

Press Release

Oerlikon Textile presents technologies for future trends at the Techtexil trade fair in Frankfurt

Yarns for wide range of applications

NEUMÜNSTER, REMSCHEID, CHEMNITZ, April 17, 2013 – whether for wind power systems, for aerospace technology, whether for stadium roofs made from high-tech membranes, geogrids made from polyester used in landscaping, nonwovens for insulating and roofing – technical textiles currently cover a wide range of applications. At this year's Techtexil trade fair – being held in Frankfurt am Main between June 11 and 13 – Oerlikon Textile and its Oerlikon Barmag and Oerlikon Neumag brands will be showcasing solutions for the efficient production of innovative yarns for very special applications. To this end, the company will however also be premiering new nonwoven production processes: in the future, Oerlikon Neumag will be offering systems for the manufacture of bitumen and underlay roofing membranes and with geotextiles as a total solution (Hall 3, Stand A03).

Technical nonwovens within the construction sector

With systems and equipment for manufacturing substrates for bitumen roofing membranes, for underlay-roofing membranes and also for geotextiles, Oerlikon Neumag, one of the leading suppliers of nonwoven technologies, offers the complete spunbond process – from polymer granulate all the way through to rolled goods. "In terms of the system width, our machines are not just able to produce up to five times more material, they also help cut operating costs for energy and maintenance and save on operating staff costs", explains Dr. Ingo Mählmann, the Oerlikon Neumag nonwovens expert. He sees a clear trend – particularly within the construction sector – towards the utilization of spunbonds instead of the stable and fiberglass products used to date, also because these nonwovens are – thanks to their single-step production – less expensive to manufacture. "Bitumen roofing and geotextiles are perfect examples of this, but this trend fundamentally also applies to many other construction nonwovens, such as those used for reinforcement or drainage."

Technical spunbonds are predominantly manufactured from polyester. In the manufacturing of Polyester, Oerlikon Neumag is able to draw on its comprehensive long-time staple fiber systems production know-how.

Specialty yarns on trend

The demand for high tenacity special fibers such as aramids, UHMWPE and carbon fibers is steadily growing. At the same time optimization of energy consumption, space requirements and efficiency is of the highest interest.

Winding of viscose yarns, rayon, aramid, polyethylene or similar materials requires a non-standard yarns specialist: here, Oerlikon Barmag's WinOro winder is the product of choice. Depending on design, the automatic precision take-up head for specialty yarns winds – at a speed of up to 1,000 m/min – baler twine of up to 25,000 denier, PVC-coated multifilament yarn for various industrial applications and also textured artificial turf filaments.

Energy efficiency and productivity are the outstanding properties of the WinOro 2-cop winder. With the energy consumption reduced by up to 45% compared to automatic single-cop winders, the 2-cop winding system WinOro-S 2-cop distinguishes itself markedly from comparable products available on the market. Furthermore, the space required for the system is reduced by approximately 50% compared to the single-cop variant; a very convincing purchasing argument considering that aramid and UHMWPE are manufactured on horizontal systems.

With three optional strokes – 2x120 mm, 2x190 mm and 2x225 mm – the WinOro-S 2cop offers particular flexibility when it comes to the choice of yarns to be wound. In addition to this, yarn manufacturers can retain their tube diameters when switching from a single-cop winder to the 2-cop WinOro system.

Carbon fibers are used in applications requiring low weights and extreme tenacities. Carbon fiber-reinforced plastics are deployed in the aerospace industry, in wind power systems, in the automobile sector, in safety technology and also in high-end sports equipment such as racing bicycles, tennis rackets, skis and boats among other areas.

With the WinTrax, Oerlikon Barmag has developed a winder especially for the manufacture of carbon fibers. The two-end winder unites the economic production of carbon fibers of the very highest quality with a simultaneously perfect package build and identical running length. Furthermore, the new WinTrax-A produces 2-cop packages with diameters of up to 310 mm. The resulting higher package weights shorten tooling times and hence considerably reduce the time and costs for manufacturing compound materials. As a result of the identical running length of all packages, waste is virtually completely eliminated.

Yarns for greater safety

Today, the term ‘industrial textiles’ encompasses products such as safety clothing, seat belts and airbags for the automotive sector, sails and fishing nets and belts, conveyor belts, hoses, ropes and geotextiles.

Yarn quality, efficiency, process requirements and conversion costs – these are the criteria for which the Oerlikon Barmag industrial yarn systems for filament spinning are designed. Depending on the requirements of the yarn manufacturer, industrial yarn systems with between 6 and 16 ends are used today, with systems with between 16 and 24 ends being used for low titer ranges.

High-tenacity yarns with heavy titers are deployed, for example, in conveyor belts and – as an application with huge growth potential – in geotextiles. The properties, such as high tenacity, high modulus and low creep properties required in geotextiles, are decisive for keeping textile-reinforced flooring and stone in position.

With a maximum throughput of 18,000 den per position, the corresponding Oerlikon Barmag system is extremely efficient. Depending on the total titer, the denier can be doubled without any major conversion measures by plying two filaments from the spinning system. As a result, the flexible system can be converted from 6 or 8 ends to 12 or 16 ends with just a few adjustments.

HMLS yarns are not just used for manufacturing car tires, they are also deployed in the production of fan belts, conveyor belts, marine ropes and hoses. HMLS yarns are highly stable in terms of their dimensions and highly temperature-resistant combined with a high degree of tenacity and a high modulus. Tire cord is one of the most important applications for PET IDY HMLS yarns. They are extremely tear-resistant, while nevertheless remaining highly elastic and stable in terms of their dimensions and temperature. The cord, a fabric made from twisted HMLS filaments, is united with the tire rubber at approximately 200 degrees Celsius. It lies between several layers of rubber and stabilizes the entire car tire on roads. Particularly the European demands made on high-performance tires require a high-tenacity and high-modulus yarn with low stretch.

Allma TC2 with high flexibility

Two additional Textile segment brands will be exhibiting at the trade fair: Oerlikon Saurer and Oerlikon Textile Components. Here, the focus will be on solutions centering on the manufacture of industrial textiles. Oerlikon Saurer, for example, will be exhibiting the Allma Technocorder TC2. The new two-for-one twister stands out with its globally-unique productivity of up to 450 m/min delivery speed. The machine concept offers superlative flexibility in industrial yarn production, materials and titers. Self-contained spindles permit individual settling and adjustment of each spindle. They can be custom-adjusted to the market requirements and even economically manufacture small batches and samples. Furthermore, Oerlikon Textile Components will also be showcasing state-of-the-art solutions for staple fiber and filament spinning equipment.

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About Oerlikon

Oerlikon (SIX: OERL) is one of the world's leading high-tech industrial groups specializing in machine and plant engineering. The Company is a provider of innovative industrial solutions and cutting-edge technologies for textile machines, drives, vacuum and solar energy systems, thin-film coating and advanced nanotechnology. A Swiss company with a tradition going back more than 100 years, Oerlikon is a global player with around 12,700 employees at more than 160 locations in 34 countries and sales of CHF 2.9 billion in 2012. In 2012, the company invested CHF 106 million in R&D, with over 1,000 specialists working on future products and services. In most areas, the company ranks either first or second in the respective global markets.

For further information: www.oerlikon.com