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About A New Method for Producing Fleecy Knitwear

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ABSTRACT

The article describes a method for the production of lined knitwear on the basis of the plain, in which the fastening of the lining thread is carried out by tying the lining thread into a loop in every sixth looped column, while the loops of the surface located between the loops knitted from the lining thread have footer sketches through one. The proposed method makes it possible to obtain knitted fabrics of a fleecy stitch with good physical and mechanical properties, the presence of a fleecy thread in the structure of knitted fabrics makes it possible to obtain knitted fabrics with high dimensional stability. The resulting jersey can be successfully used for knitted outerwear assortment. The method is simple to implement, does not require any changes in the design of the machine. To produce this knitted fabric, it is enough to install an additional yarn guide on the machine for laying the fleecy yarn.

KEYWORDS: *knitwear, fleecy, shape-stable, fixing of the fleecy thread*

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The jerseys must meet the standards of quality, style and modern fashion trends. The design of the outer jersey must be comfortable, form-stable, the color must be durable, and the quality must be high. Fleecy products must have a high level of hygienic properties, hygroscopicity, air permeability, heat-shielding properties or thermal conductivity (depending on the seasonality of the product). Hosiery should maintain its size during wear, have good elongation and abrasion resistance.

To expand the range of knitted outerwear, as well as improve the quality of manufactured knitwear, it is necessary to use new types of raw materials, apply new structures and methods of producing knitwear with improved hygienic properties, high dimensional stability [1].

In the conditions of the actively developing integration of science and industry, when scientific developments are aimed at improving product quality and increasing production efficiency, it is especially important to develop new types of knitwear with high consumer properties and methods of their production that can be introduced into knitted production enterprises without additional costs and reconstruction of the existing one. equipment. The results of the analysis of the assortment of enterprises showed that the assortment of the produced upper knitwear, especially for demi-season purposes, is very limited [2].

One of the most widely used stitches in the production of knitwear is fleecy.

A known method of knitting fleecy knitwear on the basis of plain stitch [3].

The method of fixing the fleecy thread in the ground of knitted fabric determines the basic principle of building the working process of the machine.

The basis of the working process of the machine consists in the formation of knitted fabric elements of the fleecystitch, i.e. loops, tucks and broaches. The tucks ensure the fixing of the fleecy thread in the knitted fabric structure, and the broaches are located

freely on the seamy side and create a pile surface on the fabric.

Fleecy knitwear on the basis of the plain is formed by introducing a fleecy thread into the structure of the plain. In this knitted fabric, at the intersection of the fleecy thread and the broaches of the ground, the fleecy thread comes out to the front side of the fabric. Since the fleecy thread in simple fleecy knitwear moves the loops apart and itself becomes visible on the front side, its front surface looks ugly. Therefore, this jersey is used for those products that are used with the pile out. In this case, the abrasion resistance of the pile should be increased.

The disadvantage of the proposed method for the production of fleecy knitwear on the basis of satin stitch weaving is that the resulting fleecy knitwear is not of high quality, with weak fixation of the fleecy thread in the ground, at the intersection of the fleecy thread and the platinum arc of the soil, the fleecy thread comes out to the front side of the fabric, impairing the appearance of the knitwear.

The objective of the research is to develop a method for the production of fleecy knitwear with a strong fixing of the fleecy thread in the ground of the knitted fabric and improve its quality.

The problem is solved by the fact that in the method of producing knitted fabric of fleecystitch on the basis of the surface, including knitting the stitches of the surface, laying the fleecy thread and their interlacing, fixing the fleecy thread in the surface is carried out by knitting the fleecy thread into a loop in every sixth looped column, while the loops of the surface , located between the loops knitted from a footer thread, through one have footer sketches.

In fig. 1, a shows the structure of the form-stable knitted fabric of the fleecystitch, in fig. 1, b - a method of obtaining a form-stable knitwear fleecystitch.

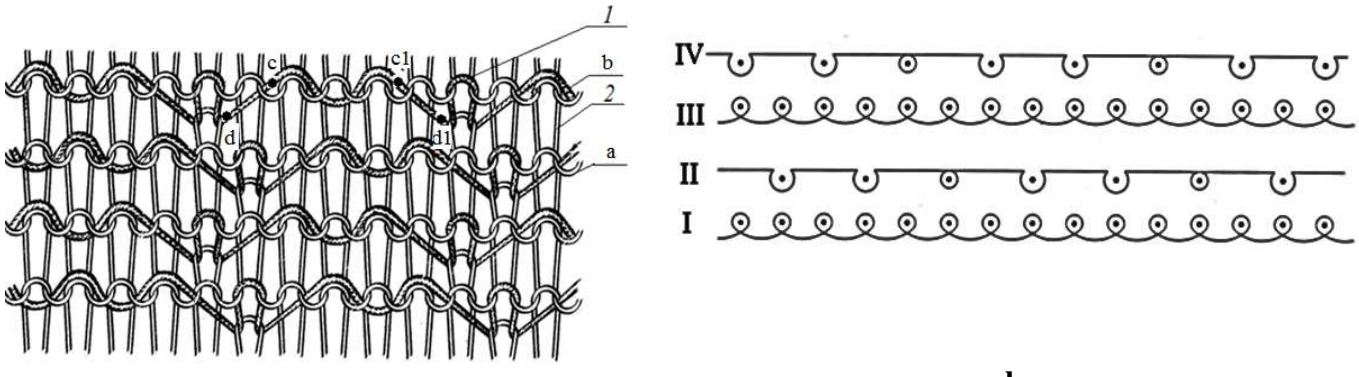
As can be seen from fig. 1, and the obtained knitted fabric consists of loops 1 formed from a fleecy thread*b*, and from ground loops 2 formed from a ground thread *a*. The footer thread *b* is tied into the ground in every sixth wale so that the loops of the surface located between the loops knitted from the ground thread have ground tucks through one.

As a result, the section of the fleecy thread*c-c1*, located along the stitching row, reduces the extensibility of the knitted fabric in width, and the sections of the fleecy thread*c-d* and в*c1-d1*, which connect the loops of the fleecy thread with the fleecy tucks, reduce the extensibility of the knitted fabric along the length. The formation of fleecy thread loops on some needles helps to increase the strength of the anchorage of the fleecy thread in the ground. The knitwear of the offered stitch has a high dimensional stability and high heat-shielding properties.

Form-stable knitted fabric of fleecystitch according to the recommended method on a circular machine is obtained as follows [4].

In the first system, all the needles in the upper cylinder knit a row of plainstitch. The ground thread is calibrated on the breaker teeth of the upper cylinder.

In the second system, every second needle is transferred from the upper cylinder to the lower one and a fleecy thread is laid on them. Every third translated needle forms footer thread loops, and the rest - footer sketches. The framing of these needles is achieved by the machine using two-headed, single-latch reed needles. Due to the absence of a latch in the upper head of the needle, footer sketches and old loops will appear under the hook.



a **b**

Fig. 1. Structure and graphic record of new structure fleecy knitwear

In the third system, the needles from the lower cylinder are transferred back to the upper one and, together with the needles of the upper cylinder, a row of stitching is knitted, as in the first system. At the same time, on those needles on which there are no latches in one head, footer sketches are dropped onto the new loops along with the old loops.

In the fourth system, those needles are transferred that in the second system were not transferred from the upper cylinder to the lower one, i.e. in the fourth system, the needles are also transferred through one. As a result, in this system, footers and new loops from the fleecy thread are formed by the other needles of the lower cylinder. This is necessary so that the loops of the fleecy thread are not located in one stitch column, as well as for the uniform arrangement of the footer sketches on the surface of the canvas.

In the next system, a number of surfaces are knitted in the same way as in the first and third systems.

The method is simple to implement, does not require any changes in the design of the machine. To produce this knitted fabric, it is enough to install an additional yarn guide on the machine for laying the lining yarn.

Due to the simplicity of the proposed method, the performance of the machine practically does not decrease, the technological capabilities of the circular machine due to the production of knitted fabric of fleecy stitch expands.

The proposed method makes it possible to obtain knitted fabrics of a fleecy stitch with good physical and mechanical properties, the presence of a fleecy thread in the structure of knitted fabrics makes it possible to obtain knitted fabrics with high dimensional stability.

The resulting jersey can be successfully used for knitted outerwear and children's assortment.

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