

RESEARCH OF PHYSICAL AND MECHANICAL INDICATORS OF THE UPPER PART OF THE SHOE ON THE BASIS OF KNITTED KNITTING TISSUE

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Abstract. *The invention of the article, children's ikka ignadonli knitter machinalaring the opportunity to explore foidalanib juza sequining knitted detail ishlab chikrish technology ishlab chilib mechanical physicist kursatk-practicing ethylgan. The new knitted jumpsuit has been extended by 5%, the expert and physico-mechanical nature of the experimental method, the gradation of Celtic production and analysis. LONG-XING LXA 252 12G rusumli (China) yassi ignadonli handmade mahalla yigirilgan cotton raw ashesining knitting long patterned patterned patterned patterned patterned and count jezavi keltildi.*

Keywords: *Knitting, spinning cotton thread, new structure knitting, shoe surface part, double-layer knitting, bag, yarn, flat, hajmiy lightness, bag height, surface density, pattern, density, bag thread length.*

ИССЛЕДОВАНИЕ ФИЗИКО-МЕХАНИЧЕСКИХ ПОКАЗАТЕЛЕЙ ВЕРХНЕЙ ЧАСТИ ОБУВИ НА ОСНОВЕ ТРИКОТАЖНОЙ ТКАНИ

Аннотация. *Изобретение статьи, детская вязальщица икка игнадонли, машиналаринг возможность изучить фойдаланиб джуза вязание блестками вязаной детали ишлаб чикриш технология ишлаб чилиб физик-механик курсатк-практикующий этилган. Новый трикотажный комбинезон был удлинен на 5%, экспертный и физико-механический характер экспериментального метода, градация кельтского производства и анализа. Long-xing LXA 252 12G Rusumli (Китай) Ясси Игнадонли ручной работы махалла Игирилган Хлопковый сырой пепел вязание с узорчатым рисунком с рисунком с рисунком с рисунком с рисунком и графом Джезави Келтильди.*

Ключевые слова: *Вязание, прядение хлопчатобумажной нитью, новая структура вязания, обувная поверхностная часть, двухслойное вязание, мешок, пряжа, плоскость, хаймий легкость, высота мешка, поверхностная плотность, рисунок, плотность, длина мешочной нити.*

INTRODUCTION

Textile and light industry is one of the major sectors of the economy that shape the budget of many countries. Innovative opportunities are a strategic resource that determines the place of the national economy in the system of the world economy. The introduction of the integration of scientific achievements into production is a necessary condition for increasing the quality indicators and competitiveness of domestic products, replacing imports and expanding the export structure.

Systematic work is being carried out in the Republic aimed at ensuring high and stable growth rates in the textile and sewing and knitting industries, attracting and mastering foreign direct investment, production and export of competitive products, modernization of enterprises, technical and technological renewal, implementation of strategically important projects through the introduction of an improved "Cluster Model".

MATERIALS AND METHODS

The production of knitted products with high hygienic properties, effectively using local raw materials in obtaining knitted products, is part of the killer of pressing problems. As the standard of living of the population living on Earth improves, the demand for textile products with consumer and high hygienic properties is growing. Therefore, the knitting industry is currently the most important branch of the textile industry. Knitted products are distinguished by their timeliness, practicality, convenience and marketability. The knitting industry has the following specific advantages:

- in the field of expanding the product range, there is a wide possibility of obtaining various mixed textures that provide different properties and appearance of knitted tissue;
- complex physical and mechanical properties such as high resistance to repeated deforming conditions, friction, crumpling, high hygienic properties (hygroscopicity, air permeability and a number of comfort-providing properties), unique consumer property of knitted tissue, which refutes complex aesthetic indicators;
- the presence of a wide technological opportunity to prepare products in a regular and semi-regular way.

RESULTS

In order to develop new types of knitting tissues, expand the range of knitting tissues, as well as expand the technological capabilities of the long-XING LXA 252 12g (China) flat two-needle machine, the technology for the production of New-looking knitting tissues has been developed and 5 nuances have been developed by changing the type and proportion of raw materials. The developed variants of knitting tissue in the new structure differ from each other in the proportion of raw materials in the texture. Technological indicators and physico-mechanical properties of the New-looking knitted tissue were determined in the Laboratory of the Namangan Institute of engineering and technology according to the experimental method, the measurement results were presented in the table. As a result of practical research carried out, the texture structure, physico-mechanical property and appearance were determined, characterizing the quality indicators of the knitted product.

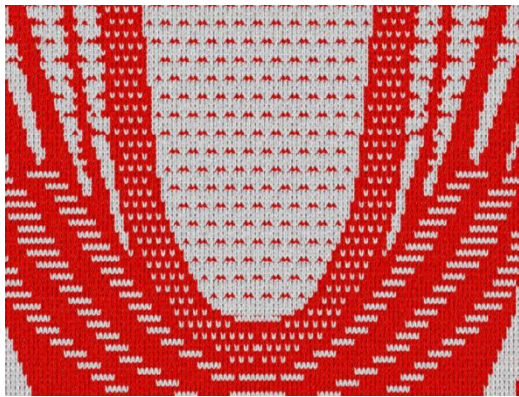
The indicators characterizing the structure of knitting tissue are as follows: surface and volumetric density, density in width and length (the number of loops in relation to the unit of length), ring thread length, angle at which the rows of loops and ring columns intersect, the thickness of the knitting tissue. The graphic record of the produced new-looking two-layer knitted tissue is shown in the figure.

Linear density 20 Tex x 3 spun cotton yarn, 150D/3 polyester yarn were used as raw materials.

In the production of knitted products on the long -XING LXA 252 12g flat two-needle knitting machine, the change in the location of the peoples, the densities, the length of the ring thread and a number of other indicators is carried out automatically. This makes it easier to get

knitted textures with different patterns. On the obverse side of the resulting na'muna, mirrored patterns were formed in order to improve the air permeability property. The combination of the front layer with the rear layer was carried out using the tissue lastik 2+2, 1+1. As a result, it was achieved to obtain a knitted texture that can be applied in the upper part of men's sports-style shoes with a characteristic pattern of appearance, improved shape retention and air permeability (*image-1*).

front



back

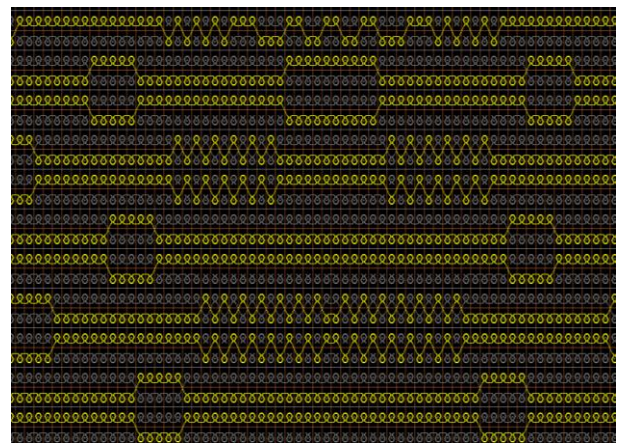
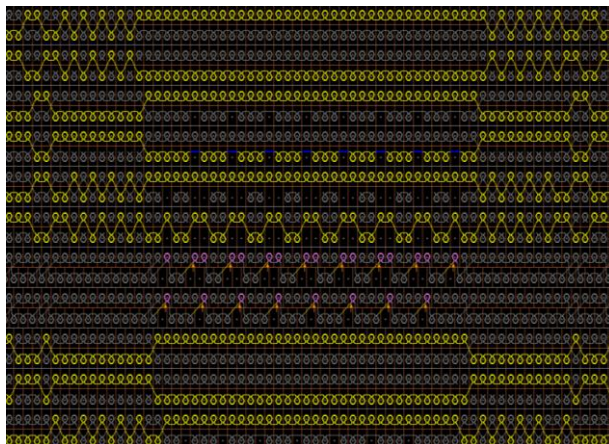
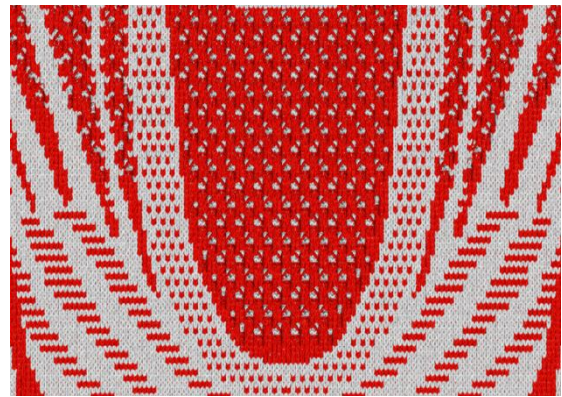


Image-1. Graphic record of knitted tissue with a pattern in the new structure for the surface part of the shoe

Due to the change in the type and proportion of raw materials in the structure of knitted tissue in the new structure, it was found that the volumetric density indicator of knitted tissue in the entire sample has changed significantly compared to the base tissue. The density of the volume of knitting is one of the main ones within technological indicators, which indicates the amount of consumption of raw materials in the knitting tissue.

table-1

Technological indicators of knitting tissue

Indicators options	Indicators options				
	1	2	3	4	5

Type of threads, linear densities and % amount in fabric	front layer	Polyester 150D/3 36%	Polyester 150D/3 44%	Cotton thread 20 * 3 teks 36%	Cotton thread 20 * 3 teks 44%	Polyester 150D/3 100%	
	back layer	Cotton thread 20 * 3 teks 64%	Cotton thread 20 * 3 teks 56%	Polyester 150D/3 64%	Polyester 150D/3 56%		
Bag step A (mm)		1.79	1.79	1.79	1.79	1.79	
Ring row height V (mm)		1.38	1.38	1.38	1.38	1.38	
Density on the horizontal rg (number of peoples)		28	28	28	28	28	
Density Rv on vertical (number of peoples)		43	43	43	43	43	
Bag strip length L (mm)	back layer strip	6.22	6.32	6.22	6.32	6.2	
	front layer strip	6.58	6.48	6.58	6.48	6.52	
Knitting surface density Ms (gr / m2)		644,2	584,5	675,8	607,5	574,5	
Knitting thickness T (mm)		2,8	2,4	2,52	2,6	2,46	
Volume density δ (mg / cm3)		243,9	231,9	281,7	244.8	227.8	
Air permeability		21,8	42.3	45.6	28.9	43,2	
Power of interruption	By height	Interruption (N)	895	875	890	905	959
		Elongation in interruption (mm)	186.7	101.7	108.0	210.8	120.7
		Percentage of stretch in interruption (%)	64,85	50.85	54.00	105.4	60.35

		Yellowed energy in interruption (J)	7.5	4.8	10.4	12.8	7.8	
		Time sorted to disconnect(seconds)	56.01	30.52	32.41	63.24	36.23	
	By width	Interruption (N)	549	723	741	497	857	
		Elongation in interruption (mm)	238.8	154.5	298.3	250.5	301	
		Percentage of stretch in interruption (%)	51,85	77.25	69.15	55.25	80.9	
		Yellowed energy in interruption (J)	15.9	8.1	16.6	10.9	13.5	
		Time sorted to disconnect(seconds)	71.64	46.35	89.51	75.17	90.54	
		Initial state	20	15	20	20	20	
	Reversible irreversible deformation	Height	(CM)	22.8	16.8	21.5	21.6	21
			Stretch (CM)	22.3	16.7	20.8	21.3	20.7
Return (CM)			82	94	54	81	70	
Return (%)			18	6	46	19	30	
Width			Irrevocable (%)	20	15	20	20	20
		Initial state	23	16.6	23.5	23.6	23.1	
		(CM)	22.1	16.3	22.5	23.1	22.6	
		Stretch (CM)	70	81	74	86	84	
		Return (CM)	30	19	26	14	16	

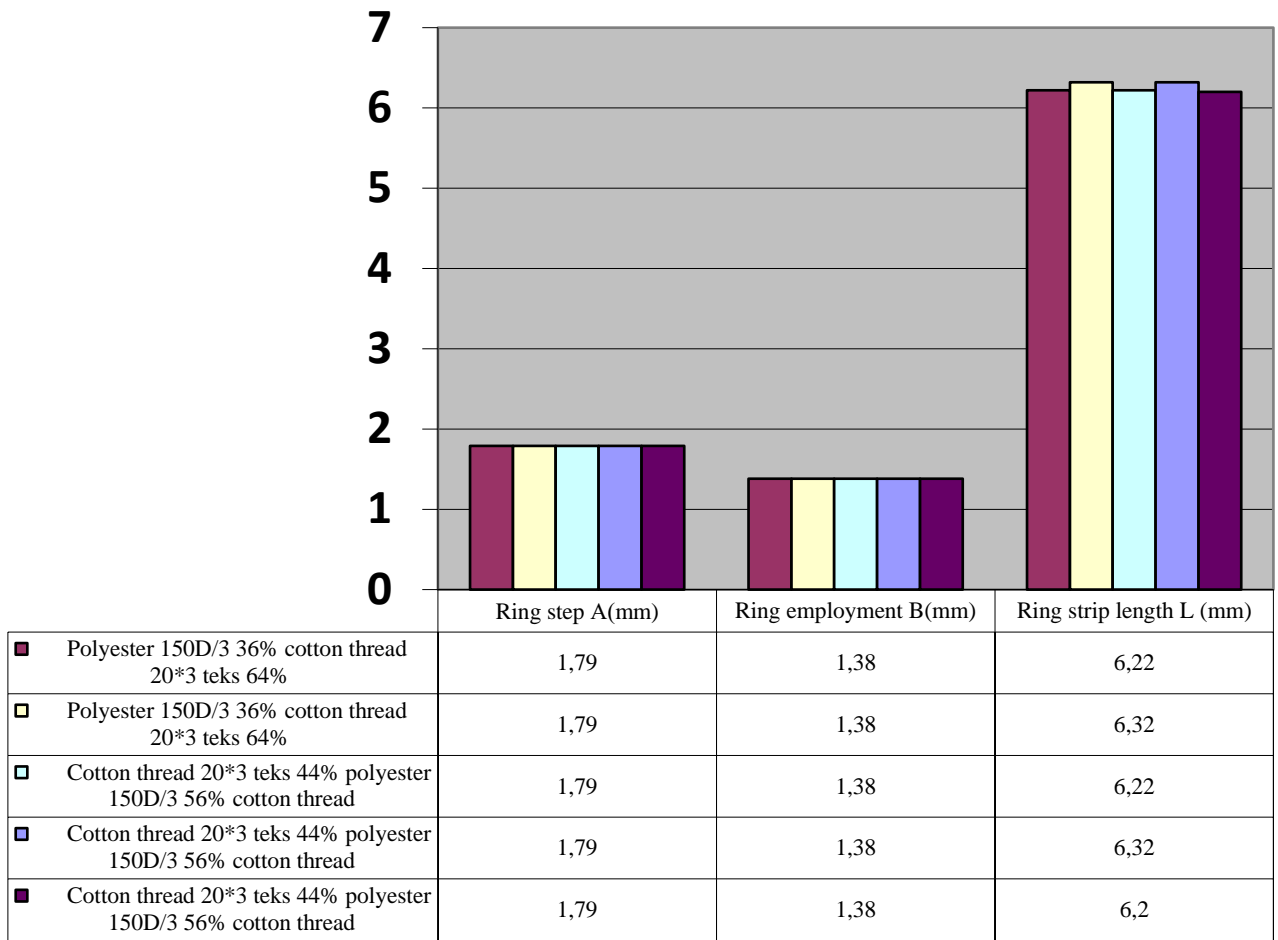


Image-2. Bag step, bag row height and bag thread length histogram of knitted knitting

DISCUSSION

In all samples, the ring step is 1.79 mm, and the ring Row Height is 1.38 mm. It is possible that we can see that the length of the loop thread has changed slightly due to the fact that the raw material composition of the knitted knitting tissue has changed (fig).

A number of technological indicators have been improved due to the fact that the structure of the knitting tissue and the linear density of the threads are close to each other, the composition of the raw materials has changed and the proportion of the texture has changed.

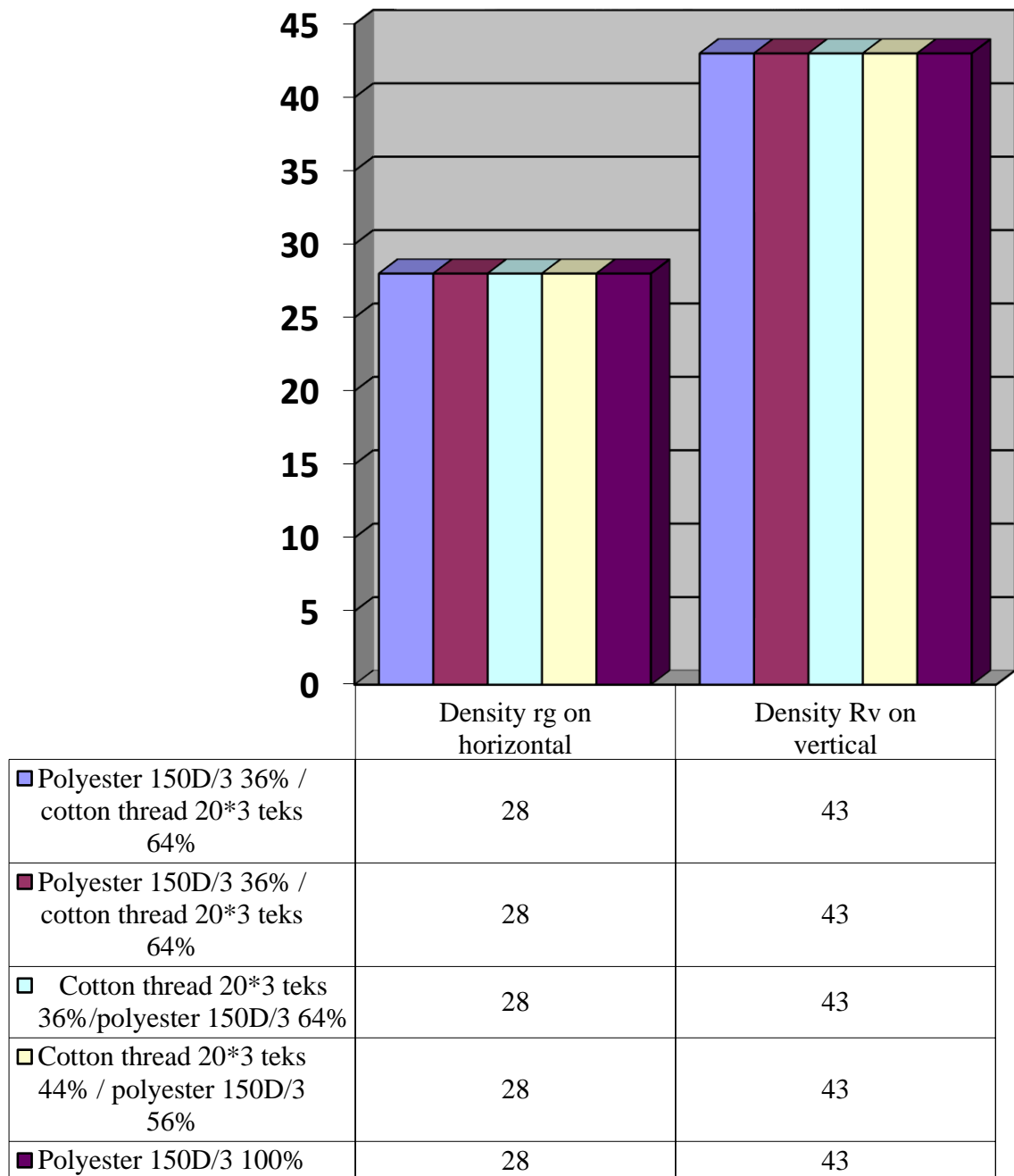


Image-3. Histogram of densities on horizontal and vertical of knitted knitting tissue

The horizontal and vertical densities are also 28 and 43, respectively, the number of rings with the same i.e. 50 mm in length in all samples (Image-3).

The minimum air permeability was observed in the i - sample of knitted tissues with a pattern, and its amount was 21.8 cm³/cm². The highest air permeability was observed in the III of knitted tissue samples, and its amount was 45.6 cm³/cm², which is 53% more than in the case of tissue (option I). (Image-3).

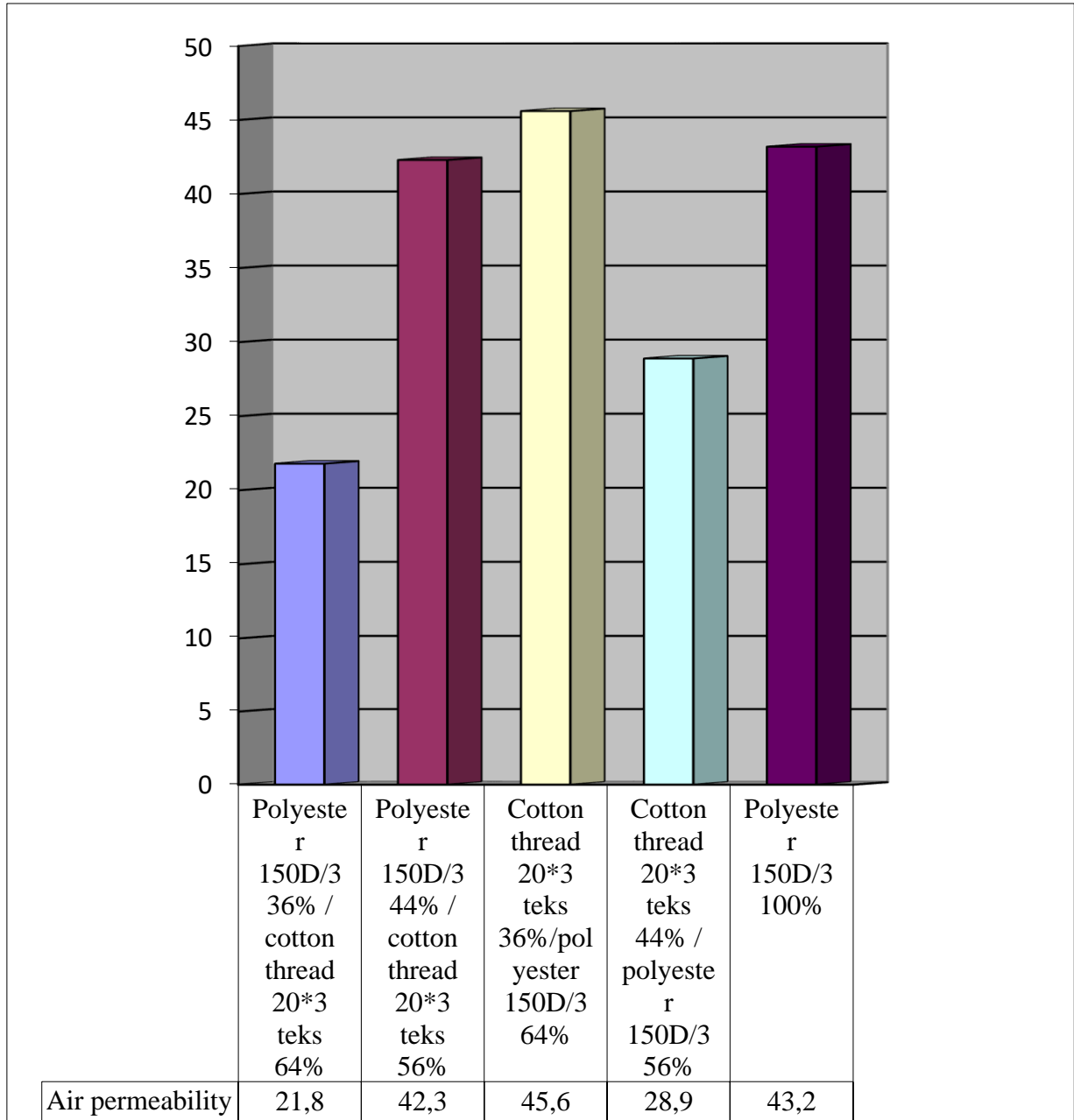


Image- 4. Air permeability histogram of knitted knitting tissue

CONCLUSION

From the analysis of the physical and mechanical properties of knitted tissues in the new structure presented above, it became known that as a result of the change in the proportion of spun cotton raw materials in the texture, the positive effect of knitted tissue on air permeability properties, toughness and stretchability properties, the shape-keeping property of knitted tissue was strengthened. The range of knitted products of the proposed new structure with a high level

of form-keeping characteristics of knitted tissues, with increased rigidity, air permeability and beautiful appearance, has expanded, which made it possible to obtain new knitwear using this method.

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