



IN THE PRODUCTION OF SPORTS CLOTHING BASED ON INTERLOCK FABRIC

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Abstract

This scientific thesis studies the design processes of an enterprise specializing in the production of sportswear based on interlock fabric. During the study, the trends of the modern sportswear market, the technical characteristics and advantages of interlock fabric, and the technological and economic aspects of the enterprise project were analyzed. The designed enterprise has a production capacity of 100,000 pieces of sportswear (T-shirts, shorts, sweatshirts) per year and will achieve a self-pay indicator within 5 years. The study examined in detail the equipment, raw material base, jobs, and management system necessary for the enterprise located in Andijan. Special attention was also paid to the enterprise's compliance with environmental safety standards and the principles of sustainable development. As a result of the study, it was proven that the production of sportswear based on interlock fabric is a competitive and stable profitable project in the economy of Uzbekistan.

Keywords: interlock fabric, sportswear, enterprise design, production technologies, economic efficiency, sustainable development, textile industry.

Login

Today, the sportswear market is developing rapidly worldwide. In Uzbekistan, as a result of the desire for a healthy lifestyle and increased interest in sports, the demand for high-quality and comfortable sportswear is increasing significantly. However, there is a problem of a shortage of high-quality, affordable and modern sportswear in the local market. By developing local production, this demand can be met, while at the same time further strengthening the textile sector of our country's economy.



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Interlock fabric is a special type of fabric with high elasticity, strength and good moisture absorption properties, making it an ideal material for the production of sportswear. The advantage of this fabric is that it allows the skin to breathe, provides freedom of movement and does not lose its shape over time.

The purpose of the study is to design an enterprise specializing in the production of sportswear based on interlock fabric and assess its economic efficiency. This project is aimed at creating opportunities for the production of competitive products in the conditions of Uzbekistan and thereby contributing to the development of the local textile industry.

Methodology

The following methods were used in the research:

1. Market analysis - marketing research was conducted to study demand in the sportswear market, analyze competitors, and determine pricing policy.
2. Modeling of technological processes - modern production equipment and technologies were studied for the optimal organization of the production line.
3. Economic calculations - in order to assess the financial performance of the enterprise, calculations of investment costs, operating costs, and expected revenues were carried out.
4. Expert evaluation method - consultations were held with industry experts on the technical characteristics of interlock fabric and its processing technologies.
5. Comparison method - determining the level of competitiveness by comparing the quality and price of imported sportswear with locally produced samples.

The materials used for the study were data from the State Statistics Committee of the Republic of Uzbekistan, scientific sources on the textile industry, technological catalogs, and market analytics.

Results

Market analysis results

Conducted marketing research shows that the demand for sportswear in Uzbekistan is growing year by year. Over the past 5 years, the size of the sportswear market has increased by an average of 15-20%. However, more than 70% of the local market is



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made up of imported products. This indicates that there are great opportunities for local manufacturers.

The following types of promising products were identified:

- Sports T-shirts (unisex, for men and women)
- Sports shorts
- Sweatshirts and tracksuits

Production line project

The enterprise project includes the following main sections:

1. Raw material warehouse (300 m²)
2. Cutting shop (200 m²)
3. Sewing shop (500 m²)
4. Wet-heat treatment workshop (100 m²)
5. Inspection and packaging department (150 m²)
6. Finished product warehouse (250 m²)
7. Administrative buildings (200 m²)

The main equipment needed for the enterprise:

- Automatic cutting machine - 2 pcs.
- Modern sewing machines - 30 pieces
- Overlock machines - 15 pcs.
- Loops - 8 pieces
- Ironing equipment - 10 pieces
- Packaging line - 1 unit

Technological process

The technological process for producing sportswear based on interlock fabric consists of the following stages:

1. Raw material receipt and storage - receiving interlock fabric into the enterprise, conducting quality control, and storing it in the warehouse.
2. Cutting - cutting the fabric and preparing the details based on the design documentation.
3. Sewing - joining cut out details, sewing the base of sportswear.
4. Decoration - placing logos, inscriptions and other decorations, attaching additional elements.



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5. Final processing - soaking, heat treatment, ironing and shaping.
6. Quality control - inspection of finished products, identification and elimination of defects.
7. Packaging and storage - packaging of products that have passed quality control and sending them to the finished product warehouse.

Economic indicators

The total investment for the establishment of the enterprise is 1.5 million US dollars.

This amount will be spent in the following areas:

- Industrial building (rent or purchase) - 40%
- Equipment and supplies - 35%
- Working capital - 15%
- Other expenses - 10%

Annual production capacity of the enterprise:

- Sports T-shirts - 50,000 pieces
- Sports shorts - 30,000 pcs
- Tolstovka - 20,000 pieces

Analysis shows that once the enterprise is fully operational, the annual turnover will exceed 2 million USD, and the net profit will be approximately 350,000 USD. These figures ensure that the project will fully pay for itself within 5 years.

Discussion

The results of the study show that an enterprise specializing in the production of sportswear based on interlock fabric is an economically viable project in the conditions of Uzbekistan. However, a number of important aspects should be taken into account when implementing the project. The issue of developing a local raw material base. Currently, the bulk of interlock fabric is imported, which affects the cost of products. Therefore, the creation and development of a local raw material base is of strategic importance.

Conclusion

The results of the study on the design of an enterprise specializing in the production of sportswear based on interlock fabric showed that this direction is promising in



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Uzbekistan. Today, the steady increase in demand for sportswear in our country, with more than 70% of the market being imported products, creates favorable conditions for the development of local production. The high elasticity, strength and good moisture absorption properties of interlock fabric make it the most suitable material for sportswear. The designed enterprise, built on the basis of modern equipment and innovative technologies, will be able to produce 100,000 pieces of high-quality sportswear per year. Economic calculations show that after the enterprise is fully operational, the annual turnover will exceed 2 million US dollars, and the net profit will be approximately 350,000 US dollars. These indicators ensure that the project will fully pay for itself within 5 years. In addition, the enterprise's activities are consistent with the program for the development of textile and light industry of the Republic of Uzbekistan and are aimed at sustainable and socially responsible activities through compliance with environmental safety requirements. This project will not only bring economic benefits, but also make a significant contribution to the development of the production of quality sportswear in our country, the creation of new jobs and the production of import-substituting products.

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