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RESEARCH OF THE TECHNOLOGY OF OBTAINING TWO-LAYER KNITTED FABRICS OF A NEW STRUCTURE BY PLACING THE NEEDLES OF A FLAT TWO-NEEDLE KNITTING MACHINE IN A RUBBER ARRANGEMENT

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Zamonaviy ikki yassi ignadonli trikotaj to'quv mashinalarining texnologik imkoniyatlaridan foydalanib, ignalari lastik tartibda joylashtirib ishlab chiqarilgan yangi tuzilishli ikki qatlamli trikotaj to'qimalarining olish texnologiyasi tadqiq etilgan.

Kalit so'zlar: lastik, igna, ikki qatlamli, trikotaj, texnologiya.

С использованием технологических возможностей современных двухфонтурных плосковязальных машин исследована технология получения двухслойных трикотажных полотен новой структуры, изготавливаемых путем расположения игл по ластичному положениями.

Ключевые слова: ластик, иглы, двухслойный, трикотаж, технология.

Using the technological capabilities of modern double bed flat knitting machines, the technology for producing double-layer knitted fabrics of a new structure, made by arranging the needles in rib positions, has been studied.

Key words: ribana, needle, double-layer, knitting, technology.

Common to all structures of two-layer knitted fabrics is that each of its independent layers creates a basic, derived, patterned or mixed single-layer fabric. In the process of weaving, fabric or layers are connected to each other with the help of some elements in the ring structure, so that one fabric can be removed without breaking the ring connection and the other can be preserved [1].

The two-layer mixed knitted fabric is woven on a multi-system circular needle tire machine, and therefore, this fabric, which has the properties of shape retention and

heat retention, can be used in the production of household, sports and technical goods [2].

Scientists of the Kursk State Technical University, Yu.A. Romanenko, E.A. Pyanikova and O.G. Diev, created a method of serial production of two-layer knitted fabric on a flat four-needle machine [3].

In this method of obtaining a two-layer knitted fabric on a flat four-needle knitting machine, four rows of rings of different layers are formed on four needles of the carriage in one movement of the carriage. The research work is focused on shortening the loop forming process and increasing the productivity of the flat needle machine.

From the results of the conducted scientific research, it was found that it is important to develop new methods and technologies for obtaining two-layer knitted fabrics with a new structure due to the expansion of the assortment, saving the consumption of raw materials, and the use of mixed knitted fabrics in the composition of the fabric.

According to him, in order to solve the actual problems mentioned above, the technology of obtaining two-layer knitted fabrics of a new structure was developed. 6 variants of two-layer knitted fabrics of the new structure were woven on a 14-class flat two-needle knitting machine manufactured by the Chinese company Long Xing LXA 252 SC.

It is known that obtaining mixed fabrics in the repetition of fabric rows or individual elements in a certain order is one of the most promising directions for creating a new assortment of knitted fabrics. One of them is dubrilinization of single-layer fabrics in the weaving method. In two-layer knitted fabrics, these fabrics are connected to each other by loop elements during the knitting process.

In the production of mixed double-layer knitted fabrics, knitted fabrics with their own characteristics are woven from two yarns, one of which forms the loops of the front side and the other of the loops of the back side. E.P. Pospelov called it a two-layer tissue (8).

In order to expand the assortment of knitted fabrics, reduce the consumption of raw materials and improve the quality indicators, the technology of taking two-layer knitted fabric samples obtained in a new structure was developed.

Accordingly, two-layer knitted fabrics of a new structure were woven using polyacrylonitrile (PAN) yarn with a linear density of 30 tex x 2. The new two-layer knitted fabric samples differ from each other in the production method and the change in fabric structure.

Double-layer knitted fabric samples of the new structure were knitted on a flat double-needle knitting machine in the following order.

Variant I of the new structure, the carriage of the knitting machine moves from left to right during production of the I-row of two-layer knitted fabric. As a result, the front needle needles are raised to the full completion process due to the lifter being in working position and make their loops for the front layer of fabric from the acrylic raw material, and the rear needle needles are raised to complete the incomplete completion process due to the lifter half off and form half loops. At the end of the process, full loops are formed on the front knitting needles, and half loops are formed on the rear knitting needles. When knitting the II row of the knitted fabric, the front needle needles do not participate in the loop formation process due to the fact that the lifting loop is not in working condition during the movement of the machine carriage from right to left. And the back needles are fully raised to the finishing process due to the working position of the lifting bar and form the glad rings from the acrylic raw material. As a result, the front and back layers of the tissue are attached with the help of open press half-rings (Fig. 1). The knitted fabric consists of elongated loops of the back layer 1, loops of the front layer 2, half-loops connecting the two layers 3 and spacers 4.

The peculiarity of this process is that the knitting needles of the knitting machine are located and work in a rubber pattern when obtaining a double-layer knitted fabric with a new structure. This is expressed by the development of a new technology for obtaining two-layer knitted fabrics of a new structure, the needles of which are located in a rubber arrangement. Subsequent two-layer samples were also woven using this method.

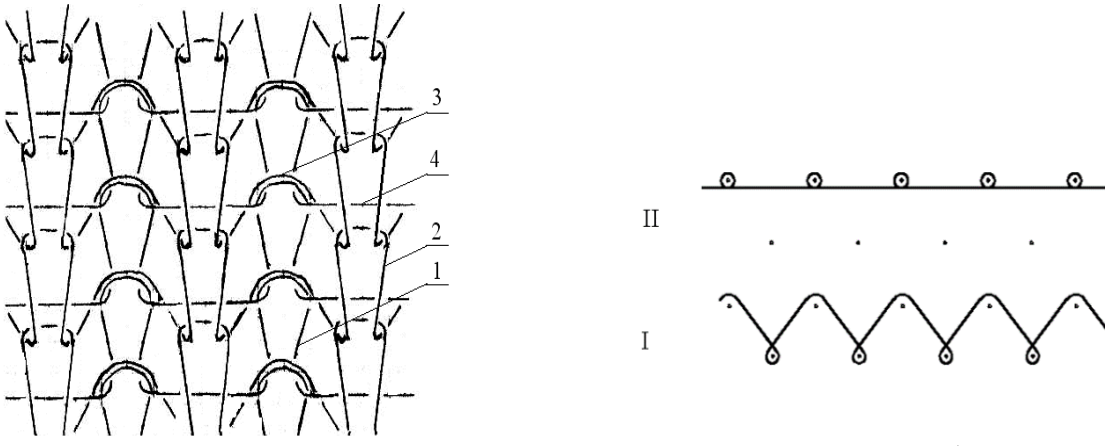

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Figure 1. The structure (a) and graphic record (b) of the two-layer knitted fabric (option I) in the new structure.

The total ratio of the two-layer knitted fabric of the new structure II option consists of four rows, and in the process of moving the carriage of the knitting machine from left to right in the production of the I-row of the fabric, the front needle needles are raised to the full completion process due to the working position of the lifting loop, and the front layer of the fabric is removed from the glad ring rows. creates. At this time, the rear needle needle does not rise to the finishing process due to the removal of the lifting thread and does not participate in the process of forming the loop. In the process of moving the carriage of the knitting machine from left to right when knitting the II row of the fabric, the rear needle needles are raised to complete the process of completion due to the working position of the lifter, and the back needle of the fabric, and the front needle needles are raised to complete the process of incomplete completion due to the partial removal of the lifter. creates loops for the front layer. As a result, full loops are formed on the back knitting needles, and half loops on the front knitting needles.

When weaving the III row of the fabric, the front needle needles do not participate in the process of forming a loop due to the fact that the lifting loop is not in working condition during the movement of the machine carriage from right to left. And the back needles are fully raised to the finishing process due to the lifter being in working position and form the glad loops for the back layer. When knitting the IV row of double-layer fabric, the front needle needles are raised to the full completion process due to the lifting loop being in working position, and their loops for the front layer of the fabric, and the rear needle needles are raised to complete the incomplete completion process due to the lifting loop being turned off in half, and the half loops of the back layer creates.

As a result, new assortments of two-layer knitted fabrics with a new structure were woven due to the arrangement of the knitting needles of the flat-needle knitting machine in a rubber pattern, as well as the development of a new technology for obtaining knitted fabrics.

Taking into account the high shape and heat retention properties of the obtained knitted fabric, it is appropriate to use it in the production of outer knitted products.

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