

**RESEARCH OF TECHNOLOGICAL INDICATORS AND PHYSIC-MECHANICAL
PLUSH KNITTED FABRICS KNITTED FROM SPUN COTTON-NITRON YARN**

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Abstract

For the purpose of effective use of local cotton-nitron yarn in the scientific work was conducted on the technological indicators and physical-mechanical properties of plush stitch fabric.

Keywords: knitting, cotton-nitron, plush, air permeability, abrasion, rupture, deformation.

The range of products made from a mixture of natural and chemical fibers is systematically expanding in our country and abroad. This is due to the following reasons:

- due to the shortage of natural fibers, the need to increase the production of chemical fibers and expand their fields of application;
- purposeful creation of the necessary properties in the products - properties of shape retention, friction resistance properties;
- the need to replace natural fibers with high consumer properties with chemical fibers and their mixtures in the technical application.

A fabric that is woven by adding the basic yarns and additional yarns or staple fiber joints of any staple fabric to form a long pile is called pile fabric.

In other words, feather fabric refers to knitwear made on the basis of single, double and two-layer fabrics with additional yarn or staple fiber in ground stitch. Plush knitted fabric can be simple or patterned.

The collar is made up of plush rings formed by elongated broaches on the opposite side of the plush tissue. One part of the patterned loops fabric is colored and the other part is another color, besides, one part of the plush loops and the plated loops.

It is known that knitted products made of pure cotton fiber have high hygienic properties, but they quickly wrinkle, change their shape after the first wash, and this negatively affects its appearance. To overcome these shortcomings, a mixture of cotton and chemical fibers is used. Approximately 20,000 tons of nitron fiber are produced in Uzbekistan per year.

Uzbekistan has the opportunity to expand the field of application of nitron fiber obtained from acrylonitrile copolymer. Due to the increase in high demand for it, the question of increasing its production is being considered, for this it is necessary to increase its hygienic properties, which will allow to use it in the production of children's clothes, special clothes, and to expand the range of knitwear made from a mixture of this fiber with cotton. One of the ways to solve this task is to modify the newly formed fiber with a solution of natural silk production waste. The obtained finished modified fiber will have the hygienic and textile-technological properties of natural fiber. Polyacrylonitrile has high physic-mechanical properties, resistance to melting, heat resistance and resistance to the movement of microorganisms while maintaining fiber properties.

The mixture of modified polyacrylonitrone fiber with cotton fiber opens up new possibilities for production of products with new and improved properties [2-7].

The right choice of knitting method in the production of knitted products made of mixed yarn with improved hygienic properties.

The cotton yarn is used in the production of inner knitwear and hosiery products, and when outer knitwear products are produced from this yarn, the knitwear has high hygienic properties, as well as low shape retention and wearability. For this reason, the parameters and physical-mechanical properties of plush knitted fabrics, which can be used in the production of outer knitted products, were studied using cotton-nitron yarn mixed with nitron and cotton fibers in the scientific work. For this purpose, 4 options of plush knitting samples were knitted on a Pailung knitting machine. Plush knitted fabrics options differ from each other in the types of yarn used. As raw materials, spun cotton yarn with a linear density of 20 tex, spun nitron and cotton-nitron yarn with a linear density of 30 tex were used. The indicators and physical-mechanical properties of the plush knitted samples were determined and analyzed.

It is known that outer knitted products woven from cotton thread have good hygienic properties, but due to their low operational performance and low shape retention properties, the quality indicators of the external appearance of the product are also much lower than those of inner knitwear. This in itself reduces the purchasing power of the product and the demand for the product is very low. The spun cotton-nitron thread made it possible to increase the types of knitted products with high operational, physical and mechanical properties and beautiful appearance. The analyzes carried out in the scientific work show that the mixture with its own characteristics is a 50/50 spun cotton-nitron thread [8].

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