugated, a sheet feeder in Oak Creek, Wis., installed Scrap Trakker.

Prior to the installation, Chad Gillenwater, process manager, says he was logging waste data on a spreadsheet and then entering it into an Excel program. He admits that this system worked fine, however, Scrap Trakker freed up more of his time.

"Using Scrap Trakker is like using a new toy. Instead of doing it with pen and paper and having to keep track of the sheet, it's instantaneous. You weigh it, scan it and enter it. I've never had to worry about losing the spreadsheet," he says.

One particular area that Scrap Trakker has helped Independence Corrugator pinpoint was peel waste. "Peel waste is a necessary evil but you always want to try to reduce it. It helps us to see whether we're tracking high or whether we need to do some additional training," Gillenwater says. "You're always going to have to take a peel or two, but it's when you're getting into three, four, five, six wraps around that roll, you could be talking hundreds of feet of paper."

The First Installation

Innovative Packaging Corp. (IPC), a Milwaukee sheet feeder, was the first corrugated facility to install Scrap Trakker. It was actually IPC Production Manager Terry Paulson who suggested the idea for a computerized waste tracking system.

Paulson approached Paul Baumann, president of RTC Technologies, with the parameters. It had to be easy to operate, it needed to be foolproof, and it needed to produce comprehensive reports specifying where the waste came from and when it occurred.

Baumann applied his many years of manufacturing and IT knowledge when developing Scrap Trakker. "I take a great deal of pride in my ability to look at a manufacturing process and be able to apply technology to improve it," he says.

IPC, which is now owned by Smurfit-Stone Container Corp., reports six digit waste savings as

a result of Scrap Trakker. The system is also installed at Smurfit-Stone's Bedford Park and Hanover Park, Ill., sheet plants.

There are about 50 installations of Scrap Trakker across the U.S., Mexico and the Dominican Republic. It is installed as a turnkey system. "We come out to the plant and put it all together and spend a day making sure they're collecting information and producing a waste report before we leave," Baumann says. "Everyone is a little bit different. Our cabinet is always placed with a scale by the hogger. I do a lot of work trying to minimize effort."

Baumann says the success of the system is directly related to a plant's production manager. "If he wants to see the numbers and he wants to improve, it will be successful. If he doesn't care it will be less than successful."

In terms of ROI, Baumann says, 1% of scrap in a corrugated plant equals about \$20,000 a month. "Since plants are running anywhere from 6% to 15%, reducing it by just 1%, the ROI on Scrap Trakker can be 30 days.

"Scrap Trakker has no ROI unless you do something with the data. It just gives you the information," he says. "The production managers' biggest comment is that it tells them where to spend their maintenance dollars. Scrap Trakker will identify where the problems are. You'll see the waste starting to spike in areas. You need to do something about it. Just watching the report, Scrap Trakker itself will not fix anything. It's going to give you the data to know what to fix and it will help you justify the allotment of dollars."

Baumann recommends generating a report every shift, although some plants choose to do one report daily.

"The nice thing about Scrap Trakker is it not only shows you what's bad, it shows you your improvements because you're seeing trends and the actual numbers," he continues. "If you share this information with your crews, they can look at the numbers and see why waste was high or improved."

Thom agrees. "When you measure something it gets more attention. You get better performance. We saw immediate results. Then the hard work begins. People can work on problems that help the business and you can reward them for that."

Adds Gillenwater, "There's a fine line between whether it really helps you reduce your waste. It helps you pinpoint where your problems are so you can backtrack it to reduce your waste. If someone has high waste it's not because they don't have Scrap Trakker, it's because they don't know where their scrap is coming from."

"If someone has high waste it's not because they don't have Scrap Trakker, it's because they don't know where their scrap is coming from," says Chad Gillenwater of Independence Corrugated.