

Change of Physical-Mechanical Indicators of Threads Obtained From Different Industry Types

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Of the fibers currently zoned and tested in the territory of Karakalpakstan received physical and mechanical properties of yarns research done and wide zoning for defined industrial grade recommended done

Article Information

Received: May 09, 2023

Accepted: June 09, 2023

Published: July 11, 2023

Keywords: *Change Of Physica, Mechanical Indicators,*

ABSTRACT

Spinning The linear density and metric number of natural and chemical fibers and yarns used in enterprises are widely variable. The thickness of natural fibers is formed from nature, while the thickness of chemical fibers is planned according to the purpose of use. The linear density of textile threads is confirmed in special standards.

The thinner the fibers, the more fibers there are in the cross-section of threads of the same thickness. As a result, in the structure of the threads, the surface of the fibers in contact with each other increases and the force of friction increases, the strength of the threads is small, and this indicator is significant for thin threads.

In addition, in order to obtain high-quality yarns during the spinning process, the cross-section of the yarns should have a certain amount of fibers. Alternatively, the linear density of fibers is crucial to obtain yarns of minimum linear density.

The linear density of cotton fiber is not uniform along the staple length of the fiber. As the length of the fiber increases, its linear density decreases. This inverse proportionality varies by industrial grade and grade of cotton. It follows that the minimum number of fibers in the cross-section of yarns of minimum thickness is variable.

With that At the same time , there are also negative aspects of thin fibers . Such fibers are more entangled during the spinning process, knots are formed, as a result of which the appearance and quality indicators of the yarn deteriorate.

Scientific research work was carried out on the research of yarn quality indicators. For him, yarns were obtained in laboratory conditions from the fibers currently zoned and being tested in

the territory of Karakalpakstan, and their quality indicators were determined using modern equipment.

Scientific research the results are presented in table 1 .

Table 1 Changes in the quality indicators of yarns obtained from different industrial varieties

Indicators	Industry varieties		
	S-9085	KK-3565	KK-3523
of thread linear density , mtex	14.6	14.7	14.6
of thread linear density quadratic unevenness on , %	1.42	2.02	1.88
of thread number of twists , br /m	776	789	876
of thread quadratic unevenness by the number of twists , %	5.9	11.5	9.1

Received test The results of S-9085 industry from quality cotton fiber received of threads indicators relatively In comparison, KK-3565 industry from quality cotton fiber received of threads linear density by 21.7 %, by 21.7%, by 48.7 %, by KK -3523 industrial from quality cotton fiber received of threads linear density the quadratic irregularity by 24.5%, and the quadratic irregularity by the number of twists increased by 35.2% was seen

Summary by doing in other words , KK -3565 industry variety cotton from fiber received of threads linear density up to 21.7% and twists the number according to quadratic unevenness up to 35.2% S -9085 and KK -3523 industry variety cotton from fiber received of threads indicators relatively high the fact that was determined .

Spinning in enterprises demand high has been good quality threads work in release first of all fibers content right choose to the goal is appropriate . From him except for threads main indicators fiber properties dependence important has _ Of fibers strength , decay endurance the number how much a lot if , then of threads strength too high will be

Threads content organize doer fibers one different consistency and in length to prolong have not will be because of threads stretching during at the beginning weak fibers , then strong fibers in interruption participation is enough That's it because of cotton from fiber and most of the time fibers from the mixture , that is chemical staple fibers from the mixture received in threads consistency of threads transversely in the section of fibers common of sum 2-2.8 times its strength less will be This reasons , threads consistency according to unevenness effect is enough

Threads mechanic properties strength, comparison interruption strength, strength according to quadratic unevenness, discontinuity prolongation and in interruption prolongation according to quadratic irregularities enters _

Threads quality to the indicator comparison interruption strength, strength according to quadratic unevenness and quality indicator enters _

Textiles threads in receipt and of them product work release in the process different mechanic to the effects occurs. If to the threads effect doer of forces quantity their interruption from strength big if, threads is disconnected. Threads get in the process fiber length , linear density and unevenness indicators important important have _ Unevenness indicator spinning in the enterprise work being released of products negative properties often _ _ in the enterprise technical - economic to indicators , and of yarn physicist - mechanic properties negative effect does _ Spinning work in the output of products unevenness to try important important have being unevenness _ cause release reasons and the time set gives _ Spinning in their cars threads wrapping and formation in time interruption how much a lot if , then of yarn unevenness so much high will be Threads of interruption increase as a result of workers work with guaranteed increases , and of cars work of productivity to decrease take will come

Combing in their cars unevenness character again work in time , that is fiber cleaning and separate level one different it won't be . From him except , uneven combed pilta harvest will be Linear density according to cooked of threads unevenness high if so , don't gas external appearance and in the structure defects harvest will be , as a result gas surface road - road , chipor , muhayr or Romany being remains . This defects knitting in fabrics too observation can _ Durability and another properties according to of threads unevenness high if , then gas and knitting in fabrics strength , elasticity and stubbornness according to unevenness a lot will be Linear density according to uneven heard threads work in release specific defects harvest to be take will come That's it in line different industry of varieties received of threads mechanic properties research done _

Test the way with received the results are presented in Table 2 .

Table 2 properties of threads obtained from different industrial grades change

Indicators	Industry varieties		
	S-9085	KK-3565	KK-3523
of thread strength , sN	234.13	206.94	194.07
of thread comparison breaking strength, low without , sN /tex	14.10	14.08	13.29
of thread durability according to this, the quadratic unevenness , % , many didn't happen	9.39	10,11	9.69
of thread in disconnection elongation , %	7.18	7.97	7.89
of thread in disconnection prolongation quadratic unevenness on , %	4.64	4.77	5.89

Scientific research The results of S-9085 industry from quality cotton fiber received of threads indicators relatively In comparison , KK-3565 industry from quality cotton fiber received of threads strength decreased by 11.6% , strength that the quadratic unevenness has increased by 7.1% , compare breaking strength decreased by 1.1% , at breaking lengthening by 9.9% , in interruption prolongation According to the quadratic unevenness increased by 2.7% , KK-3523 industry from quality cotton fiber received of threads strength decreased by 17.1% , strength that the quadratic unevenness has increased by 3.1% , compare that the breaking strength is reduced by 5.7% , at breaking lengthening by 9.0% , in interruption prolongation that the quadratic unevenness has increased by 21.2% to see can _ From this come It turns out that S-9085 is industrial from quality cotton fiber received physical and mechanical properties of yarns another industry from quality cotton fiber received of threads indicators relatively high the fact that proved .

Summary by doing in other words, S -9085 industry from quality cotton fiber received of threads indicators relatively another from quality cotton fiber received of threads consistency from 11.6% to 17.1 % reduction, comparison breaking strength from 1.1% to 5.7 % decrease, strength according to the quadratic unevenness from 3.1% to 7.1% , in the break elongation from 9.0% to 9.9% , at the break prolongation 2.7% to 21.2 % quadratic unevenness increased was determined

Literature

1. Marasulov Sh.R. Cotton and chemical fibers spinning _ Tashkent, "Teacher " publishing house, 1985.
2. Barzunov I.G., Badalov K.I., Goncharov V.G., Duganova T.A., Shilova N.N. Pryadenia klopka i khimicheskikh wilokon. M., Izdatelstvo "Legkaya industriya", 1986.