Textiles Intelligence

Press Release

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Performance apparel brands turn to natural and man-made cellulosic fibres as environmentally sustainable alternatives to synthetic fibres

The performance apparel sector is turning increasingly to cellulosic fibres, including man-made cellulosic fibres (MMCFs), plant-based fibres, regenerated fibres and wool, according to "Natural and man-made cellulosic fibre alternatives to synthetic fibres for performance apparel", a 27-page report from the global business information company Textiles Intelligence.

The reason for this development is that manufacturers are under growing pressure to use materials which have a lower impact on the environment than synthetic fibres derived from petroleum.

Synthetic fibres have long been regarded as offering the best combination of cost, performance, durability, moisture management properties and opportunities for technological development. However, growing concerns about environmental sustainability and microplastics pollution are prompting brands and manufacturers to explore alternative fibres.

At the same time, consumers are increasingly associating performance with broader concepts, including thermophysiological comfort, softness, odour management and environmental responsibility. As a result, natural and man-made cellulosic fibres are becoming more relevant within performance apparel applications.

Cotton, in particular, is benefiting from advances in yarn engineering, fabric construction and fibre blending technologies which are helping to overcome its traditional moisture retention limitations. Modern moisture management technologies now enable cotton fabrics to wick perspiration away from the skin far more effectively than conventional cotton fabrics do, and several apparel brands have developed technologies specifically to improve cotton's suitability for performance apparel, including Under Armour, Nike and Polartec.

Meanwhile, merino wool has established a significant position within outdoor apparel and activewear markets. The fibre offers high levels of thermoregulation, moisture management and natural odour resistance, and it is being incorporated increasingly into clothing systems developed by brands such as icebreaker, Ortovox and Smartwool.

Also gaining traction within performance apparel are man-made cellulosic fibres (MMCFs). Lyocell, modal and viscose, for example, are being engineered increasingly for use in the manufacture of next-to-skin performance garments, sportswear and outdoor apparel as a result of their softness, breathability and moisture management properties.

Furthermore, concerns surrounding microplastics pollution are encouraging greater adoption of MMCFs because they are biodegradable under appropriate conditions.

A number of fibre producers are investing heavily in the development of next-generation MMCFs. Notably, Lenzing has positioned its Tencel fibres as technical performance materials which can be used in sportswear and outdoor apparel.

At the same time, significant innovation is taking place in the development of regenerated cellulose fibres derived from textile waste and agricultural residues. Circulose, Infinited Fiber Company, Spinnova and Evrnu have all developed technologies capable of converting waste materials into new textile fibres which are suitable for performance apparel applications.

However, natural and regenerated fibres continue to face challenges in high-performance applications. Compared with synthetic fibres, they tend to suffer from lower durability, slower drying speeds, reduced elasticity and limitations in terms of scalability.

As a result, most innovations in performance apparel are focused on fibre blends which combine the comfort and environmental benefits of natural and regenerated fibres with the performance characteristics of synthetic materials.

Nevertheless, the increasing adoption of cotton, wool, MMCFs and regenerated fibres reflects a broader transformation within the performance apparel industry. In this context, these fibres are emerging not only as alternatives to synthetic fibres but as key materials in their own right in a more diversified and environmentally sustainable performance apparel industry.

Ends.

"Natural and man-made cellulosic fibre alternatives to synthetic fibres for performance apparel" is available for purchase from the global business information company Textiles Intelligence and costs £297 (UK), Euro548 (Europe, Middle East or Africa) or US$715 (Americas or Asia Pacific). For further information or to purchase this report, visit https://bit.ly/4eooWMN or email us at editorial@textilesintelligence.com

The report is also available in Issue No 89 of *Performance Apparel Markets*. Other reports published in this issue include: "Fast track: advances in bio-based chemistries for performance apparel"; "Performance apparel markets: product developments and innovations, June 2026"; "Performance apparel markets: business update, June 2026"; and "Profile of VP Textile: a leading provider of workwear and protective wear". *Performance Apparel Markets*, published four times a year by Textiles Intelligence, provides an independent and worldwide perspective on the global markets for performance fibres, yarns, fabrics and clothing.

A year's printed subscription to *Performance Apparel Markets* costs £1,191 (UK), Euro2,069 (Europe, Middle East or Africa) or US$2,613 (Americas or Asia Pacific). An electronic supplement is also available; please email us at editorial@textilesintelligence.com for details. Single issues and multi-report packages are available on request. To download a sample issue of *Performance Apparel Markets*, visit www.textilesintelligence.com or email us at editorial@textilesintelligence.com

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