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Cooling Fabrics Market - Global Industry Size, Share, Trends, Opportunity, and Forecast Segmented By Type (Synthetic and Natural), By Textile Type (Woven, Nonwoven, Knitted, and Others), By Application (Sports Apparel, Protective Wearing, Lifestyle, and Others), By Region & Competition, 2021-2031F

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Abstracts

The Global Cooling Fabrics Market is projected to expand from USD 2.72 Billion in 2025 to USD 4.19 Billion by 2031, registering a CAGR of 7.47%. These specialized textiles are engineered to regulate body temperature and manage moisture using advanced technologies such as wicking, evaporation, and phase change materials. The market is primarily underpinned by growing global participation in physical fitness and strict occupational safety mandates requiring protective gear for high-temperature industrial settings. These drivers ensure steady demand for thermal regulation solutions in both consumer activewear and commercial safety sectors, remaining resilient against passing fashion trends.

While the sector shows significant economic potential, it faces obstacles related to production complexities. Data from the Taiwan Textile Federation indicates that in 2024, the export value of fabrics, including high-performance functional textiles, reached USD 4.78 billion. Despite this strong trade activity, broader market expansion is hindered by the volatility of raw material costs, which creates pricing instability and compresses profit margins for manufacturers producing these technical synthetic textiles.

Market Driver

The surge in athleisure and functional lifestyle apparel acts as a primary catalyst for the

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cooling fabrics sector, fundamentally shifting textile production priorities. Consumers increasingly seek garments that offer thermal regulation and moisture management?features once limited to high-performance sportswear?forcing brands to incorporate these attributes into everyday clothing. This trend compels manufacturers to innovate with synthetic blends and phase-change materials to compete with standard cotton alternatives. Lululemon Athletica Inc. exemplified this demand in its March 2024 '2023 Annual Report,' noting a 19% net revenue increase to $9.6 billion, highlighting the need for supply chains to scale cooling substrate production to meet the requirements of major apparel companies.

Simultaneously, rising global temperatures and intensifying occupational heat risks are driving industries to adopt advanced cooling textiles for workforce protection. As climate conditions deteriorate, regulatory bodies and employers are prioritizing personal protective equipment that actively mitigates heat stress, moving beyond basic safety gear. According to an April 2024 report by the International Labour Organization, over 70% of the global workforce is expected to face excessive heat exposure, necessitating the integration of cooling technologies into industrial uniforms. The economic viability of these functional demands is evident in the performance of major retailers like Fast Retailing Co., Ltd., parent of Uniqlo, which achieved a consolidated revenue of 3.10 trillion yen in 2024 due to the scale of its functional clothing markets.

Market Challenge

The volatility of raw material costs serves as a major constraint for the Global Cooling Fabrics Market. Because the production of these technical textiles relies heavily on synthetic fibers and specialized chemical treatments derived from petroleum feedstocks, fluctuations in global oil prices cause immediate instability in the cost of essential inputs like polyester and nylon. This unpredictability makes it difficult for manufacturers to establish consistent pricing strategies, resulting in compressed profit margins and a hesitancy to commit to the large-scale production cycles needed for broad market expansion.

This cost instability impacts the wider textile manufacturing sector and directly hampers scalability. In 2024, the International Textile Manufacturers Federation reported that 27 percent of industry respondents identified high raw material costs as a primary concern for their operations. This economic pressure forces companies to prioritize cost mitigation over research and development, stalling the innovation necessary to advance cooling fabric technologies. Consequently, the market struggles to reach its full potential as manufacturers operate defensively rather than aggressively pursuing growth

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opportunities.

Market Trends

The adoption of bio-based and recycled cooling fibers is fundamentally restructuring the market as manufacturers seek to detach from volatile fossil-fuel supply chains and meet escalating sustainability mandates. This transition involves replacing conventional virgin synthetics with high-performance fibers derived from post-consumer plastics or agricultural biomass, maintaining thermal regulation efficiency while significantly reducing carbon emissions. According to Textile Exchange?s 'Materials Market Report 2025' released in October 2025, global production of recycled polyester, a key substrate for eco-conscious cooling textiles, rose to approximately 9.3 million tonnes in 2024, underscoring the sector's rapid shift toward circular production models.

Additionally, the emergence of biomimetic and passive radiative cooling marks a critical technological evolution, moving beyond standard moisture-wicking to fabrics that actively reject solar radiation and emit thermal energy. These advanced textiles employ engineered nanostructures and biopolymers to manipulate infrared emissions, providing substantial cooling without external energy inputs or reliance on perspiration, which is crucial for extreme climates. A June 2025 study by the University of South Australia published in 'Cell Reports Physical Science' demonstrated that a new bioplastic metafilm could passively reduce temperatures by up to 9.2 degrees Celsius during peak sunlight, highlighting the potential of radiative technologies to revolutionize heat management.

Key Market Players

Asahi Kasei Corporation

Balavigna Weaving Mills Pvt. Ltd.

Columbia Sportswear Company

Everest Textile Co., Ltd.

Formosa Taffeta Co., Ltd.

Heiq Materials AG

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Hong Li Textile Co., Ltd

Lee Yaw Textile Co., Ltd.

Nan Ya Plastics Corporation

Sun Dream Enterprise Co., Ltd.

Report Scope

In this report, the Global Cooling Fabrics Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Cooling Fabrics Market, By Type

Synthetic

Natural

Cooling Fabrics Market, By Textile Type

Woven

Nonwoven

Knitted

Others

Cooling Fabrics Market, By Application

Sports Apparel

Protective Wearing

Lifestyle

Others

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Cooling Fabrics Market, By Region

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

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Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Cooling Fabrics Market.

Available Customizations:

Global Cooling Fabrics Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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