

The future of performance apparel is active comfort: introducing NUSPUN®

Niber Technologies launches NUSPUN®, a new ingredient brand of performance laminates engineered to combine ultra-breathability with tunable weather protection

SINGAPORE/ MUNICH (13th October 2026) – Niber Technologies unveils **NUSPUN®**, its next-generation ingredient brand of laminates purpose-built for the functional apparel industry. Rooted in the company's electrospun nanofiber technology, NUSPUN laminates enable a new category of **Active Comfort** to give performance apparel both ultra-breathability and tunable weather protection.

Weather shouldn't dictate comfort

For the performance textiles industry, weather protection has long come at the cost of comfort. PFAS (Per- and polyfluoroalkyl substances) has traditionally given garments an extra layer of waterproof protection, but as regulations against PFAS tighten, brands are under pressure to find alternatives. However, most PFAS-free options force a compromise between water protection and breathability. While some waterproof garments succeed at repelling water, comfort suffers during intense activity as trapped heat, built-up sweat, and humidity, leaving an uncomfortable feeling despite protection from the elements. That trade-off is exactly what NUSPUN® laminates are built to solve through ultra-breathable materials that protect from the elements, without sacrificing comfort.

Electrospinning is the innovation behind NUSPUN® materials

NUSPUN® laminates start with an electrospun 3D nanofiber web – built fiber by fiber, not cast or stretched like conventional membranes. That's what lets moisture escape while keeping water out, delivering ultra-breathable performance with tunable weather protection. PFAS-free by design, NUSPUN membranes and laminates are manufactured without intentionally added PFAS materials. While PFAS-free membranes used to rely on a stretched film or a dense, non-porous coating, electrospinning builds the material fiber by fiber, giving direct control over exactly how a NUSPUN laminate performs, rather than being limited by one fixed set of properties. Nanofiber membrane technology isn't new, but translating it from the lab into a continuous, high-volume industrial process has remained a challenge the wider industry has struggled with.

Owning the spin for tunable performance, at commercial scale

NUSPUN® laminates are built on a proprietary electrospinning platform, developed to take nanofiber membrane technology beyond laboratory-scale production and into industrial applications. Niber controls all critical stages of the process – from material formulation and electrospinning through membrane production

and finished laminates. This end-to-end control enables NUSPUN® laminates to be developed around different combinations of breathability, water protection and windproofness, giving apparel brands the flexibility to choose the performance profile that best matches how their products will be used.

"When we say we own the spin, we mean that we control every stage of the process, from formulation through electrospinning to the finished laminate, working closely with our partners along the way. That control is what gives us the precision to tune performance around how a brand wants its apparel to perform – and ultimately how it wants its apparel to feel", says Jaehyung Park, Co-Founder, Niber Technologies.

From behind-the-scenes technology to ingredient brand

The launch of the NUSPUN® ingredient brand marks a new chapter for Niber Technologies. The company was founded on the belief that electrospinning could unlock new possibilities for performance materials. At a time when electrospinning remained a niche technology within textiles, Niber focused on overcoming the challenges of industrial-scale production and is now bringing this technology into the spotlight.

"We started Niber with the belief that electrospinning could do more for performance materials than anyone had proven yet. When we began, the technology was still niche in textiles, and scaling it was almost an uncharted territory for the whole industry. For years, we proved it quietly as an OEM manufacturer, supplying membranes without brands or consumers ever knowing our name was behind them. NUSPUN® is us stepping out of that role, so brands and consumers can finally see and trust exactly what's inside their apparel", explains Jaemin Park, Co-Founder, Niber Technologies.

Three performance platforms - one philosophy.

Different activities require different combinations of protection and breathability. NUSPUN® launches with three performance platforms: Arcus, Ventus, and Stratos. Each tunable for different balances of breathability and weather protection.

- **NUSPUN® Arcus** – Protection for the Extremes. Arcus products combine ultra-breathability with waterproof performance, exceeding 10,000 mmH₂O, built for demanding conditions when protection from heavy rain and severe weather is essential.
- **NUSPUN® Ventus – Protection in Motion.** Ventus products combine ultra-breathable, windproof performance with water resistance, designed for active outdoor activities, ranging from skiing to trail running in wet conditions.
- **NUSPUN® Stratos – Airflow for High Output.** Stratos products deliver air-permeable performance above 1 CFM, together with water resistance, for high-intensity sports like cycling and running when airflow becomes a critical part of comfort.

Together, the three platforms give brands different ways to build Active Comfort into their products—from extreme-weather protection to high-output activity: A trail-running garment can be engineered to release heat and moisture during a humid climb, while a cycling jacket can block wind during a fast descent without unnecessarily trapping the heat generated on the way up, while a skier can have protection against snow and weather while demanding breathability during sustained movement.

Active Comfort is the next dimension in performance apparel

Future development will focus on expanding those capabilities—creating materials that are lighter, stretch further and support increasingly demanding forms of movement while maintaining the protection performance brands require. The platform will evolve toward new material systems, including opportunities for bio-based and lower-carbon polymers. "What excites us most is how far our materials can still be pushed. We see opportunities to make laminates lighter, stretch further and become even more comfortable while maintaining the performance brands need. That opens the door to applications built specifically for sustained, high-output activity", says Richard Beck, President & Chief Strategy Officer at Niber Technologies.

For brands integrating NUSPUN laminates into their collections, our first Arcus, Ventus, and Stratos product portfolio is just the beginning. As Niber continues to develop its electrospinning platform, and explore new formulations, brand partners will have access to new capability tiers and performance categories. The NUSPUN collection can expand into broader material options, including bio-based polymers and low-carbon materials to have even more options for meeting PFAS-free performance requirements without compromising fit, feel, or function.

NUSPUN® materials arrive to brand partners in Q4 2026

The NUSPUN® laminate collection will be made available to selected brand partners beginning Q4 2026 onwards. The first products incorporating this technology are expected in the Fall/Winter 2027 outerwear collections.

ABOUT THE NUSPUN® BRAND

NUSPUN® is a registered trademark of Niber Technologies.

Niber Technologies is an advanced materials company manufacturing PFAS-free electrospun nanofiber membranes for performance textiles. Singapore-incorporated with manufacturing and R&D operations in the Philippines, the company serves customers across Asia, Europe, and North America via regional legal entities. To learn more about the NUSPUN ingredient brand or explore partnership opportunities, visit www.nuspun.com or reach out at discovery@niber.tech.

© 2026 Niber Technologies