New partnership to launch lamination technology in solventless adhesives

A jointly-developed solution, SYMBIEX is an ultra-fast curing adhesive technology that, combined with the Duplex SL One Shot lamination line, enables slitting in 90 minutes and conversion efficiency improvements

Dow Packaging and Specialty Plastics, a business unit of The Dow Chemical Company, and Nordmeccanica have announced the launch of a lamination technology, using both adhesive and machinery hardware advancements.

SYMBIEX Solventless Adhesives, Dow's new ultra-fast curing adhesive technology, combined with the Duplex SL One Shot lamination line from Nordmeccanica, redefines packaging lamination, offering efficiency improvements, shorter time-to-market and total conversion cost reductions.

Speaking exclusively to *Converter* during the drupa exhibition, Marco Re Fraschini, technical service and development leader EMEA at Dow Europe, and Giancarlo Caimmi, commercial director at Nordmeccanica, confirmed the launch was "a great success".

"We got very good feedback from customers and everybody recognised our launch as the biggest innovation in lamination adhesive," said Fraschini. "This is the first drupa that we've been at; our objective was to deliver the message that we are the leader in the adhesive and laminating segment – I think our mission is accomplished.

"Dow always wants to deliver a solution for the consumer in the value chain and we collaborate with OEMs, brand owners and customers to try and find what is really needed across the market. In order to be ahead of other companies working with Nordmeccanica was the best solution."

Caimmi added: "For Nordmeccanica the number of visitors recorded at the booth was slightly higher than we expected, and our new innovation was the topic of nearly all our meetings.

"Each company is working on each side of the innovation according to their knowhow. Nordmeccanica and Dow have joined to hopefully bring new products in the future. The partnership is not limited to this first launch. We have looked at this part of the market from two different sides of the table, the hardware and the chemical side."

Javier Constante, commercial vice president, Dow, (left) and Antonio Cerciello, president of Nordmeccanica

Pouches made with the new SYMBIEX technology

Other benefits of this new technology include: Lower cost-in-use – reduced line downtime and curing inventory; ability to form a package in less than one day from lamination, and achieve food compliance within one day for most film structures; eliminates adhesive scrap; and bond-quality checking 30 minutes after lamination.

PACKAGING LAMINATION REDEFINED

Compared to a conventional lamination line, the Duplex SL One Shot laminator features a system to handle the solventless lamination process, enabling the two adhesive components to come into contact as late as possible. With two independent high-precision coating stations, the two films are pressed together only in the lamination nip station where the curing of the adhesive takes place. This process eliminates the need of a mixing unit and any pot life concerns, and offers reduced downtime and easy cleaning.

"In collaboration with Dow we set ourselves targets, for example the almost 50/50 ratio of the adhesive helps the two coating heads to deliver approximately the same amount of adhesive on both webs," continues Caimmi. "We designed coating stations that allow for remote settings and replication of the settings from one station to the other in a completely automatic way.

"The idea was that we didn't want to overcomplicate the lamination procedure; starting at the early days of this idea, we took out of the equation existing established technologies such as water and basic lamination. These are not always as efficient as solventless lamination."

Fraschini explains that in talking to its customers Dow found that there was a need to react to last minute requests and to therefore speed up the whole lamination process. By working with Nordmeccanica applying a two-coat adhesive independently this can be achieved, with only 90 minutes needed after the lamination before the materials can be slit and the rolls moved on to the next step of the process. Dow has been working with common substrates found in the packaging market, including polyester, aluminium foil, and PE films.

"One example I'm using here, if you have a substrate roll coming into the factory at eight in the morning you will start the lamination process. Then in 90 minutes you can start cutting and slitting the roll, then within the same day you can produce pouches on a packaging machine. At eight the next morning, the product will be out the door ready for the customer. With a different technology, you would be working with a four or five day turnaround."

Caimmi adds: "In reality you do not believe something until you see it. It was a great idea to change the entire converting process onstage [at drupa] with the demonstration daily at the Nordmeccanica stand and then 90 minutes later we were using that same roll on the Dow booth on a commercial slitter."

- **www.dow.com**
- **www.nordmeccanica.com**

The two technologies combined on the same machine