A.C.S - Airflow Control System: The solution to boost production with crosslaid nonwoven lines

A.C.S stands for Air Control System. It is the latest development from ASSELIN-THIBEAU to enhance the productivity of nonwoven crosslaid lines. ACS was introduced for the first time during the last November Hof's Seminar in Germany. The first equipment will be operational in the industry in January 2011.

As year after year card technology allows higher production capacities from single cards, in the meantime, it is easy to add individual needlelooms or to extend the length of ovens. As a consequence, the pressure remains high on the crosslapper to optimize and balance the production capacity of the whole production line.

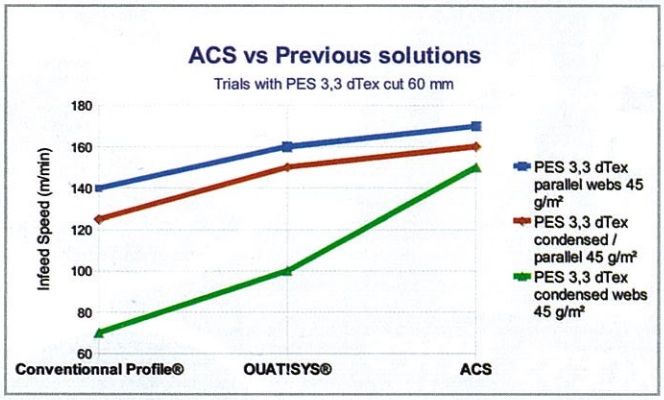
Commonly, the production capacity increases with the ability of the crosslapper to handle a card web at high speed, without generating extra fibre tension.

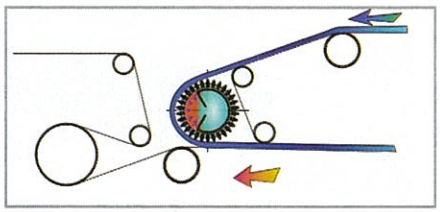
Extra fibre tension on the web helps to ease its entry into the crosslapper infeed carriage. Extra tension on the card web directly results in generating web weaknesses and a cloudy aspect, measurable on the final nonwoven fabric.

As a consequence, most nonwoven producers prefer to run the crosslapper infeed speed between 70 to 110 m/min, and there are only a few exceptions which are running day and night, seven days a week at speeds up to 140 m/min. Those producers are using Asselin crosslappers equipped with the Ouat!sys system.

The second option to increase the production capacity is to run with heavier card webs, parallel or condensed, and feed the crosslappers as fast as possible, but always at lower speeds than when running with conventional card web weights. Nevertheless, it is not proven that running with such heavy card's webs; really enable higher production rates.

The Ouat!sys system introduced by ASSELIN-THIBEAU in 2003, enhanced the crosslapper productivity with whatever parallel or condensed card webs.





As speed further increase or as the card web weight increases, the requirement for higher air suction power increases; to keep the web in contact with the rotating cylinder. The Ouat!sys system found its limits and ASSELIN-THIBEAU started to look for an even better solution. This is how the ACS was born.

The ACS performances are outstanding. With literally NO draft (difference of speeds) between the card and crosslappers infeed speed, it has been possible to reach the performances below.

The ACS system really boosts the whole nonwoven production line productivity, with a special increase of production capacity when the process requests the use of a condensed card web.

As an additional benefit, the ACS system includes no static parts which can detain or scratch the card web structure. It does not use any air vacuum power and does not require any specific cleaning requirement. ACS system is visible in the NSC nonwoven showroom, where it is possible, for all nonwoven producers to run their own fibres, with their own parameters. ◆

Nonwovens makers will have to switch to renewable or recycled materials

A significant share of the world's nonwovens production will be made from 100% renewable or recycled materials by 2020, according to a report in Issue No 82 of Technical Textile Markets. This prediction is based on a commitment by Procter & Gamble (P&G) to make its products more sustainable by using 100% renewable or recycled materials for all its products - which include diapers and other disposable hygiene items. Admittedly, the commitment is a long-term one. But as a first step, P&G aims to achieve 25% of this ambitious target within just ten years. P&G also intends to eliminate all waste going to landfills -- and to pass this goal along its supply chains.

Approximately 80% of the nonwovens used in disposable products for the hygiene market are based on polypropylene, and are produced on spunmelt machines incorporating configurations of spunbond and meltblown extrusion beams. But according to the secretary general of European Bioplastics, Harold Kaeb, polypropylene will be widely replaced by bioplastics in nonwovens and films for hygienic disposables. In fact Mr Kaeb has predicted that bio-based products have the potential to replace 90% of all polymers derived from petrochemical sources -- which implies a huge potential market, amounting to around 205 million tons a year. The main problem in using bioplastics is that existing capacity is a drop in the ocean compared with potential demand.

At present, worldwide biodegradable bioplastics capacity is a mere 300,000 tons a year. This represents a fraction of the 230 million tons a year of regular petrochemical-based polymer currently being produced. The use of bioplastics alone, therefore, will not be nearly enough to satisfy the demand for polymers and fibres for the hygiene product market - despite plans for capacity expansion by many producers. Consequently, as well as biopolymers, cellulosic fibres are poised to benefit significantly from initiatives such as P&G's 2020 vision.

A key to the potential success of cellulosics in nonwovens for disposable hygiene products will be a new spunmelt nonwoven technology called TencelWeb, as long as the technology can be perfected. TencelWeb allows nonwoven webs to be made directly from lyocell spinning solution, rather than from polymers derived from petrochemicals such as polypropylene and polyethylene terephthalate.

If perfected, the technology could be used extensively for making lyocell nonwovens on existing spunmelt systems which use synthetic polymers.If P&G's ambitions are to be fulfilled, other technological breakthroughs will be needed. However, P&G's decision will provide developers with the confidence that the fruits of their efforts will be rewarded.◆