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Production of Printing Ink for Stuffing Mixed Fibers

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Abstract
Thickening polymer compositions based on oxidized starch have been created. Thickening compositions of a new composition for printing blended fabrics based on blended fibers have been developed. The effect of the components of the humming compositions on the rheological properties of the composition depending on their concentration has been studied. The development of a new composition of the thickening composition and its physical and chemical properties has been established.

Keywords: printing ink, dye, composition, fabric printing, blended fabrics, polyacrylamide, oxidized starch, color fastness.

Introduction

One of the main reforms that are being carried out in Uzbekistan is the development of textile enterprises and the production of low-cost products based on local processing. In the process of finishing fabrics, that is, in the process of applying a pattern to the fabric, expensive imported components such as alginic acid, polyprint, solvitose C-5 are used as a thickener, which leads to a sharp increase in the cost of manufactured products [1].

Moreover, the rhythmic flow of technological processes is not ensured, which entails disruption of production from time to time. To solve this problem, it is important to develop technologies for obtaining thickeners based on local raw materials - OK, PAA and K-4, as well as their use in the fabric industry when finishing mixed fibers as a thickener for printing inks.

In order to solve this problem, the development of a technology for obtaining a thickening composition based on local raw materials - OK, PAA and K-4, and their use in the textile industry in the process of finishing mixed fibers as a thickener for printing inks is an urgent problem.

LITERATURE AND METHODOLOGY

In accordance with this, this article presents the results of research studies on the rheological properties of thickening polyethylene Printing and technical properties of printed cotton and nitron fabrics using the recommended polymer composition are the main ones, and therefore the effectiveness of the implementation of the created technology in production depends on them.

During the tests, the following procedure for the preparation of the thickening compound was observed: the calculated amount of oxidized starch thickener, PAA and K-4 preparation are gradually added to the cold water when stirred with an agitator, in such a way as to minimize the formation of lumps. The final mixing was carried out at a temperature of 80±5°C for 35±5 *minutes.* After that, urea, ludigol, and sodium bicarbonate were mixed into the solution [3-4].

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OUTCOMES

As a result, a homogeneous viscous composition was obtained, characterized by a density of 425 g/ml and a viscosity of 38.24 pass. To determine the stability of the resulting composition, it was kept for two days. At the same time, the viscosity was 35.73 pass, which is definitely a rheologically stable solution. After cooking··, add ludigola, urea and sodium bicarbonate. Ludigol is added so that the dye does not oxidize. Urea is added to preserve and retain moisture, and sodium bicarbonate to form an alkaline environment [6].

On the basis of the developed thickener, a printing ink of the following composition was prepared, g/kg:

Active Dye 3,0
Urea.....80
Ludigol..... 10
Bicarbonate sodium 10
Developed thickener 61,5
Water..... up to 1000

After printing, it is already called printing ink. And before stuffing, it is called a thickener.

DISCUSSION

The resulting printing ink was used to stuff cotton and nitron fabrics at a ratio of 70:30 art.131 on a printing machine of the Storck company. Fixation of the dye and washing of the printed fabric were carried out according to the factory regime. The quality of the resulting print was compared with that of the factory [8].

Table

Indicators	Factory Composition	Proposed composition
Relative viscosity, Pass·	40,32	38,24
Yield strength, g/cm2	44,26	46,37
Color intensity, K/S,efl	2,31	2,28
Degree of dye fixation on the fiber, %	91,6	93,2
Durability of color for washing at 95°C, point	4/4	4/3
Friction resistance, score	5/5	5/4

CONCLUSION

For the first time, we have created thickening polymer compositions based on this composition. And their properties have been studied. During the introduction into production and during the trial, it was shown that the proposed thickening polymer compositions for printing blended fabrics were almost equal to the factory ones.

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