

Roll Sheeting Comes of Age

BY C. CLINT BOLTE

Acceptance of commercial sheetfed printers has been slow, but interest is growing and long perfectors have become common tools for more general commercial printers. We look at the advantages and disadvantages of online vs. offline sheeters.

Packaging printers have been sheeting SBS board stock from rolls on offline, stand-alone units for half a century. Sheeting commercial paper from rolls has been a viable process improvement for sheetfed printers since the mid-1980s as manufacturers designed smaller, more compact units. Still, acceptance by mainstream general commercial sheetfed printers has never reached any appreciable degree of its potential. New interest has been generated in the past couple of years as the long perfectors have become mainline tools for more general commercial printers. As a matter of fact, the number of 8-12 unit sheetfed presses installed without an in-line sheeter is becoming more the exception than the rule.

In the old days, the difficulty of achieving accuracy of cut and squareness from an in-house sheeter was a concern. Printers who harbored doubts about the quality of the sheet being delivered from the on-line or in-line sheeter would be unlikely to commit north of \$5 million to buy a long perfector.

On-Line vs. Off-Line Sheeters

Let's look at the advantages and disadvantages of on-line vs. the off-line sheeter. The on-line will save the labor of an off-line operation, along with pallets and storage (regardless of how brief) of the sheeted product waiting to move to the assigned press. The on-line does not need the stacker that the off-line requires. On the negative side, the on-line unit requires sophisticated electronic integration and a dancer accumulator to adjust for fluctuating press speeds. And it can provide only grain long or short but not both. It achieves this grain direction by delivering the stock straight in as grain long for the production of full-size A4 signatures. When stationed at a right angle to the press, it delivers short-grain stock for the smaller trim book signature.

The off-line unit can deliver both short and long grain stock simply by shifting the position of the pallet receiving the sheeted product. The on-line unit delivers one sheet at basically press speed. The off-line unit can cut 60 inches wide, which means it can slit 2-out of a 56-inch-wide roll to deliver dual stream 28-by-41-inch sheets to a pair of pallets next to one another. While the

on-line is limited to the speed of the press, or 13,000 sheets an hour (430 feet a minute), the off-line machine can run three times that speed (up to 1,300 feet a minute), plus deliver 2-out.

While both on- and off-line units require an investment in the \$450-500 thousand range, a single off-line sheeter running five 10-hour shifts can provide stock to keep three sheetfed presses busy around the clock six days a week. Or stated another way, a single shift on the off-line sheeter can provide stock for up to eight press shifts. Instead of feeding only one press, every press in the stable can receive stock from the off-line sheeter.

Driving the decision for sheetfed printers to buy roll stock and sheet their own are the cost of the roll stock vs converter sheeted product and the ever-quicker turnaround times required to deliver the finished product. The \$30-60 per hundredweight (CWT) savings is typically this roll vs. sheet differential.

Pressure from JIT Schedules

With more and more clients insisting upon just in time (JIT) schedules, printers are scrutinizing every process element to attain control and reduce lead times. The definition of "full service" has never before taken on such a broad context. Depending on make orders at the mills and the resulting cyclic demands at converters, lead times for sheeting can reach a couple of weeks or even more. The recessionary pressures of the past couple of years tend to keep that lead-time down. The economic turnaround now under way will increase demand and could lengthen that critical waiting period. This might make the consideration of this equipment a very timely one.

Specialty printers have tended to have in-house sheeters, including packaging (printing on board), label (printing on coated one side) and envelope converters. The two things these firms have in common are stock standardization and the need for a variety of sizes, which is satisfied by the different roll-length cutoffs. And yet many of these firms deliver 4-6-8 color products with quality as demanding as any commercial shops.

Printers should carefully consider the economics of their investment. The areas of savings are the sheeting charge by the mill or the converters, the extended time

needed for this extra outside service, and the extra warehouse space needed for sheeted skids rather than roll stock.

The sheeting process will incur spoilage. In the 1980s paper board surveys indicated that 3.6% would be an average, while 70% of the respondents experienced 2% or less sheeting waste. In recent years, with the improved electronic controls and enhanced technology incorporated in these sheeters, users target 1% spoilage and some claim to come under that figure. This reduced spoilage is realized despite the product shifting trends of shorter runs, more frequent changeovers and multiple handling of rolls.

The warehouse space savings is certainly not an incidental advantage. The optimum operation would buy 50-inch diameter rolls to be sheeted. They would stack 40-inch-wide rolls five high or 60-inch-tall skids four high in a 25-foot-high warehouse (22-foot clear under the sprinkler heads). Precut skids are stored in racks possibly four high or two high if on top of one another. With this scenario, calculations would show that roll stock to be sheeted would save 50% of the floor space of precut skids. In reality, the square footage savings is more like 20-25% due to aiseways and work in process storage requirements between the sheeter and the presses.

Dave Kornbau, operations vice president for Strine Printing in York, Pa., said his firm has been sheeting rolls in-house for four years. Strine now has three different sheeters manufactured by three different suppliers. These roll converters are running full out to provide sheeted stock to 12 sheetfed presses running around the clock six days a week.

Strine's most recent press, a MAN Roland XXL, installed last November, requires an unusual 80-inch cutoff, which is provided by its off-line Maxson MDH

sheeter. "Currently, 95% of the stock printed has been sheeted in house," said Kornbau. His conservative estimate is that printers with sufficient paper volume should realize payback on their investment in three to four years.

Printers consuming 80 tons of paper a month can realize an ROI on an in-house sheeter. This is the equivalent paper for production of two full shifts on a 40-inch press that nets 10,000 impressions an hour at the industry norm of 43% run time.

While used sheeters are readily available, their unusually low prices carry a caveat. The analogy is similar to the cheap prices quoted for used sheetfed presses manufactured prior to the mid-1990s, namely, the latest electronics that lead the way for very fast make-readies and many automation features are simply not available as upgrades on older roll converting units.

In previous years, the sheeter manufacturers would exhibit primarily at the Converting Machinery Manufacturers (CMM) trade show. Due to the increasing interest by sheetfed printers, as well as their partnerships with press manufacturers in showing on-line operations, these suppliers will be at the Graph Expos and Print equipment shows. A few of the well-known sheeters are Bielomatik, Jagenberg, Lambs Gray, Langston and Maxson. Prospective printers that cannot wait for the Graph Expo 2006 in October 15-18 should call Brent Burdick, Maxson's vice president of sales and marketing, at 401-596-0162 (maxsonautomatic.com) or Ron Pueshel, USA president of Bielomatik-Jagenberg in Windsor Conn., at 860-640-0500 (biel-jag.com) for product literature. **TSR**

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