Economic solutions

Lighter weight products with no compromise on strength are driving the growth of nonwoven geotextiles, says Autefa.

utefa Solutions reports that the demand for geotextiles is growing with the global economy and stringent government regulations are reinforcing their usage.

The main advantage of nonwovens comes from their economic production, with output of up to to 1,800 kg/h, the company says. The demand is now for lighter weight products of between 90-120 gsm without compromising strength, although Autefa's technology can be engineered to produce weights of up to 1,600gsm.

The company manufactures both single machines and full lines for nonwoven needlepunched staple fibre geotextiles, as well as needle looms for spunbonded geotextiles and scattering machines and needle looms for geosynthetic clay liners.

Stylus

The Autefa Stylus needle looms can be supplied in width of up to 8.5 metres, for the production of roll goods of up to seven metres.

They are based on the long-standing experience of the former Fehrer in Linz, Austria, and characterised by the Variliptic elliptical needling drive. This remains a unique solution in terms of draft reduction and improved MD/CD ratio values for all quality grades and the horizontal stroke is infinitely adjustable during the needling process. Unlike other commercially-available machines, the Stylus requires just a single compact drive. The Variliptic drive increases the service life of the needles and minimises the risk of needle breakage, optimises the surface of the fabric, while also protecting fibres and minimizing the needle wear.

Maintenance-free gearboxes further reduce production costs.

The design of these machines enables vibration-free running, with needle densities of up to 30,000 needles per metre and stroke frequencies up to 2,000 rpm in continuous operation.

Futura Card

With one main cylinder and a high number of carding points, Autefa's Web Master Futura card has a production capacity over 500 kg/h per metre of card width. A focus in the development of the latest version has been on easy maintenance, with an opening system on high-precision linear bearings, ensuring that after closing, all rollers are exactly in the same position as before. All major parts - the feeding group, first main cylinder, transfer group and doffers – are on separate carriages, connected by a single screw on each side and forming a chain to which full access for cleaning and maintenance is extremely quick and easy.

Topliner

The company's Topliner crosslapper in combination with WebMax web profile control and Autefa's profiling system serve to fully determine web uniformity and compensate for the 'smile effect' that can result from material shrinkage, with resulting cost savings in raw materials.

The two drafting zones of the WebMax allow a slight pre-draft and a precise draft of the web in the second drafting zone. This is a further guarantee of constant quality at high production speeds. The Topliner is distinguished by a short web path for precise layering and when running at high lapping speeds, internal web accumulators ensure a weight-neutral and straight-edged web



deposit in the reversal point of the layering carriage.

In geotextile lines, the web drafter and felt drafter are essential for the active draft and web homogenisation.

Product optimisation

At its Nonwoven Competence Centre in Linz, Austria, Autefa has industrial scale web forming and bonding technologies covering all customer requirements in respect of application-oriented product optimisation. Five needle looms are available for trials, providing the opportunity for the evaluation of fibres, blends, wires and needles and allowing process development for special applications, performance and quality optimisation.

As part of China Hi-Tech Group Corporation (CHTC), Autefa Solutions represents the combined know-how of the former companies Autefa, Fehrer, F.O.R, Octir and Strahm in one group, with key technology sites in Austria, Germany, Italy and Switzerland. **SNW**