Cooling Fabrics - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-07-01 | 120 pages | Mordor Intelligence

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Report description:

Cooling Fabrics Market Analysis

The Cooling Fabrics Market size is estimated at USD 2.59 Billion in 2025, and is expected to reach USD 3.67 Billion by 2030, at a CAGR of 7.22% during the forecast period (2025-2030). Heightened urban heat island effects, widespread athletic and outdoor lifestyles, and rapid material-science breakthroughs position the cooling fabrics market for sustained expansion. Synthetic moisture-wicking fibers, passive radiative "metafabrics," and recycled yarn innovations are widening product capabilities while sustainability mandates accelerate natural-fiber adoption. Manufacturers gain scale advantages from woven constructions that accept coatings and hybrid finishes without compromising integrity, and military procurement is stimulating premium product diffusion into civilian segments. Price sensitivity in emerging economies and performance fade after laundering remain headwinds, yet diversified application uptake continues to outweigh these constraints.

Global Cooling Fabrics Market Trends and Insights

Surge in Synthetic Moisture-wicking Fibers for Sports and Athleisure

Athleisure and performance sportswear now treat dynamic cooling as a baseline expectation. Brands integrate COOLMAX EcoMade, brrr and comparable yarns that embed phase-change materials or micro-minerals, providing continuous heat draw-down even under heavy perspiration . Market penetration benefits from global participation in fitness and outdoor recreation, and synthetic fibers retain dominance because they deliver repeatable moisture transport, stretch and mechanical

durability. Technical-textile advances lift synthetic yarns' share of global fiber demand above 19%, reinforcing scale economies that underpin the cooling fabrics market. With nanohybrid fillers improving thermal conductivity, engineered synthetics outperform many natural alternatives. In parallel, recycled Polyethylene Terephthalate (PET) streams keep cost bases stable while satisfying tightening eco-design rules.

Expansion of Outdoor and Performance Apparel Brands Globally

Multinational outdoor labels channel proprietary cooling platforms into both back-country and everyday urban lines. Columbia Sportswear's Omni-Heat Infinity and Omni-Shade technologies exemplify such crossover. Heat-mitigating fabrics combat city temperatures that can sit 8.9C higher than surrounding rural zones, broadening addressable demand. As brands leverage Asia-Pacific manufacturing clusters, they shorten development cycles and lower per-unit costs, making premium cooling attainable for mainstream consumers. Iterative launches that combine 3D-printed structures with aerodynamic panels demonstrate a migration of elite-sport learnings to lifestyle garments, thus enlarging the cooling fabrics market. Technology transfer across hemispheres further accelerates global uptake.

High Production Cost of Advanced Cooling Textiles

Passive-radiative layers call for titanium dioxide nanoparticles, polymer membranes and silver nanowires that elevate bill-of-materials costs relative to commodity apparel. Specialized coating lines introduce capital outlays, while stringent quality-control protocols add labor intensity. Although process optimization has trimmed the premium to almost 10%, sticker shock persists in lower-income regions, slowing volume. Suppliers must refine continuous-roll deposition and broaden raw-material options to reach mass-price points. Scaling pauses notwithstanding, premium categories such as defense, professional sports and industrial Personal Protective Equipment (PPE) absorb the cost, allowing research and development (R&D) amortization that should eventually spill into value segments.

Other drivers and restraints analyzed in the detailed report include:

Breakthrough Passive Radiative "Metafabrics" for Urban Heat Mitigation / Military Procurement of Heat-stress Uniforms for Desert Operations / Performance Degradation After Repeated Laundering Cycles /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Synthetic yarns retained 61.19% of cooling fabrics market share in 2024 by delivering uniform moisture transport and stretch at scale. They underpin many patented cooling chemistries that remain cost-optimal for high-volume sportswear. Natural fibers, though, are on an 8.15% CAGR path as regulators and consumers prize biodegradability. Cotton modified with nanodiamonds or chitosan micro-porosity now attains 2-3C temperature drops, while closed-loop cupro yarns marry plant-based feedstocks with industrial recyclability. Blended constructions pair regenerated cellulose with micro-mineral synthetics, balancing feel and function. Investors therefore finance gin upgrades and enzymatic pre-treatments that elevate natural fiber quality, pointing to broader acceptance within the cooling fabrics market.

Hybrid yarn advances demonstrate that sustainability targets and performance metrics need not be mutually exclusive. Bemberg cupro showcases solvent recovery rates exceeding 99%, illustrating circularity without sacrificing heat-dissipation capacity. Recycled cotton streams also outperform virgin cotton on thermal resistance in pilot trials. As fashion groups publish science-based carbon goals, procurement pivots toward these lower-impact options, translating eco-preference into measurable demand. Over the forecast horizon, natural-fiber cooling lines will likely take incremental share, though synthetics will remain

central to rapid-wicking and stretch-critical apparel tiers.

Woven fabrics supplied 40.66% of 2024 revenue and are growing at an 8.37% CAGR because their tightly-controlled interlacings provide dimensionally stable substrates for nanoparticle coatings, reflective films and phase-change print pastes. Weaving plants already operate at high throughput, minimizing incremental cost to add cooling capability. Knits retain strong footholds in activewear thanks to comfort stretch and breathability, yet their looped structure demands slower machinery and can complicate multilayer coatings. Non-wovens gain relevance in disposable medical or filtration niches where tactile drape is secondary.

Process innovation continues to lift woven productivity, with water-jet looms delivering finer deniers while conserving energy. Multi-phase weaves adjust pore geometry, aiding moisture vapor transport. At the same time, knitting equipment adopts digital control and finer gauges, narrowing the gap in surface regularity. Electrospun membranes layered onto knits or wovens add ultra-thin emissive skins, creating hybrid laminates that fuse each construction's strengths. Cost and versatility advantages suggest woven textiles will retain top billing in the cooling fabrics market, but rising consumer appetite for stretch will keep knitted shares steady rather than declining.

The Cooling Fabrics Market Report is Segmented by Fiber Type (Natural and Synthetic), Fabric Construction (Woven, Knitted, and Non-Woven), Application (Sportswear, Protective Wear, and More), End-User Industry (Consumer, Industrial and Manufacturing, Healthcare, and More), and Geography (Asia-Pacific, North America, Europe, South America, and Middle East and Africa). The Market Forecasts are Provided in Terms of Value (USD).

Geography Analysis

Asia-Pacific held 31.30% of global revenue in 2024 and is moving at a 7.86% CAGR through 2030, anchored by China's scale in technical-textile exports and its leadership in passive-radiative research that delivers 5C garment cooling. Government grants support pilot plants for metafabric yardage, while downstream apparel makers in Vietnam, Indonesia, and India integrate these textiles into cost-competitive cut-and-sew lines. Japan's material-science ecosystem refines polymer blends for Ultraviolet (UV) reflection, and South Korea's electronics sector pursues smart-textile overlays that feed body-temperature data to mobile devices. Rising middle-class populations confronting humid summers amplify retail pull.

North America benefits from defense contracts and an outdoor recreation culture. US Naval Air Systems programs accelerate supplier learning curves and validate ruggedized cooling fabrics. Outdoor labels headquartered in Oregon and Colorado roll new collections each summer, driving steady consumer uptake. Canada's severe temperature swings prompt multi-season layering concepts that embed cooling on one face and insulation on the other, stretching product utility. Mexico expands role as a near-shore sewing destination, giving brands flexibility amid global logistics disruptions.

Europe's trajectory intertwines with environmental policy. The European Union (EU) Ecodesign regulation prioritizes textiles, compelling value-chain traceability and recyclate usage. German mills like Outlast adapt NASA-born Phase Change Material (PCM) treatments into eco-certified linings, while Italian spinners push low-impact dyeing of recycled yarns. The United Kingdom (UK) research councils fund university-industry consortia focused on nanostructured emissive films. Higher energy costs in the region reinforce demand for passive personal cooling, stimulating domestic uptake despite premium pricing.

South America and the Middle East & Africa present emerging opportunities tied to rapid urbanization and intense solar exposure. Brazil's athletic-wear boom spurs local sourcing of phase-change infused polyester, and Gulf states test cooling uniforms for construction crews working in 45C midday heat. Infrastructure gaps and limited disposable income temper near-term volumes, yet sustained climate warming suggests long-run growth. Global suppliers eye joint ventures and technology-licensing to local partners to overcome tariff and logistics hurdles, ensuring the cooling fabrics market achieves broader geographic balance.

List of Companies Covered in this Report:

Ahlstrom / Asahi Kasei Advance Corporation / Balavigna Mills Pvt. Ltd. / brrr / Cocona Labs / Columbia Sportswear Company / Coolcore / Elevate Textiles, Inc. / Everest Textile Co., Ltd. / FORMOSA TAFFETA CO., LTD. / HeiQ Materials AG / LunaMicro AB / Milliken & Company / NAN YA PLASTICS CORPORATION / NILIT / Outlast Technologies GmbH /

Additional Benefits:

 The market estimate (ME) sheet in Excel format /
3 months of analyst support /

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