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Features of Products from Twisted Yarn Obtained from Fibrous Waste in Modern Technologies

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Аннотация

В статье представлены результаты исследования свойств изогнутых волокнистых отходов. Стандарты определяли наличие волокон приемлемой длины для производства пряжи из отработанных волокон. Варианты очистки предлагаются в зависимости от типа отходов на разных заводах. Разработан план прядения и проанализированы результаты испытаний физико-механических свойств образцов пряжи. Показана возможность получения пряжи средней плотности с прикреплением в смеси спинов группы непосредственно в условиях максимальной очистки и высокой равномерности перемешивания компонентов.

Abstract.The article presents the results of a study of the properties of curved fibrous waste. Standards determined the availability of fibers of acceptable length for the production of yarn from used fibers. Cleaning options are available depending on the type of waste in different plants. A spinning plan is developed and the test results of the physicomechanical properties of yarn samples are analyzed. The possibility of obtaining medium-density yarn with attachment in a mixture of spins of the group directly under conditions of maximum purification and high uniformity of mixing of the components is shown.

Ключевые слова: пряжа, прядение, линейная плотность, качество, прядильный метод, роторно-прядильная машина.

Keywords: yarn, spinning, linear density, quality, spinning method, rotor spinning machine.

At present, improving the quality of textile products, in particular yarn from the same raw materials, is an urgent task to help increase the export opportunities of relevant market demand products. The production of high-quality competitive products in the world market, based on the use of new, more advanced technologies, is the most important task of the textile industry. The quality of textile products depends largely on the uniformity, purity and strength of the yarn. Improving the quality of textile products can be achieved through the introduction and use of modern equipment based on advanced technological principles [1 ... 9].

The efficiency of spinning production largely depends on the rational use of raw materials, which to a greater extent affects the cost of yarn. The release of fibrous waste from textile fiber processing is known in spinning machines and engravers. Direct waste is of great importance among them, since it allows to save high-quality fiber and reduce the cost of production [1 ... 9].

In production conditions, to produce [8] fabric, reinforced yarn was used as weft, and linear density 25 tex yarn was used as the main threads.

Table 1. Physics mechanical indicators of harsh tissue are given

Linear density, in T-text	Width fabrics cm	Density per 10cm ..		Gap load in kg		Elongation AT %		Elongation AT%		Fabric weight In g	
		The basis	weft	The basis	weft	The basis	weft	The basis	weft	The basis	weft
69	107,6	260	159	50	71	13	20	6,1	8,2	210,6	195,2
хвл	108,6	260	161	51	78	13	22	7,0	7,4	208,7	192,8
х/п	108,7	256	161	49	68	13	21	5,2	8,2	210,3	193,5
х/б	105,9	264	159	50	66	10	18	4,3	7,4	167,7	158,3

The table shows that the properties of the harsh fabrics of I twisted yarn meet the requirements of GOST, and the properties of the fabric fabric from reinforced yarn are higher than these requirements.

For an hour, the breakage of the yarn on the looms was checked. There are 10 cliffs in the reinforced yarn of all: 6 of them are in the base, and 4 in the duck; and in twisted yarn there are only 15 clippings: 7 at the base of 8 in the duck. The productivity of looms is 3.54 m / hour of twisted yarn 3.01 m / hour.

From the indicators it is seen that the use of reinforced yarn increases the quality indicators of the fabric.

The prepared harsh fabrics were rewound onto a roll, and the LBOX FIRM "Kyoto" bleaching machines were filled with E, where they bleached, steamed, washed and dried the fabric. We checked the capillarity and whiteness of the fabric leaving the machine.

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Table 1. Results are shown.

Fabrics	Capillarity, in mm.	White, in%
HB-50 VIS-50	72	78
HB-50 PF-50	70	74
US-33.333 PF-33.333 VIS-33,333	72	85
HB -67 VIS-33	64	71
According to the technical conditions	60-70	70-78

The table shows that laboratory tests for all samples meet the requirements of technical conditions, and capillarity is higher than standard.

To improve the properties of the tissue, it was emulsified using an emulsifying unit.

After emulsification, tissue samples are refueled on pile machines. Samples of three variants of the fabric obtained from reinforced yarn gave a satisfactory result in the yield of nap even at one transition, and the serial fabric was released repeatedly, because in the first combing, the pile of fabric came out unsatisfactorily. If you change the parameters of the machines, the material will deteriorate.

For the prepared materials shown in Figure N 1.2.3.4. prepared the following ink composition in the printing shop in table 3

Table 3. It is proposed that the following ink composition is prepared in the print shop.

1	Black reagent	2/1	16 kg
2	Active yellow	2/1	12 kg
3	Cybecron a Olive	2/1	16 kg
4	Zeron Ali	2/1	16 kg

Samples of the fabrics obtained from the printing shop are shown in Fig. 1., 2., 3., 4.

Figure 1. Finished fabric from reinforced cotton viscose waste

Figure 2. Finished fabric from reinforced yarn of cotton-polyester waste.

Figure 3. Finished fabric from reinforced yarn, cholopolysphere waste.

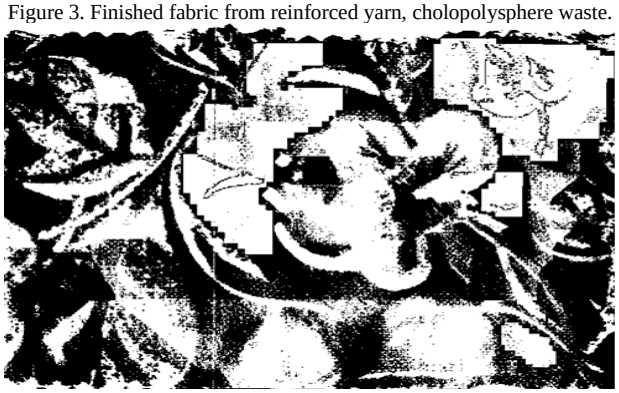

Figure 4. Finished fabric from twisted yarn of cotton viscose fibers in production

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Table 3. Physico - mechanical properties of finished fabrics are given

Sample Average								Shrinkage	
Width Vs., with edges	Massa $v_1 m^2$	The number of threads per 100 mm		Bursting load strips 50x200		Elongation at break			
		by basis of	by duck	by basis of	**by duck**	by basis of	by duck	by basis of	by duck
COTTON AND VISCOSE WASTE									
86,7	207,1	320	158	54	41	14	42	5,5	4,6
ХЛОПКОВЫХ И ПОЛИЭФИРНЫХ ОТХОДОВ									
86,5	225	332	152	59	60	II	48	6,0	4,0
COTTON - VISCOSE AND POLYESTER WASTE									
85,0	214,8	331	157	55	41	12	47	5,0	4,0
COTTON VISCOSE FIBERS IN PRODUCTION									
91,6	163,5	308	158	44	32	10	30	4,7	3,1

From the table it is visible that the physicomechanical properties of the prepared fabric from reinforced yarn are inferior to the series of it.

CONCLUSIONS

1.In order to study the consumer properties of yarn in Namangan A.O. “Shoyi” made fabric samples of HB / VIS, HB / PF, HB / VIS / PF.

2. Studies of the physical and mechanical properties of harsh and finished fabrics showed that the fabrics meet the requirements of the standard and even surpass these requirements in some indicators.

3. The economic effect of the introduction of cotton-yarn and their products i.e. fabric will be 154965, 5871 yew. total 1998 prices by reducing the cost of raw materials, increasing

LIST OF REFERENCES.

1. Полякова Д.А., Ермилов Г.А., Дроздов Н.А., и др. Роторной способ прядения и армирования М: Легпром-бытиздат, 1987.-300с (Курсом ускорения научно-технического прогресса).

2. Полякова Д.А., Дроздов Н.А. и др. Роторный способ прядения и армирования М: Легпромбытиздат, 1987. С 159-160

3. Заявка 62-238830 Япония, МКИ D 01 H 7/02. Устройство для изготовления армированной пряжи / Синоко Мацу но. Заявл. 4.04.86, N 60-126598, опубл. 19.10.87.

4. Грекова С.В., Д.А. Полякова., Н.А. Дроздов ЦНИХБИ, Москва, Л.В. Картышева ВНИИТТ, Ярославль. Технология роторного армирования - один из
путей экономии натурального волокна. Текстильная промышленность. Москва. 1990,с.40-42.

5. Пат.4899529 США, МКИ D 01 H 13/16, D 01 G 15/00. Способ изготовления армированной пряжи. /Фумио танае. Заявл.12.12.88 283308, опубл. 13.02.90

6. Безин П.В. Оптимизация технологии производства армированной пряжи на кольцевой прядильной машине.Диссертация на соискание ученой степени кандидата технических наук. Санкт-Петербург 1993г.

7. Х. Х.Хайдаров, Н.Т. Исмоилов Целесообразность использования армирования пряжи для утилизации волокнистых отходов. Журнал «Интернаука» № 5 (134), Часть 1, 2020. 58 с

8. Kh. Kh. Khaidarov, N. T. Ismailov Effect of torsion on the mechanical properties of reinforced yarn. International Journal of Engineering Research and Technology (IJERT) Volume 9 Issue 02, February 2020. 860-862 p

9. Н. Т. Исмоилов, Х. Х Хайдаров, Выбор параметров крутки армированной пряжи. Журнал «Universum: технические науки» №3 (72).2020.12 с.

LIST OF REFERENCES.

[1]. Polyakova D.A., Ermilov G.A., Drozdov N.A., et al. Rotary method of spinning and reinforcing M: Legprom-bytizdat, 1987.-300s (Course to accelerate scientific and technological progress).

[2]. Polyakova D.A., Drozdov N.A. and other Rotary method of spinning and reinforcing M: Legprombytizdat, 1987. From 159-160

[3]. Application 62-238830 Japan, MKI D 01 H 7/02. Device for manufacturing reinforced yarn / Shinoko Matsu no. Claim 4.04.86, N 60-126598, publ. 10.19.87.

[4]. Grekova S.V., D.A. Polyakova., N.A. Drozdov Central Scientific Research Institute of Chemical Biology, Moscow, L.V. Kartisheva VNIITT, Yaroslavl. Rotary reinforcement technology is one of ways to save natural fiber. Textile industry. Moscow. 1990, pp. 40-42.

[5]. Pat. 4899529 USA, MKI D 01 H 13/16, D 01 G 15/00. A method of manufacturing a reinforced yarn. Fumio Tanay. Declared 12.12.88 283308, publ. 02/13/90

[6]. Bezin P.V. Optimization of the technology for the production of reinforced yarn on a ring spinning machine. The dissertation for the degree of candidate of technical sciences. St. Petersburg 1993

[7]. H. Kh. Khaidarov, N.T. Ismoilov The expediency of using reinforcing yarn for the disposal of fibrous waste. Journal of the Internauka No. 5 (134), Part 1, 2020. 58 s

[8]. Kh. Kh. Khaidarov, N. T. Ismailov Effect of torsion on the mechanical properties of reinforced yarn. International Journal of Engineering Research and Technology (IJERT) Volume 9 Issue 02, February 2020. 860-862 p

[9]. N. T. Ismoilov, H. Kh. Khaidarov, Choice of twist parameters for reinforced yarn. Journal Universum: Technical Sciences No. 3 (72) .2020.12 p.