**Press Release** 

Oerlikon Manmade Fibers presents technologies for future trends at the Techtextil trade fair in Mumbai

# Yarns for wide range of applications

NEUMÜNSTER, REMSCHEID, CHEMNITZ, September 9, 2013 – there is a broad range of applications for industrial yarns. Among other things, they are deployed in wind power systems and in aerospace technology, as well as in stadium roofs made from high-tech membranes, geogrids made from polyester used in landscaping and for nonwovens for insulating and roofing. Oerlikon Manmade Fibers will also be present at the Techtextil trade fair in Mumbai, India – this year being held between October 3 and 5. The sheer diversity of industrial textiles will be highlighted at the international trade fair for industrial textiles and nonwovens. With its Oerlikon Barmag and Oerlikon Neumag brands, Oerlikon Manmade Fibers will be showcasing solutions for the efficient production of innovative yarns for very special applications. Furthermore, the public will be presented with new nonwoven production methods.

Oerlikon Neumag is the leading supplier of nonwoven technologies. The company's in-house nonwovens expert, Dr. Ingo Mählmann, talks about a considerable trend towards using spunbonds. To date, staple fiber and glass fiber products have been used. However, nonwovens are considerably less expensive to manufacture as a result of the single-stage production process, for example. With systems and equipment for manufacturing bitumen roofing membranes, underlay-roofing membranes and geotextiles, Oerlikon Neumag offers the complete spunbond process from a single source – from polymer granulate all the way through to rolled goods.

# Construction sector puts its faith in industrial nonwovens

According to Mählmann, it is the construction sector above all that is increasingly using spunbonds. He lists such examples as bitumen roofing and construction nonwovens for reinforcement and drainage, among other things. But spunbonds are increasingly also being used in geotextiles. Mählmann emphasizes the benefits of the Oerlikon spinning machines: "In terms of the system width, our machines are not just able to produce up to four times more material. They also help cut operating costs for energy and maintenance and save on operating staff costs." The majority of industrial spunbonds are manufactured from polyester. For processing this polymer, Oerlikon Neumag is able to draw on many years of comprehensive know-how from the staple fiber production.

In addition to industrial spunbond systems, Oerlikon Neumag also develops and markets stand-alone mono-component and bi-component meltblown systems. Due to the large range of polymers that can be processed and fiber finenesses that can be manufactured, Oerlikon Neumag's meltblown technology covers a broad product range – from filtration, insulation through to sorbent applications. At the Techtextil Symposium on the second day of the trade fair, Ed McNally, Sales Director Nonwovens, will be presenting the benefits of the Oerlikon Neumag meltblown technology.



### Specialty yarns on trend

The demand for high-tenacity specialty fibers such as aramids, UHMWPE and carbon fibers is steadily growing. At the same time, topics including energy consumption, space requirements and efficiency are becoming increasingly relevant.

The WinOro, one of the winders from Oerlikon Barmag's range, has been designed especially for winding viscose yarns, fibers made from aramids and polyethylene or similar materials and has been adapted to the respective requirements. Depending on the 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.

Specialty yarns used in special applications also demand special processing. The automatic WinOro precision winder – which also comes in a two-cop version – fulfills this requirement. The two-cop WinOro-S 2 unites energy efficiency and productivity. The energy consumption is 45% lower compared to the single-cop automatic winder. To this end, the WinOro-S 2-cop winding system distinguishes itself markedly from comparable products available on the market. A further benefit is that the space required for the system is reduced by approximately 50% compared to the single-cop variant. This advantage is very evident when processing aramids and UHMWPE, which are manufactured on horizontal systems.

If yarn manufacturers decide to switch from a single-cop winder to the two-cop WinOro, they are able to retain the tube dimension thanks to the WinOro-S 2cop. The latter offers particular flexibility with regards to the yarns to be wound with three optional strokes: 2x120 mm, 2x190 mm and 2x225 mm.

WinTrax is a two-cop winder from Oerlikon Barmag, developed especially for manufacturing carbon fibers. It is used for products that have to unite low weights with 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.

WinTrax unites the economic production of carbon fibers of the very highest quality with a simultaneously perfect package build and identical running length. Furthermore, the packages that the new WinTrax-A 2cop produces have a diameter of up to 310 mm, resulting in higher package weights. These shorten the 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.

#### Specialty yarns for greater safety

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 yarn manufacturer, systems with varying numbers of ends are currently used: between 6 and 16 ends or between 16 and 24 ends for low titer ranges.

High-tenacity yarns with heavy titers are found in conveyor belts and geotextiles, for example. The latter is an area with huge growth potential. Geotextiles require high tenacity, high modulus and low



creep properties. These characteristics 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 yarn titer can be doubled by plying two filaments from the spinning system and can be achieved without any major conversion measures. The system is flexible and can be converted from 6 or 8 ends to 12 or 16 ends with just a few adjustments.

Fundamentally, HMLS yarns are highly stable in terms of their dimensions and highly temperatureresistant combined with a high degree of tenacity and a high modulus. They are used to manufacture automotive tires, fan belts, conveyor belts, marine ropes and hoses. Tire cord is one of the most important applications for PET IDY HMLS yarns. These yarns are extremely tear-resistant, while nevertheless remaining highly elastic and stable in terms of their dimensions and temperature. The cord is a fabric made from twisted HMLS filaments. It is united with the tire rubber at approximately 200 degrees Celsius. Hence, it lies between several layers of rubber and stabilizes the entire car tire on roads. The European demands made on high-performance tires in particular require a high-tenacity and high-modulus yarn with low stretch.

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# About Oerlikon Manmade Fibers:

With its Oerlikon Barmag and Oerlikon Neumag brands, Oerlikon Manmade Fibers is the world market leader for manmade fiber filament spinning systems, texturing machines, BCF systems, staple fiber systems and artificial turf systems and – as a service provider – offers engineering solutions for the entire textile value added chain.

As a future oriented company, the research and development at this division of the Oerlikon Group is driven by energy-efficiency and sustainable technologies. With the expansion of the product range to include poly-condensation systems and their key components, the company now caters to the entire process – from the monomer all the way through to the textured yarn.

The primary Oerlikon Barmag markets are in Asia, and – for Oerlikon Neumag – in the USA, Turkey and China. Correspondingly, Oerlikon Barmag and Oerlikon Neumag – with just under 2,500 employees – has a worldwide presence in 120 countries as part of the Oerlikon Manmade Fibers network of production, sales and distribution and service organizations. At the R&D centers in Remscheid, Neumünster and Chemnitz, highly-qualified engineers and technicians develop innovative and technologically-leading products for tomorrow's world.

For further information: www.oerlikon.com/manmade-fibers







Industrial Nonwovens - roofing underlayment



Speciality yarns on trend - WinOro



Yarns for greater safety.