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## TIME STANDARDIZATION FOR THE PRODUCTION OF SPORTSWEAR FROM NATURAL KNIT FABRIC

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### ARTICLE INFO

### ABSTRACT:

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#### ARTICLE HISTORY:

Received: 13.05.2025

Revised: 14.05.2025

Accepted: 15.05.2025

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#### KEYWORDS:

knitwear, sportswear,  
breathability,  
hygroscopicity, heat  
transfer, physiological  
conditions, functional  
knitted fabrics, hood,  
camouflage.

*The article describes the problems and solutions for the production of sportswear from natural fabric, the requirements for sportswear and the research carried out to meet these requirements. In particular, ways to reduce the negative impact of fabric ventilation on the skin and human health are shown.*

**INTRODUCTION.** After gaining independence, the republic has achieved a number of successes in the garment and knitwear industry, as well as in many other areas. The garment and knitwear industry is developed in many countries around the world, including countries such as China, India, and Bangladesh. In our republic, the garment and knitwear industry is developing year by year. Ensuring high and stable growth rates for the textile and garment-knitwear industry in our republic, attracting and mastering direct foreign investments, producing and exporting competitive products, modernizing to create new high-tech jobs through the implementation of strategically important projects, technical and technological

re-equipment of enterprises in Uzbekistan, and further deepening structural reform aimed at introducing the advanced "cluster model" are systematically growing.

In recent years, significant changes have occurred in the global market. The main indicator of production has long been its demand. To produce competitive products, it is necessary to deeply study the market for its sales, i.e., the needs and demands of potential consumers of these products and their maximum satisfaction.

The appearance of new needs is largely determined by the scientific, technical, and social development of the modern world, which, in turn, leads to the emergence of goods with new consumer characteristics.

Mainly, textiles and light industry products are subject to the influence of fashion, and they are characterized by rapid wear. However, the optimal design of the product and modern design are not the only requirements for clothing. To produce modern clothing (especially sportswear), it is necessary to expand the range by creating clothing with specific characteristics that meet certain functional requirements and satisfy the needs of a specific group of people. Today, sportswear is an essential part of everyone's wardrobe. It is happily worn not only in fitness clubs and gyms but also during various trips, on vacation, and at home. High-quality sportswear should provide freedom of movement and comfort. Therefore, the fabrics used for sportswear must meet the following important requirements:

- **Breathability:** The materials should not make the body sweat and should allow the skin to breathe freely.
- **Hygroscopicity:** Sweat produced during physical activity should be absorbed by the fabric and not accumulate underneath it.
- **Heat exchange:** The clothing should provide good ventilation and protect the body from overheating.
- **Safety:** The materials should not release harmful substances into the body that can cause skin irritation or allergies.

Currently, there is a high demand for various types of fabrics for sportswear on the global market, with natural and knit fabrics taking the leading position (42%). According to economic forecasts, the annual growth rate of the sports goods market, including textiles, is about 4%.

Among the problems facing the production of knitwear for sportswear, the most pressing issue is the problem of obtaining a product that meets the principle of comfort. A comfortable product, according to modern concepts, should create physiological conditions for normal comfort when worn. For comfortable (functional) sportswear, the issue of

creating a comfortable microclimate in the undergarment space during active physical exertion and increased sweating is crucial. The role of natural fabric in solving this problem is invaluable. Natural fabrics include cotton, silk, linen, and wool. One of the most popular natural materials is cotton, which absorbs water and sweat well, saturates the skin with oxygen, and does not cause allergic reactions, but it also has some disadvantages. The drawbacks of cotton fabrics are that they are not elastic enough, wrinkle easily, and lose their original appearance after frequent washes. Therefore, the addition of elastane to the cotton composition allows the clothes to fit tightly to the body.

In international practice, functional sportswear made on the principle of layering is widely used. This sportswear has enhanced hygienic properties and contributes significantly to protecting the body from the external environment during various activities. The materials used for the production of such clothing consist of several layers, each serving different purposes. The inner layer, which is in direct contact with the body, should efficiently wick moisture away. The subsequent layers should remove and collect the moisture transferred from the inner layer. For the production of such functional clothing, it is most advisable to use textile materials containing direct layers. For this purpose, fabrics with many variants of knit structure are made from single-component or two-component fabrics.

In foreign textile industry practices, fabrics for functional clothing based on double weaving are often used. The general approach to designing such fabrics using Russian raw material resources was developed at the Department of Knitting Technology of Moscow State Textile Academy. Based on these studies, it became clear that not only knitwear but also knitted weaving can be used for functional clothing, thereby expanding the areas of application of specially manufactured fabrics. Research is being conducted to develop the light industry of Uzbekistan.

At the same time, both in Uzbekistan and abroad, no universal methods have been developed for designing knitwear for functional sportswear. For this purpose, scientific research and experiments are being conducted on knitted fabrics.

The main goal of the work is to develop methods for designing knitted fabrics for functional sportswear. The tasks of the research are as follows:

- To determine the general requirements for functional knitted fabrics, the composition, and characteristics of the raw materials used.
- To determine which elastic weave is suitable for producing knitwear for functional clothing.



- To create designs for natural knitwear.
- To study the structure of knitted fabrics intended for functional sportswear.
- To develop an algorithm for accurate calculation of the main characteristics of knitted fabric structures.
- To investigate the moisture absorption and permeability of developed two-component knitwear samples.

The above requirements are part of the research methodology. To solve the tasks outlined in the work, theoretical and experimental studies were conducted, using a systematic approach. The theoretical foundation of the work is the analysis of the technology of producing knitted products, as well as scientific and patent resources from domestic and foreign researchers. Experimental studies were conducted using mathematical statistics methods and modern measuring devices. All calculations were carried out using a personal computer.

#### Scientific findings:

The optimal type of weave for obtaining suitable two-component knitwear.

Knitted sportswear impresses with a variety of styles and colors. In current collections, you can find modern models that are very attractive and suitable for different people. To choose the optimal option, a number of parameters need to be considered.

Men's Suit Models Designers offer men numerous options for such clothing, allowing them to choose the best fit. Men's knitwear suits are surprisingly comfortable and very popular. Winter Suit: for Sports and Recreation Such models provide excellent warmth, making them suitable for running and walking in cool weather. These suits usually have several layers that keep you warm while looking great. Despite the specific features of winter models, they allow for an active lifestyle. Classic three-piece suit this model usually includes trousers, a t-shirt, and a jacket. There are also vest suits. Such options are considered for the transitional seasons. In hot weather, a light t-shirt is sufficient. If it is very cold outside, you can wear a sweater. Camo Designs Camouflage-colored models are very popular among men. Such products are perfect for sports competitions and outdoor trips. Today, there are many camouflage options, so everyone can choose the most suitable one.

Conclusion: In recent years, the importance of sports has increased. Different types of sports require different sportswear. Uzbekistan has all the possibilities to produce knitted sportswear, especially from natural cotton, silk, and wool, as well as sufficient and valuable

raw materials. The production of sportswear made from natural knit fabrics is crucial for the ease of movement and health of athletes.

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