

Introducing a checklist for flexible packaging converters –1/12

Considering & evaluating slitter-rewinders

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Slitting and rewinding is almost the final process before finished reels and before pouching or form, fill, and sealing operations. Following a series of converting operations on flexible packaging material, it is the last step for the converter before shipping the reels to the customer for forming, filling, and sealing. In some cases, the converter uses these reels for pouching to provide these to customer specifications.

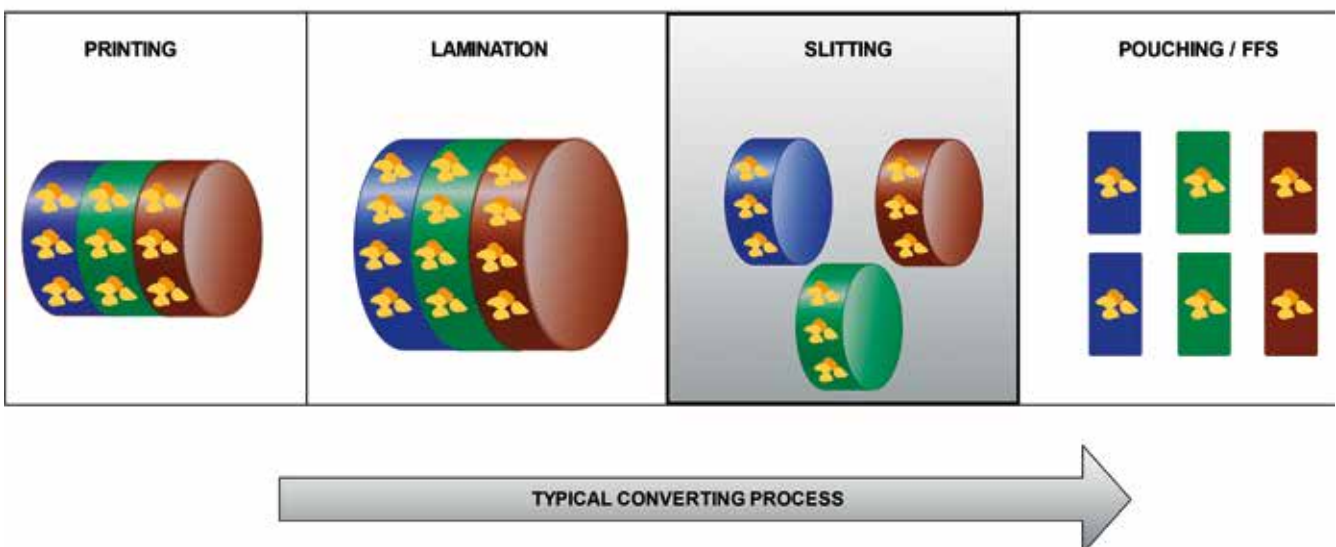
The performance of the slitter rewinders is directly related to the quality and visual appeal of the finished reels or pouches. Being at the end of the converting processes, any interruption during the slitting operation would result in the pile-up of expensive inventory into which all the material and previous processes have contributed costs and time.

The slitting process is critical from the perspective of quality, throughput, delivery, and the customer's time to market. Therefore, the technology required to support this process is no less demanding than the printing and lamination operations. The inherent challenges of slitting and rewinding can challenge the design and testing abilities of the best converters and equipment manufacturers.

What are these challenges?

A combination of higher speeds, thicker substrates, and smaller rewind reel diameters result in shorter production cycles and more frequent reel changeovers, often just a few minutes apart. The machine or system is required to ramp up to full speed and down to zero quickly and repeatedly, subjecting the machine components to high stress.

Like any other web-fed machine, maintaining the tension levels and stability of the substrate is crucial for the smooth operation of a slitter-rewinder. The difficulty goes up by several notches because the web may have significant calliper vari-



ations across the web at the infeed side, and after slitting – the multiple reels on the output side cannot be of a uniform standard without differential rewinding.

The high frequency of rewind reel changeovers, coupled with the fact that multiple reels are to be changed each time, reduces the productive time of the machine to less than 50% of the total time consumed. Unless these changeovers are quicker, the incremental output or throughput resulting from the higher speeds of the slitting operation would be far below pro rata. This less-than-linear production can put a big question mark on the wisdom of opting for higher-speed machines and investing in their underlying technology.

As the co-founder of a company that has focused exclusively on slitter-rewinders for the past two decades, it is refreshing to see buyers in recent years exercising the same, if not more diligence while selecting this equipment as they have been doing in case of co-extrusion, printing, and lamination equipment.

This series of articles is committed to pointing out the critical criteria that a flexible packaging converter or buyer of slitting and rewinding machines should keep in mind while evaluating and zeroing in on the equipment. Subsequent monthly issues of *Packaging South Asia* will continue the conversation by discussing each of the 12 important considerations in this process. ■

(This is the first of 12-part series)

■ PlastIndia – Transformative solutions for packaging industry

Bobst's innovative solutions for sustainable packaging

At PlastIndia 2023 in Delhi's Pragati Maidan in February, Bobst showcased some innovative samples and highlighted the suitability of these solutions for its customers' businesses. The company said that it is ready to make sustainability in packaging a reality.

At the heart of Bobst presentation at PlastIndia was oneBARRIER – a family of new alternative and sustainable solutions that Bobst has developed with various partners. These solutions have the potential to transform the packaging industry.

oneBARRIER PrimeCycle, a polymer-based mono-material, is recycle-ready while retaining excellent barrier qualities, making it a potentially groundbreaking development for sustainable packaging. The special samples printed at their center in San Giorgio, Italy, were on display at the booth during PlastIndia. It is a fully reliable process to consistently produce top-quality polyolefin-based or paper-based recycle-ready ultra-high or high barrier packaging, with faster time-to-market from day one.

Along with the samples above, there were samples showcasing oneECG, which is Bobst's Extended Color Gamut (ECG) technology deployed across analog and digital printing processes. It is a process to digitize color matching, thus making it stable, easy, repeatable, consistent and independent of human interpretation.

The company has developed successful water-based applications on its gravure and flexo presses. Water-based inks work greatly to reduce VOC emissions as these most often contain a maximum of 30% solvents in the formula. Not only does this reduction protect our planet from pollution, it also makes for a safer and healthier working environment for operators. Their flexo printing presses such as a Master CI, Vision CI or their rotogravure presses such as the RS 5003 or the RS 6003 are apt for this.

Along with the above, Bobst's AIOx process is well-established in the market. It offers excellent coating uniformity, transparency and recyclability, making it ideal for converters looking to contribute to a circular economy.

Bobst had representation from each of its product lines – Luigi Provera for gravure & laminating (Bobst Italia); Bill Duckham for CI Flexo (Bobst Bielefeld);



The Bobst stand at PlastIndia 2023

PLASTINDIA 2023

Review – Part 2