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SCIENTIFIC ANALYSIS OF THE PROCEDURE FOR PREPARING THREADS FOR THE WEAVING PROCESS

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Abstract
In the article, the method of preparation of yarns for the weaving process, and the physical and mechanical properties of the yarns are analysed by comparing them with the properties of ordinary weaving yarns of the enterprise. According to the results of the research, the yarns in the weaving of gauze knitwear and textile products are formed by the interweaving of individual threads in a certain composition. One of the threads passes over or under the other, at a right angle It was found out in the results of the research that it is of high quality and strong when it is woven in a straight line.

Keywords: textile yarn, grain, hairiness, cookedness, roughness, breaking strength, product, quality, carding, re-carding, carding.

Introduction

In the process of gradual and regular development of society, the role of scientific and technical development in increasing the effectiveness of development is very large. The main goal is to increase the labour productivity of enterprises, improve the quality of manufactured products, reduce manual labour and radically improve working conditions. To increase the economic power of our country, it is necessary to expand all branches of production, to ensure the development of different branches at the same rate, to apply new forms of production management, and in this way to increase the efficiency of enterprises [1-3].

The Main Part

The textile industry is a production complex that supplies the national economy with a wide range of consumer goods (gauze, knitwear, sewing threads, carpets, etc.). Its products are widely used in the defence, medicine, automobile, and footwear sectors of the national economy. The textile industry is divided into the following sectors depending on the type of products and raw materials used [6].

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Figure 1. Modern tanda equipment

Knitted fabric and textile products are made by interweaving individual threads in a certain composition. One of the threads passes over or under the other, creating a mutual right angle and weaving in a straight line direction. It is formed as a result of the interweaving of window tulle and mesh threads. These are made on special machines. Such items are produced in textile and haberdashery and lace-weaving enterprises. Textiles or fabrics are woven on looms. The enterprises producing gauze are called weaving factories. Knitted goods are made as a result of threads forming a loop and connecting one passing between the other [2-4].

It is known that the tanda threads are located parallel to their length in the loom, therefore, before feeding them to the automatic loom, it is necessary to increase their length and wrap them parallel to each other on a common tanda shaft. In the process of weaving, the threads should be tight enough so that the threads are tightly interwoven and form a fine mesh.

In addition, during weaving, the tanda threads face additional tension forces that change frequently. So that such tension does not cause many breaks in the body threads during the weaving process, they are tightened. In the process of weaving, the tanda threads are passed through the eyes of the remiziyas and between the bardo plates so that the tanda and argok threads do not get confused and are cut as necessary. The work of preparing Tanda yarn is done in the preparation department of the weaving factory. These operations are as follows [1-5]:

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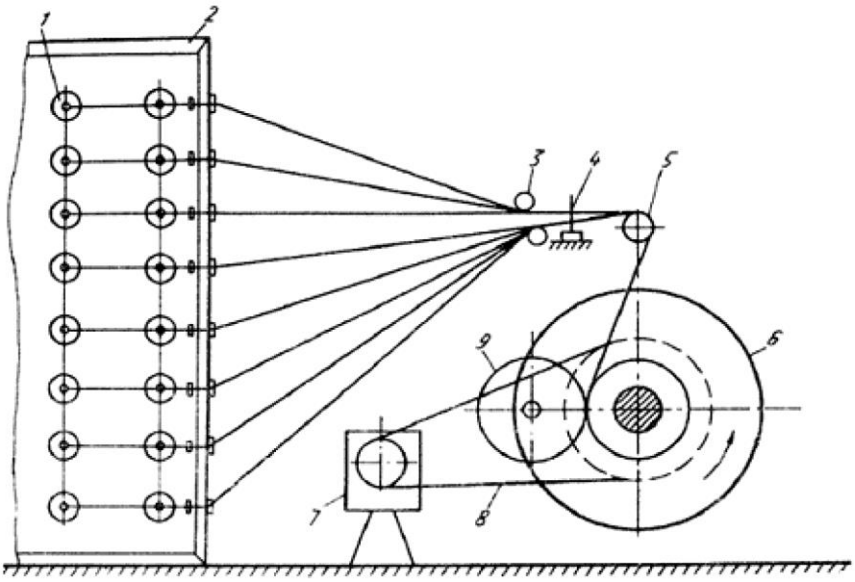

Figure 2. Technological drawing of the grouping tanda machine.

The purpose of Tanda thread rewinding is to wind several tubes of thread into one Babina or bobbin, increase the length of the thread, remove thin areas of the thread, and clean it.

Due to the fact that the thread is slightly stretched and stretched during the rewinding process, its width does not break much when working on machines. If the yarn is delivered from the spinning machine in the form of a tube, the tube is installed on the spool. The thread coming out of the tube passes through the thread tensioning device, and the cleaning-control device, the thread guides and is wound on the bobbins in the form of Babina. The tensioning device ensures that the thread is wound in a certain tension.

The cleaning-control device adjusts the fineness and thickness of the thread and cleans the thread of impurities. The thread guide moves to reciprocate along the axis of the spool, which helps the thread to be wound evenly on the spool. If the thread needs to be rewound from the bobbin, the bobbin is mounted on a special reel. The thread coming out of the spool bends through the guideline, passes through the cleaning-control device, the thread guide and is wound into the tube. In order for the thread to be at normal tension, a belt or a rope is thrown on the side of the wheel, a load is hung on it, and the thread is stretched under the influence of the load [2-8].

The main purpose of threading is to arrange threads of a certain length and number at the same tension and parallel to each other. For this purpose, the thread on the bobbin or spool is wound parallel to the shaft. The tanda thread corresponding to the width of the gauze is wound on several tanda rollers. There can be dyed and undyed threads in the tanda. Often, the tanda yarn wound on the tanda roller is wound on the loom in the carding section. In the process of obtaining Ola-Chipor fabrics, sometimes the thread is dyed in the body. At this time, the selected yarn is dyed and sent to the weaving shop. Sometimes, the threads are wrapped around the weaving loom during spinning. All the threads of the body corresponding to the width of the fabric are joined in parallel, and the winding is carried out on the weaving machine.

Such a system of selection is called batch selection. This system is widely used in yarn production enterprises. In addition, there will be slicing and selective breeding. A batch is made up of several tanda rollers with threads wrapped around the width of the gauze. Threads released from the bobbin mounted on the frame of the machine pass between the teeth of the comb through guide pins and are lined up and parallelized. Then the threads touch the measuring roller and rotate it, which calculates the length of the thread. The S-140-1 threshing machine is an improvement of the S-140 machine, with a modified driver. The speed of this machine can be selected at 3 different speeds: 200, 300 and 400m/min. The S-177.2 carding machine is designed for carding wide textile yarn. This machine does not have a drum, the drum shaft is driven by special electric motors. The sampling speed is 300-600 meters/min [2-4].

The main purpose of tanda thread polishing is to smooth the thread and increase its hardness. If the smoothness and hardness of the Tanda thread increase, the breaks in the weaving process will be reduced. In the carding machine, the thread is released from several rollers, joined together, and wound parallel to the spindle. The number of threads on the bar should be equal to the number of threads on the body corresponding to the width of the gauze. In annealing, an adhesive solution is applied to the yarn, this solution is called annealing. Acorn must meet the following requirements: it should be well absorbed by the thread, the thread should be smooth and ripe, the acorn should not rot, it should not rot, it should be easily washed during finishing, and the price should be cheap [5-6].

In yarn factories, yarn is spun by spinning machines. Depending on the method of twisting the thread, the carding machine has a drum and a chamber. ShB-40 drum honing machine is the most common. The rollers wrapped in thread are placed in a special frame of the machine. The thread of the body is twisted and bends through the roller. In order to keep the threads tight, each roller has a brake on both sides. The rollers that press them on top of the loads ensure that the strings are taut before they are laid. The threads of the thread coming loose from the rearmost thread are joined with the thread from the remaining thread. In this way, a dense layer of yarn is formed. This layer is wrapped around the weaving tray. So, the number of threads wrapped in a rod should be equal to the number of threads in the width of the gauze.

After bending over the guide roller, the sorghum falls into the boiling pot, and the scale is joined by a drum and passes through it. As the agar boils in the pot, it soaks into the thread and makes it agar. The pressing shaft squeezes the excess yarn from the yarn, and as a result of the compression, the yarn is very well pressed into the yarn.

The threads coming from the compression shafts are first bent over a large drum heated from the inside by steam. As the threads touch the surface of the hot drums, the moisture in them evaporates and the thread dries, and then it bends through the thread guiding roller and pins. The gnats separate the tangled yarns, and then the yarns pass through a needle comb [1-4].

Conclusion

If the tubes in which the loom thread is wrapped do not match the shuttle of the loom, or the thread is a wound of poor quality, the thread is rewound into the tubes in machines without winding machines. Tanda and crossed threads prepared for the weaving process are given to the weaving department, and looms are woven from them. The fabrics are brought to the sorting

department, where they are sorted and sent to the flower-pressing factory. In the finishing factories, the fabrics undergo the same operations and become ready-made fabrics. Based on these obtained indicators, it can be said that the products made of textile yarns are competitive in terms of physical and mechanical parameters, retain their shape well, satisfy consumer demand, and in the production of competitive products, depending on the type of weaving of warp and weft yarns and it is known that physical-mechanical properties are important.

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