RAW SILK QUALITY INDICATORS ANALYSIS

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In the study, the quality indicators of raw silk obtained during mechanical and automatic cocooning were studied. It was found that the properties and quality indicators of the tested raw silk samples are basically the same for many primary and secondary quality indicators, except for the deviation in linear density and the intensity of deviation in linear density - roughness 2.

Keywords: *Rewinding, raw silk, blown silk, steaming, type 2, conditioned density, deviation and linear density, free from major defects, finishing.*

V state issledovany kachestvennye kharakteristiki shyolka-syrtsa mekhanicheskogo i avtomaticheskogo kokonomotaniya. Ustanovleno, chto sovystva i kachestvennye charakteristi ispytuemyx obraztsov shelka-syrtsa po many opredelyayushchim i torostropennym pokazatelyam kachestva v osnonom sovpadayut, otlichayutsya lish okloneniy po lineynoy plotnosti i intensivnostyu okloneniy po leiynoy plotnosti: negolasnostyu 2.

Keywords: silk-syrets, vyduvnoy shelk, proparivanie, peremotka, type 2, uslovnaya plotnost, eklonenie i linearnaya plotnost, bez krupnykh defectov, delka.

The article investigates the qualitative characteristics of raw silk mechanical and automatic cocooning.It was found that the properties and qualitative characteristics of the tested samples of raw silk in many defining and secondary quality indicators basically coincide, differ only in the deviation in linear density and the intensity of deviations in linear density: disagreement 2.

Key words raw silk, blown silk, steaming, rewinding, type 2, conditioned density, deviation and linear density, free from major defects, finishing.

The current problems of the development of the silk industry are the creation of new types of fabrics, the adoption of new high-performance equipment with a wide range of capabilities, and the modernization of existing technological equipment, to radically improve and enrich the types and quality of silk fabrics, especially in the processing of natural silk threads.

The issue of creating different types of silk fabrics based on domestic and foreign market requirements is of particular importance. From this point of view, it is urgent to develop new types of crepe fabrics, dress-suit and bedclothes made of natural silk.

One of the urgent tasks of today is to create new productions and modernize existing industrial enterprises, to organize deep processing of cocoon raw materials, to increase the

production and quality of finished silk fabrics, and to increase the export of finished products from natural silk.

Extracting raw silk from the cocoon is one of the most important stages of fabric production. Currently, in developed countries such as China, India, Italy, etc., various methods and equipment are used to produce raw silk yarn.

Characteristics of cultivated cocoons, breeds and hybrids of silkworm cocoons, local weather conditions, cocoon cultivation methods and technologies have their own characteristics.

There are two well-known methods of cocoon processing and raw cocoon extraction: mechanical and automatic cocooning. The technology of this process is very complex and many studies of various scientists have been devoted to its improvement.

To date, in the Republic of Uzbekistan, harmonized with international standards, "UzDSt 3313:2018. Raw silk. Technical conditions» pilfering enterprises were created, equipped with new modern high-performance automatic pilfering machines and related cocoon steaming and re-winding machines, as well as preparation and laboratory equipment sets, allowing to obtain high-quality silk threads in accordance with the State Standard of the Republic of Uzbekistan.

UzDSt 3313:2018 standard corresponds to international standards for the quality classification and test method of raw silk. According to the UzDSt 3313:2018 standard, all grades of raw silk are divided into seven quality grades: 4A, 3A, 2A, A, V, S and D, where grade 4A is defined as the highest grade of raw silk, and grade D is the lowest. a low quality silk variety.

According to the main quality indicators, depending on the linear density, raw silk is divided into three categories: category 1 - 2 tex and less; Type 2 - 2.1 - 3.6 tex; Type 3 - 3.7 tex and more.

Evaluation of the quality of raw silk is carried out according to the main determining indicators, taking into account additional indicators, visual assessment of the batch and the average conditional density of raw silk.

According to UzDSt 3313:2018, the grade of the raw silk batch is determined according to the worst of the specified main quality indicators. If the general appearance of the batch of raw silk is assessed as "unsatisfactory" in the visual evaluation or the number of rings in determining the ability to rewind exceeds the specified standards, then the entire batch of raw silk is transferred to grade D of the specified standard.

To describe the degree of deviation and reproducibility of linear density of raw silk, three levels of deviation intensity were adopted: unevenness 1, unevenness 2, unevenness 3.

At the certification center of the Tashkent Institute of Textile and Light Industry, raw silk with a linear density of 2.33 tex was tested for compliance with the UzDSt 3313:2018 standard in the accredited testing laboratory of Sentehuz. The obtained results are presented in tables 2.2 and 2.3.

Table 2

Features of the main indicators of the quality of raw silk

o	Names of the main quality indicators	Silk from a mechanical spinning machine			Silk obtained in a cocooning machine		
		according to MH	True information	Result on MH	according to MH	True information	Result on MH
	Deviation in linear density, dene	1.65	1.56	3A	1.60	1.38	2 A
	Unevenness 1	170	165	3A	170	155	3A
	Unevenness 2	37	80	In	26	20	2A
	Cleanliness from major defects, % at least	95	96	3A	97	97.3	4A
	Cleanliness from small defects, % at least	94	100	4A	94	96	4A
	Worst purity, % min	90	100	4A	90	95	4A

Table 3

Characteristics of secondary indicators of raw silk quality

o	Names of secondary quality indicators	Silk from a mechanical spinning machine			Silk obtained in a cocooning machine		
		according to MH	True information	Result on MH	according to MH	True information	Result on MH
	Unevenness 3	0	10	Class 1 (4A)	0	0	Class 1 (4A)
	The ability to rewind, with a maximum number of interruptions, pcs.	4	4	Class 1 (4A)	4	3	Class 1 (4A)
	Relative shear strength, g/d	Less than	3.17	Class 2 (V)	3.7	3.85	Class 1 (4A)

		3.7					
	Elongation at relative break, (%)	18	23.5	Class 1 (4A)	18	24.6	Class 1 (4A)
	Stiffness, the number of carriage rides	60	150	Class 1 (4A)	60	66	Class 1 (4A)
	The most deviation, try	3.8	2.33	Class 1 (4A)	3.1	(2+3).	Class 1 (4A)

The analysis of the obtained results shows that the raw silk obtained from the mechanical carding machine corresponds to the V grade, and the raw silk of the automatic carding machine corresponds to the 2A grade according to the main quality indicators. It should be noted that the characteristics and quality indicators of the tested raw silk samples are basically the same for many primary and secondary quality indicators, except for the deviation in linear density and the intensity of deviation in linear density - roughness 2.

Thus, the following conclusions can be made based on the results of the work.

1. A study of the raw silk obtained during mechanical and automatic cocooning was conducted.

2. It was found that the raw silk samples taken from the mechanical carding machine corresponded to grade V according to the main quality indicators, and the raw silk of the automatic carding machine corresponded to class 2A.

3. The characteristics and quality indicators of the tested raw silk samples are basically the same for many primary and secondary quality indicators, except for the deviation in linear density and the intensity of deviation in linear density - roughness 2.

4. The raw silk from the mechanical carding machine and automatic carding machine can be used to produce various types of silk fabrics.

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