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Changes in the Quality of Tarpaulin Materials Produced at Different Enterprises

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ABSTRACT: In this article, the enterprises ChF "Shams", OOO "Apiteks", OOO "Berad teks", OOO "Uzfant" were taken. In it, samples of tarpaulin materials from different assortments were taken, their technological parameters and physical and mechanical properties were determined.

KEY WORDS: body and back density, linear density of yarns, tensile strength, elongation at break, surface density, water resistance and air permeability

INTRODUCTION

One of the most pressing issues today is the creation of new tarpaulins in the textile industry to increase the production of cotton fiber [1].

Currently, the level of demand for products in the textile industry of the country is growing. It is necessary to develop textile enterprises in order to meet the needs of the population in finished products and constantly improve their quality, as well as to increase their range. The increase in production can be achieved not through the construction of new enterprises, but through the automation and mechanization of existing enterprises [2].

The plan of their modernization and technical re-equipment will be a great basis for the development of the textile industry of the Republic at a high level [3].

It is important to develop and ensure the smooth textile industry, produce competitive products of high quality, increase capacity, encourage, produce export-oriented finished products, modernize enterprises, re-equip with modern technologies. Recently, the production of tarpaulins in the textile industry of the country has become more active. Until now, the tarpaulin materials imported into the country were mainly imported from Russia, but now this issue has been eliminated using our own local raw materials [4].

Dimensional properties of tarpaulin materials include body and back density, linear density of yarns, and material thickness. The higher the density and thickness of the tarpaulin materials in the body and back direction, the lower the air permeability of the material, and the higher the abrasion resistance and strength.

One of the indicators that characterizes the structure of tarpaulin materials is their density in the direction of the body and back, while the other is their folding. Because the materials are produced in different wraps.

II. METHODOLOGY

The density of a tarpaulin material is determined by the number of threads per unit length, usually 100 mm. The thinner the yarns of materials of the same density, the thinner the material, i.e. the less it is filled with yarns. If the opposite is the case, i.e. the thicker the threads in the material, the heavier the material. In addition, one of the properties of the material is its durability.



Therefore, research work has been carried out to produce quality tarpaulin materials in a market economy. For this purpose, the quality indicators of tarpaulin materials produced at various enterprises were studied. The test results obtained are presented in Table 1.

Table 1
Changes in the quality of tarpaulin materials produced by different enterprises

| t / r | Businessname | Surfacedensity g/m^2 | Density | | Lineardensity, tex | | Thickness, mm |
|-------|-----------------|---------------------------|---------------|-------|--------------------|-------|---------------|
| | | | thefoundation | ducks | thefoundation | ducks | |
| 1. | OOO «Shams» | 320,7 | 286 | 59 | 75 | 287 | 0,53 |
| 2. | OOO «Apiteks» | 335,2 | 256 | 60 | 70 | 268 | 0,45 |
| 3. | OOO «Beradteks» | 330,9 | 118 | 86 | 198 | 163 | 0,65 |
| 4. | OOO «O'zfant» | 322,6 | 190 | 100 | 100 | 151 | 0,80 |

Based on the results of Table 1, Figures 1-3 show graphs of the density of tarpaulin materials produced by different enterprises in the body and back direction, the linear density and thickness of yarns.

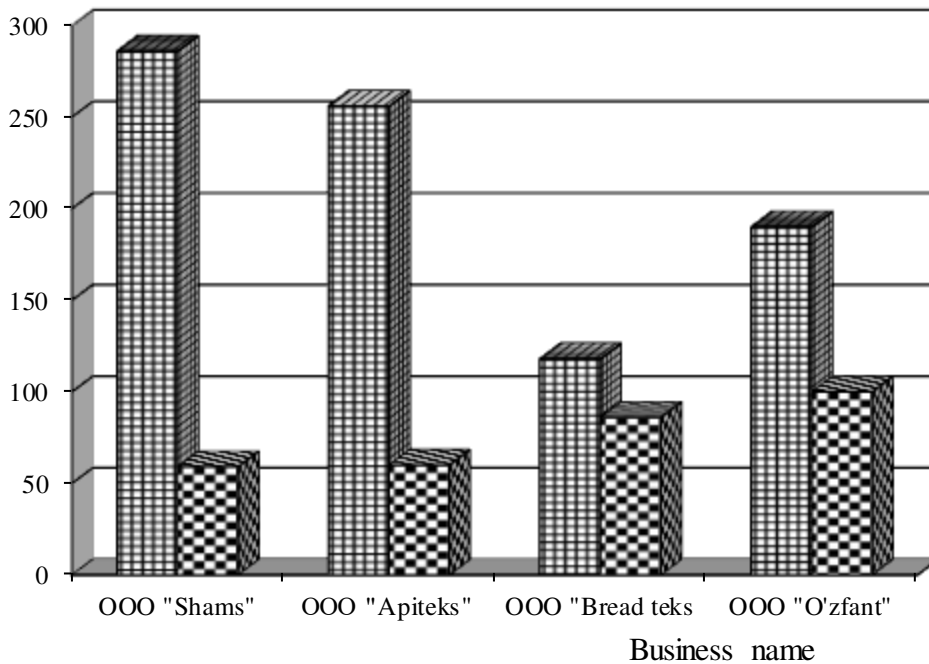


Figure 1. Changes in the density of tarpaulin materials produced in different enterprises in the direction of the body and back.

-on the body;
 -on the back.

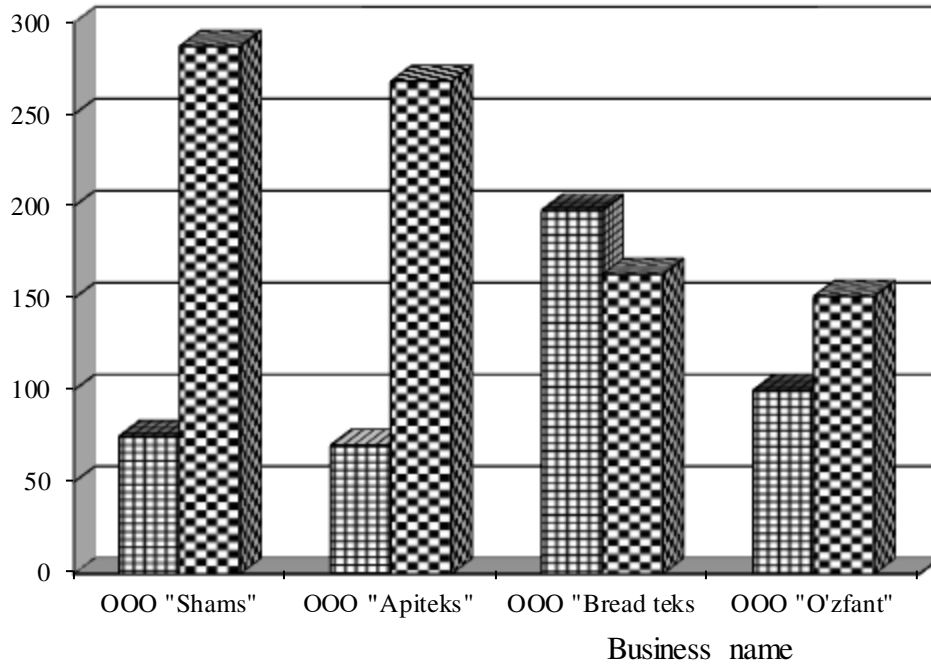


Figure 2. Changes in the linear density of tarpaulin materials produced in different enterprises in the direction of the body and back.

-on the body;
 -on the back.

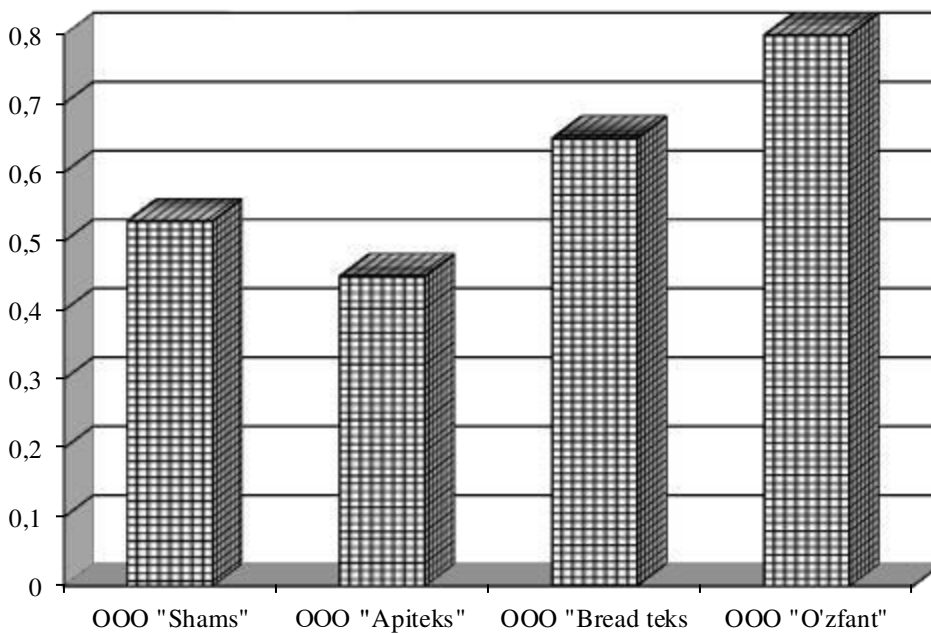


Figure 3. Changes in the thickness of tarpaulin materials produced at different enterprises.



Comparing the results of the study with the performance of tarpaulin material produced by ChF "Shams", the surface density of tarpaulin produced by LLC "Apiteks" increased by 4.3%, the density on the body decreased by 10.5%, the density on the back - by 1.7%. The surface density of the tarpaulin material produced by OOO "Berad Tex" increased by 3.1%, the density on the body decreased by 58.8%, the density on the back increased by 31.4%, the thickness The surface density of the tarpaulin material produced by OOO Uzfant increased by 0.5%, the density on the body decreased by 33.6%, the density on the back increased by 41.0%, and the thickness increased by 33, Increased by 7%.

While one of the main indicators of tarpaulin materials is their waterproofing, i.e. water resistance and air permeability, another feature is its abrasion resistance and durability.

The various range of tarpaulin materials produced by enterprises consists of pure hemp or a mixture of different fibers, mainly cotton, linen, jute, chemical fiber mixtures, ie lavender fibers and is used for various purposes.

The tarpaulin materials produced are not only limited by water resistance or water permeability, but also have the ability to withstand the effects of chemical processes.

One of the indicators that characterizes the structure of materials is their density, the other is their yield. The density of a material is determined by the number of threads per unit length, usually 100 mm[5].

The thinner the yarns of materials of the same density, the thinner the material, i.e. the less it is filled with yarns. In addition, one of the properties of the material is its durability. The higher the density of the materials, the better the air permeability, the more resistant to frictional deformation and the greater the mass.

Water permeability of a material is the ability of a material to resist water permeation by itself. This feature can be detected in a device called a "penetrometer" [6-7].

The cut sample from the material is fastened to the cylinder. Water enters the cylinder from another container and affects the underside of the material. The water pressure gradually increases. The manometer shows the amount of pressure. At a certain pressure, water passes through the material. The pressure at which three drops appear on the surface of the sample indicates that this material is resistant to water penetration [8].

The water resistance of materials produced in the textile industry varies. This depends primarily on the fiber content and texture.

In a market economy, research has been conducted at enterprises to produce high-quality and high-demand tarpaulin materials. For this purpose, the physical and mechanical properties of tarpaulin materials, consisting of different fibers, imported from different companies, as well as different assortments were studied with the help of modern equipment[9].

The test results are presented in Table 2.

Table 2
Quality of tarpaulin materials in different assortments Change of indicators

| t / r | Businessname | Surfacedensity , g/m ² | Breakingforce, N | | Elongationatinterruption,% | | Water resistance, mm.suv.ust |
|-------|-----------------|---|------------------|-------|----------------------------|-------|---------------------------------|
| | | | thefoundation | ducks | thefoundation | ducks | |
| 1. | OOO «Shams» | 320,7 | 420,0 | 125 | 27,5 | 53,34 | 592,0 |
| 2. | OOO «Apiteks» | 335,2 | 464,0 | 345 | 28,1 | 41,23 | 584,0 |
| 3. | OOO «Beradteks» | 330,9 | 1019,0 | 651,6 | 12,5 | 29,6 | 348,6 |
| 4. | OOO «O'zfant» | 322,6 | 779,0 | 431,1 | 20,4 | 27,5 | 356,4 |

Based on the results of Table 2, Figures 4-6 show graphs of changes in the physical and mechanical properties of tarpaulin materials of different assortments.

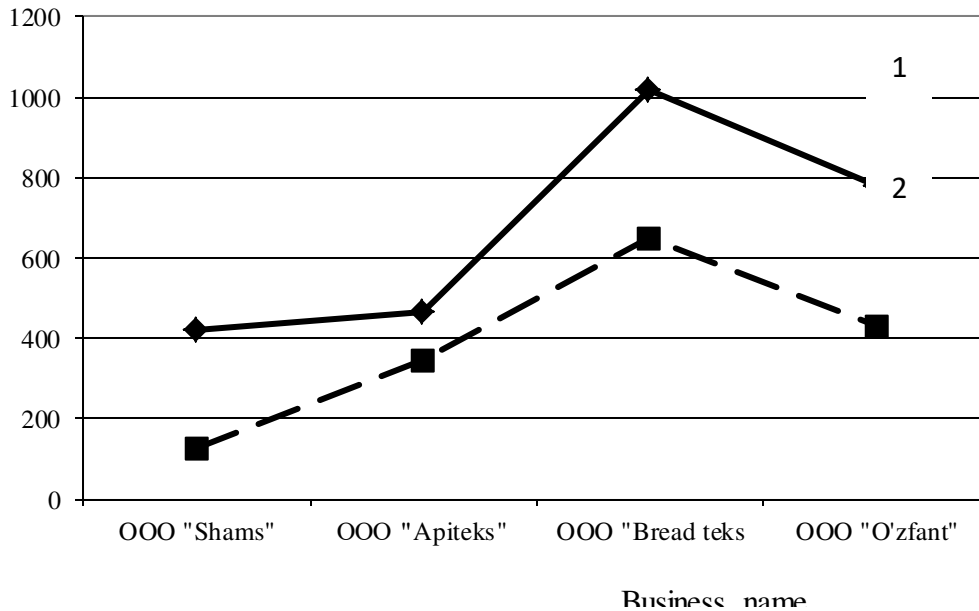


Figure 4. Changes in the tensile strength of tarpaulin materials produced in different enterprises in the direction of the body and back.

1-on the body;
2-on the back.

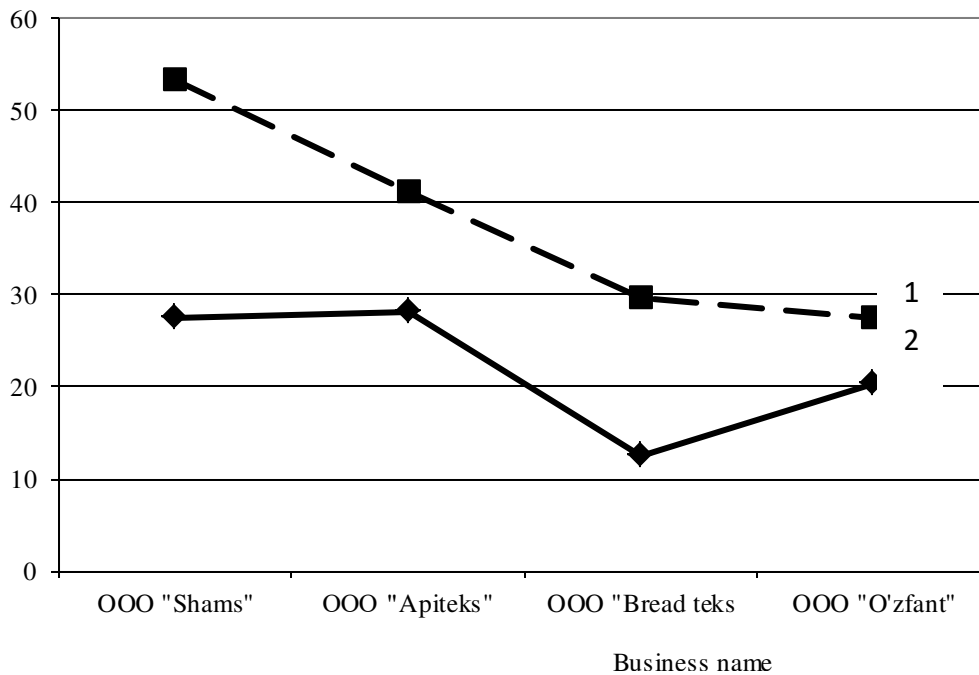


Figure 5. Changes in the elongation of the tarpaulin materials produced at different enterprises in the direction of the body and back.

1-on the body;
2-on the back.

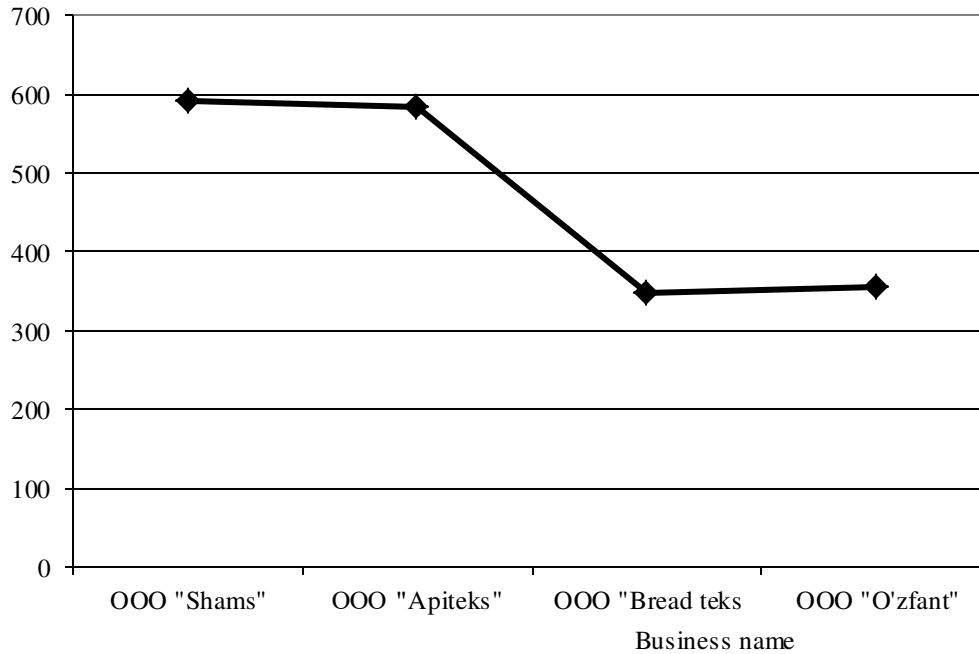


Figure 6. Changes in water resistance of tarpaulin materials produced at different enterprises.

Comparing the results of the study with the performance of tarpaulin material produced by ChF Shams, the tensile strength of tarpaulin material produced by Apiteks LLC increased by 9.5%, the tensile strength by 63.8%, the elongation at break by 2, Increased by 2%, elongation at the back of the arch decreased by 22.7%, water resistance decreased by 1.4%, the tensile strength of the tarpaulin material produced by OOO "Berad Tex" on the body increased by 58.8%, the tensile strength of the arch Increased by 80.9%, elongation at break on the body decreased by 54.5%, elongation at the back by 44.5%, water resistance decreased by 41.1%, tarpaulin material produced by OOO "Uzfant" The tensile strength increased by 46.1%, the tensile strength increased by 71.1%, the tensile strength decreased by 25.9%, the tensile strength decreased by 48.4%, and the water resistance decreased by 39.8%.

IV.CONCLUSION

The results of the study show that the tensile strength of the tarpaulin material produced by Berad Tex LLC on the body and back, the water resistance of the tarpaulin material produced by ChF Shams is higher than that of tarpaulin materials produced at other enterprises.

The analysis of the results of the study shows that the density of tarpaulin materials produced by ChF "Shams" and OOO "Apiteks" on the body and back, the thickness of the tarpaulin produced by OOO "Uzfant" is higher than the tarpaulin produced by other companies.

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