



e-ISSN: 2319-8753 | p-ISSN: 2320-6710

IJRSET

International Journal of Innovative Research in
SCIENCE | ENGINEERING | TECHNOLOGY

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 10, Issue 3, March 2021

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 7.512

9940 572 462

6381 907 438

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Changes in air Permeability and Abrasion Resistance of Tarpaulin Materials Produced at Various 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 and their physical and mechanical properties were determined.

KEY WORDS: air, water, gas, steam, dust, smoke liquids, radioactive pomegranate permeability, abrasion resistance, base surface of the material

LINTRODUCTION

At present, the production of quality tarpaulins using local raw materials in the production of tarpaulins is one of the most pressing issues today.

After gaining independence, our country aims to build new weaving enterprises to fully meet the needs of the population in tarpaulin materials, use modern techniques and technologies, re-equip existing enterprises, raise the quality of products to world standards [1].

Fabrics made from yarns obtained by spinning cotton or other types of natural fibers in spinning mills are called yarn materials.

When weaving yarn materials, all types of weaving tests available on looms are used [2].

The structure of textile materials is determined by the intertwining and interlocking of the body and back yarns. The appearance, properties and use of textile materials depend on its structure [3].

The yarn materials produced are also divided into unbleached, bleached, studded, patterned, pattern-printed varieties in terms of artistic decoration. In addition, colored yarns are used to make cypress, and melange fabrics from colored fiber blends. The production of non-washable yarn materials is increasing year by year [4].

Technical materials are made of linen and semi-linen yarns and are widely used in conveyor belts, tarpaulins for tarpaulin materials, as well as in the rubber industry. For each of these types of materials, the requirements and measurement properties in the nomenclature are determined [5].

Most tarpaulin materials serve as a means of protection from the effects of light and wind in the open air.

Under the influence of light rays, physicochemical changes of cellulose materials are felt, that is, the degree of polymerization decreases, different chemical functional groups are formed. If exposed to light rays for a long time, it leads to the breakdown of cellulose [6].



World practice shows that the tarpaulin materials produced are mainly made of different fibers, namely cotton, linen, jute and lavender.

The permeability of textile materials itself is the ability to conduct air, water, gas, steam, dust, smoke, liquids, radioactive pomegranates. Air permeability is the air permeability of the sample itself, which is measured by the air permeability coefficient. The air permeability coefficient represents the amount of air passing through 1 square meter of surface in one second under known conditions of air pressure on both sides of the sample [7-9].

During the tests, a difference in air pressure on both sides of the sample is observed. This difference corresponds to the difference between the air pressure under the garment and the ambient air pressure.

Air permeability depends on the fiber content of the materials, the variety and density of the finis .

Abrasion of clothing materials is mainly due to the effect of friction. The abrasion resistance of materials depends on their fiber content, the structure of the surface. First of all, the fiber ends protruding from the surface of the material are subject to friction. The fibers protruding from the bends of the threads in the material begin to break down. Some areas of the fiber surface are damaged and the fibers break. The yarns are also broken as some fibers or pieces of fiber come out of the yarn[1].

The bent areas of the threads protruding from the surface of the material are the first to be eroded under the influence of friction. These areas are the base surface of the material, i.e. the larger the base surface of the material, the better its abrasion resistance. By strengthening the base surface of the material, its abrasion resistance can be increased. For this purpose, long-coated wraps (satin, satin), abrasion-resistant fibers (kapron, lavsan) or finishing processes (appreting) are used[2].

During the friction process, the fibers in the fiber bundle of the material come out of the fabric structure because they are not well bonded to each other, and the threads that hold the fibers together are rubbed and abraded. The frictional abrasion of materials containing short fibers, and especially synthetic fibers, usually begins with the appearance of pilling. In the most rubbed areas of the product, soft balls are formed from the tangled fibers. First, the ends of the fibers protrude to the surface of the material. Then, they get confused. When mixed, some fibers break out of the material structure. Subsequently, the fibers in the pillars break off from the surface of the material. As a result, the thickness of the material is reduced and it is easily absorbed[4].

II. METHODOLOGY

Research work has been carried out to produce high-quality tarpaulin materials in a market economy. For this purpose, the air permeability and abrasion resistance of tarpaulin materials produced at various enterprises were studied and analyzed.

The obtained research results are shown in Figures 1 and 2.

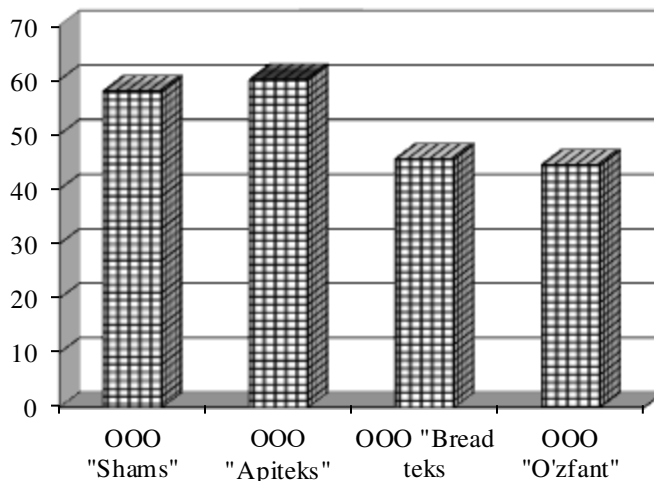


Figure 1. Changes in air permeability of tarpaulin materials produced at different enterprises.

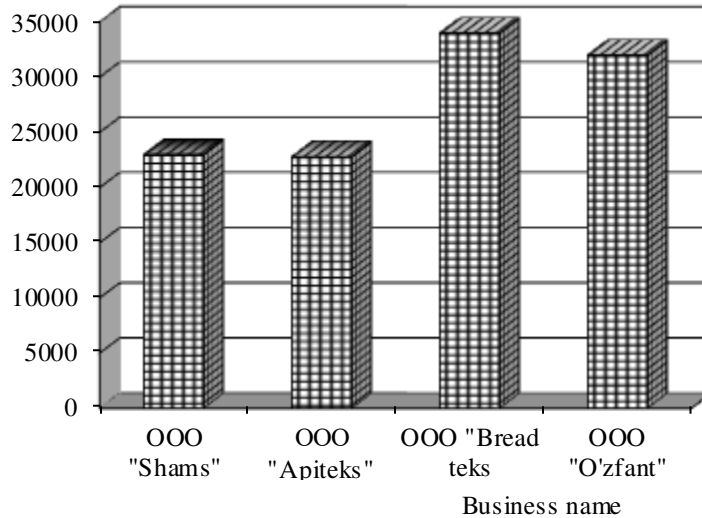


Figure 2. Changes in the abrasion resistance of tarpaulin materials produced at different enterprises.

III. RESULTS AND DISCUSSION

Comparing the results of the study with the performance of tarpaulin material produced by ChF "Shams", the air permeability of tarpaulin material produced by LLC "Apiteks" increased by 3.5%, abrasion resistance decreased by 0.9%, LLC "Berad Tex" Air permeability of tarpaulin material decreased by 21.4%, abrasion resistance increased by 32.4%, air permeability of tarpaulin material produced by OOO Uzfant decreased by 23.3%, abrasion resistance increased by 28.1%. It can be seen that the abrasion resistance of tarpaulin material produced by OOO "Berad Tex" and OOO "Uzfant" is higher than that of tarpaulin materials produced at other enterprises.

IV. CONCLUSION

The analysis of the results of the study shows that the air permeability of tarpaulins produced at various enterprises decreased from 21.4% to 23.3%, the abrasion resistance of tarpaulins from 28.1% to 32.4%. found to have increased to.

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**Impact Factor:
7.512**

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