



International Journal for Innovative Engineering and Management Research

A Peer Reviewed Open Access International Journal

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IJIEMR Transactions, online available on 25th November 2021.

Link: <https://ijiemr.org/downloads/Volume-10/Issue-11>

DOI: 10.48047/IJIEMR/V10/I11/31

Title: **DETERMINATION OF PHYSICAL AND MECHANICAL PROPERTIES OF THE NEW TWO-LEVEL KNITTED TISSUE FACTORS MADE ON FLAT IGNADON MACHINES**

Volume 10, Issue 11, Pages: 209-211

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DETERMINATION OF PHYSICAL AND MECHANICAL PROPERTIES OF THE NEW TWO-LEVEL KNITTED TISSUE FACTORS MADE ON FLAT KNITTING MACHINES

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Annotation: *The article presents the results of research on the production of high-quality and competitive double-layered knitwear, using the technological capabilities of flat double-needle machines.*

Keywords: *knitted, single-needle, double-needle, flat-needle, flat-needle, cotton, textile, single-layer, double-layer, needle.*

Objective: *To produce high-quality and competitive knitted fabrics using the technological capabilities of double-needle machines.*

Introduction

Ensuring high and stable growth rates in the textile and clothing industry of the Republic, attracting and absorbing foreign direct investment, production and export of competitive products, modernization Systematic work is underway to create new high-tech jobs through the implementation of strategically important projects, technical and technological modernization of enterprises, further deepen the structural restructuring aimed at the introduction of an advanced "cluster model".

At the same time, a comprehensive analysis of the development of the textile and clothing industry, the changing world market conditions in the face of increasing competition requires government support for the industry, as well as the development and implementation of more sustainable and dynamic development mechanisms.

Knitting machines are divided into oneneedle and two-needle machines, depending on the number of needles. Depending on the shape of the needle, it is flat, round and oval. Knitwear is divided into cross-knitted and long-knitted knitwear. There are two types of knitwear: single and double knitwear. One-layer

knitwear is knitted on single-needle machines, and double-layer knitwear is knitted on twoneedle machines.

In double-layered fabrics, the ring rods are visible on both the front and back, and the protrusions that connect the rings are located inside the fabric. Therefore, any double-layered tissue can be thought of as being joined together by the backs of two single-layered fabrics.

Based on the results of the study, the structure, appearance and physical and mechanical properties of knitted fabrics were identified as factors that characterize the quality of knitted fabrics.

The surface density of the knitwear, the density in the horizontal and vertical (number of rings per unit length), the length of the hoop, the angle at which the hoop rows and hoop columns intersect, and the thickness are the indicators that characterize the structure of knitwear.

Among the indicators characterizing the physical and mechanical properties of knitted fabrics are the following indicators: strength and elongation at break, elongation under the influence of stress less than the tensile strength, resistance to one-time and repeated elongation resistance to shrinkage and abrasion, etc. Air

permeability refers to the air permeability of the material itself.

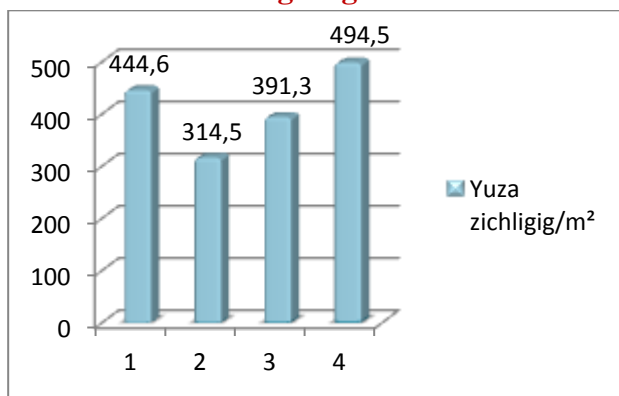
Table.

Physico-mechanical properties of new double-layered knitted fabrics obtained on flat double-needle machines

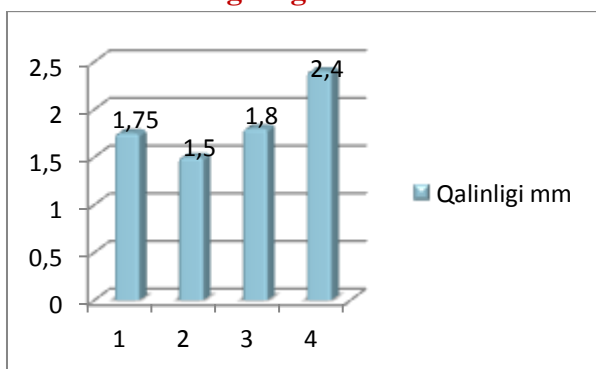
Namunalarr	Yuza zichligi/m ²	Qalinligi mm	Havo o'tkazuvchanligi sm ³ /sm ² sek P=1atm	Ishqalanishdagi chidamliligi ming ayl.	Uzilish kuchi bo'yiga N	Uzilish kuchi eniga N	Chozilish bo'yi bo'yicha %	Chozilish eni bo'yicha %
1	444,6	1,75	87,7	10,5	731	596	38	51
2	314,5	1,5	82,7	24	568	501	61	138
3	391,3	1,8	70,6	23,5	496	391	54	121
4	494,5	2,4	168,6	25	594	512	52	94

Physico-mechanical properties of twolayer newly constructed knitted fabrics.

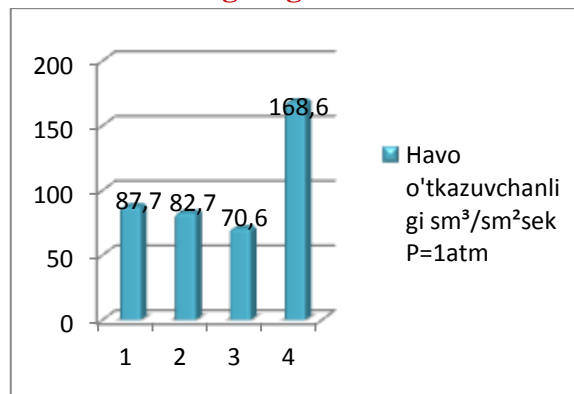
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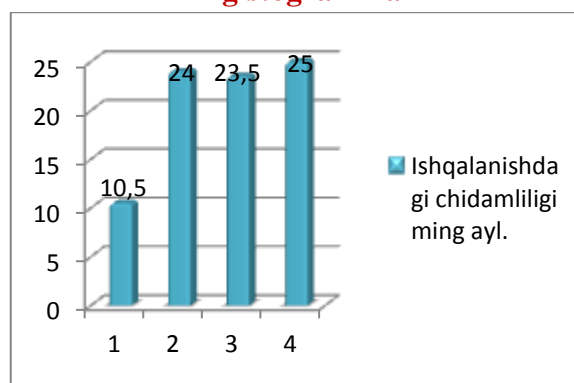
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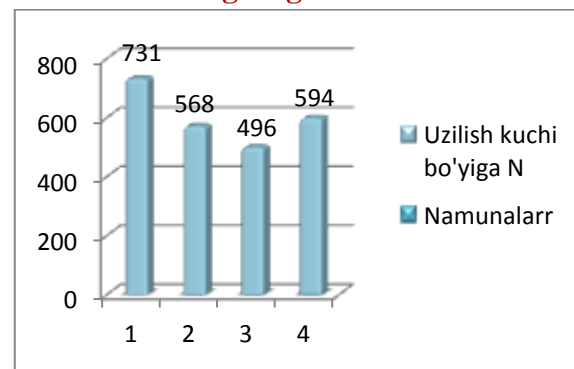
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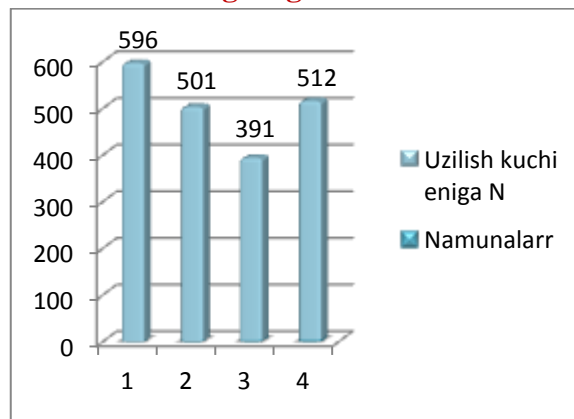
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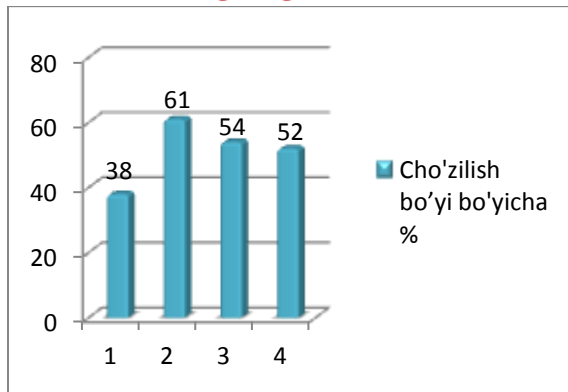
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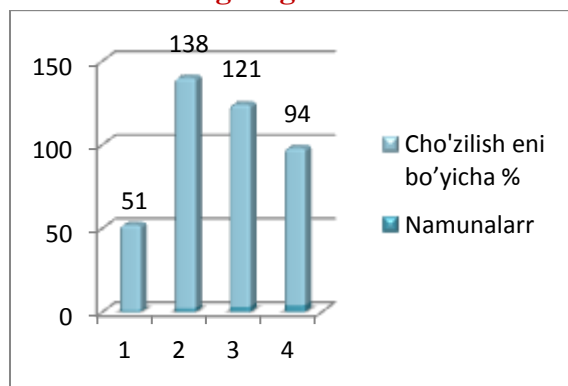
6-gistogramma



7-gistogramma



8-gistogramma



Conclusion

The study of the physical and mechanical properties of the new knitted fabrics obtained on the two-needle flat knitting machines under study resulted in the following results.

Histogram 1 shows the surface density of knitted fabrics. The highest value was 494.5 g / m² in sample 4 and the lowest value was 314.5 g / m² in sample 2. Histogram 2 shows the thickness of the knitted fabric. The highest value was 2.4 mm in sample 4 and the lowest was 1.5 mm in sample 2. Histogram 3 shows the air permeability of knitted fabrics. The highest value was 168.6 cm³ / cm² sec P = 1 atm in sample 4, and the lowest value was 70.6 cm³ / cm² sec P = 1 atm in sample 3. Histogram 4 shows the abrasion resistance of knitted fabrics. The highest value was 25 cycles / rpm in sample 4 and the lowest value was 10.5 cycles / rpm in sample 1. Histogram 5 shows the elongated elongation of the knitted fabric. The maximum

length elongation was 731 N in Sample 1 and the lowest was 496 N. in Sample 3. Histogram 6 shows the elongated elongation of the knitted fabric. The highest width was 596 N in Sample 1 and the lowest was 391 N. in Sample 3. Histogram 7 shows the elongation of the knitted fabric. The highest height was 61% in 2 samples and the lowest was 38% in 1 sample. Histogram 8 shows the elongation of the knitted fabric. The highest value was 138% in the 2nd sample in terms of width, and the lowest value was 51% in the 1st sample. This means that the best results were obtained in Sample 4 for the highest score. It has a higher thickness, air permeability, and abrasion resistance than other fabrics. However, due to its low elasticity, we can recommend the production of men's and women's outerwear in the autumn-winter period.

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