COMPLEX EVALUATION AND JUSTIFICATION BASED ON PHYSICAL-MECHANICAL PROPERTIES OF GASES

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ABSTRACT: *in this article, 5000 tex pelts were made on the JFA-226 carding machine at the production enterprise, 3 types of pelts were made on the HSR-1000 type pelting machine in the laboratory of TTESI under the "Spinning Technology" department, JAT of the Japanese company "Toyota" in the laboratory under the "Textile Fabric Technology" department On the 810 loom, yarn made of 100% cotton fibers was thrown into the warp thread, and yarn mixed with secondary fibers was thrown into the loom yarn.*

KEYWORDS: *completely disposes and recovers production waste, production waste in the textile and clothing industry, disinfected with steam, ultrasound, ultraviolet rays, dust, excess, removes residual organic residues from washing, and oily waste is dry cleaned, average comprehensive assessment on the level of quality indicators*

I.INTRODUCTION

At present, it is important to produce low-cost fabrics used in weaving based on the effective use of scraps in the sewing industry.

Globally, fibers obtained from waste and secondary material resources from the sewing process make up 25% of all textile raw materials. This is a huge stock that can be used for production. However, only 10% of these scraps are used. Basically, they are processed into materials that cannot be used for various purposes, or they are made into simpler, lower-cost ropes, furniture and technical fabrics, for wiping and other purposes.

Modern technological equipment of light industry minimizes the release of harmful substances into the atmosphere during use, and some of them completely dispose of and recover production waste. However, these environmentally friendly technologies are very expensive (sometimes the price of cleaning devices is up to 25% of the product price), because. these networks have many additional devices, which require more human, material and energy costs and cannot fundamentally solve environmental problems.

Textile waste processing problems exist worldwide. Production waste in the modern textile and clothing industry accounts for up to 25% of raw materials. Yarns and gauzes cause economic damage due to the release of waste in the production.

High-quality textile waste is disposed of in garment factories. Consumer waste is processed in the following stages: disinfected with steam, ultrasound, ultraviolet rays; cleaned of dust; excess items are removed; removes residual organic residues as a result of washing; and oily waste is cleaned dry.

The main part of textile waste consists of a mixture of fibers and rags and is divided into the following groups: natural, synthetic fabrics and mixed raw materials.

The process of using natural and synthetic materials is completely different.

An automated conveyor consisting of the following elements is mainly used for textile processing: a hopper for cleaning the material, drying, a knife for cutting patches, scissors for separating foreign impurities. There are many modifications of tissue processing equipment that can be fully automated without human intervention.

Although the consumers of textile industry products are wide-ranging, the industries of their processing are mainly tailoring, sewing-knitting and footwear production. In these industries, various sizes of waste are generated in the cutting and sewing shops of gauze and knitted fabrics from the textile industry.

Cuttings in shearing shops are mainly obtained from fabrics of the same fineness. According to the fiber content, the yarns are divided into types made of yarn, made of wool, silk and other fibers or knitted fabrics. According to the analysis of the current indicators, it was found that up to 9% of waste is generated when cutting fabrics in the garment industry.

Currently, many enterprises of the sewing and knitting industry are conducting a number of activities on the effective use of scraps produced. For example, various products are produced from wool, spun yarn, waste from gas processing.

Kharkiv textile factory produced non-woven material for clothing from the following mixture: semi-wool spun fiber - 70%, viscose staple fibers - 20%, production returns - 10%.

Textile consumption waste is sorted into more than 90 types and divided into groups in accordance with current regulatory and technical documents: woolen, semi-woolen rags; fur clothing; felt products; cotton, linen, semi-linen and mixed rags; rags for wiping and cleaning; edge; fried products; twisted products; rags made of synthetic fibers; rags made of artificial fibers; low quality rags.

The main areas of economic use and processing of textile waste are the production of regenerated fibers; obtaining recovered wool; obtaining recycled cotton, linen and chemical fibers; production of non-woven fabrics; cotton production;

production of cleaning materials; coarse fiber production; production of building materials.

Knitting industry waste is generated in the process of processing kalava yarn, as well as in the production of knitted fabrics and various products from it, as a result of the production of gloves and socks. Almost all waste from the knitting industry is then used as secondary raw materials.

In the garment industry, waste is generated during the preparation of materials and the cutting of sewing details, which are the weight of gauze and are used as secondary raw materials for the production of secondary textile materials.

The evaluation of the quality of gas production is based on the results of the determination and measurement of its quality indicators, as well as the comparison with standard and regulatory documents. Because the methods of determining gas properties are mainly detailed in standards and other normative documents.

There are several methods of evaluating the quality of sodas, including experimental, organoleptic, expert, sociological, computational, differential, complex and mixed.

The method of complex evaluation of quality is that joint evaluation of gas for individual indicators of quality sometimes leads to the need to evaluate a number of complex main properties of gas in one indicator. As a result, it is called a general assessment of the quality of these products, for example, the number of raw flax fiber, the quality of homogeneous wool, etc.

II. METHODOLOGY

Depending on the nature of the complex assessment, the quality indicators of the gases are divided into real and approximate complex assessment.

For example, a true composite evaluation has a defined physical objective, which often represents the tensile strength of the fiber, as well as the lifetime of the product in use.

A true composite estimate is better than any constant approximation. For example, the amount of defects and waste in cotton fiber is a real complex feature.

The advantage of a comprehensive assessment is that it concludes on a number of final assessments. This assessment is not without its advantages and disadvantages, that is, we will not have complete information about its individual properties. In order to choose the raw materials correctly, it is necessary to know the rational use of gas during the management of the technological process and during its use.

A comprehensive assessment of quality can be obtained from different calculations of individual quality indicators. The average comprehensive assessment may not change according to the level of several quality indicators, some of them may have a lower level, and some may have a higher level.

Thus, it is possible to complete a comprehensive assessment without changing the individual quality indicators of the gas.

Based on the physico-mechanical properties of gasses obtained from a mixture of different composition and processed fibers, a comprehensive evaluation was carried out and the diagram is given in Fig. 1.

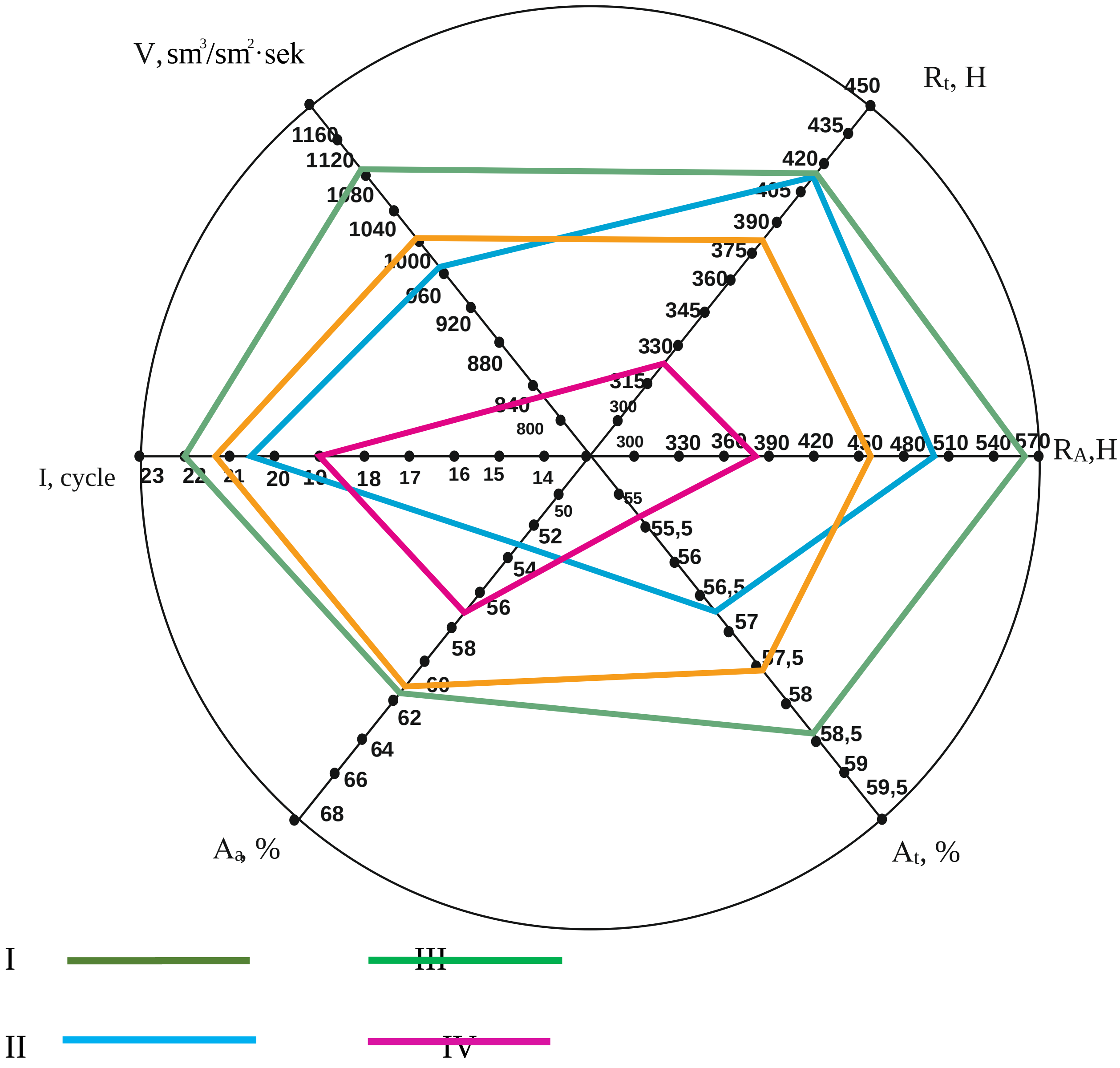

Figure 1. Diagram of comprehensive assessment of quality indicators of gasses obtained from a mixture of different composition and processed fibers.

A comparative histogram of the comprehensive evaluation based on the physical and mechanical properties of gasses obtained from a mixture of different compositions and processed fibers is presented in Fig. 2.

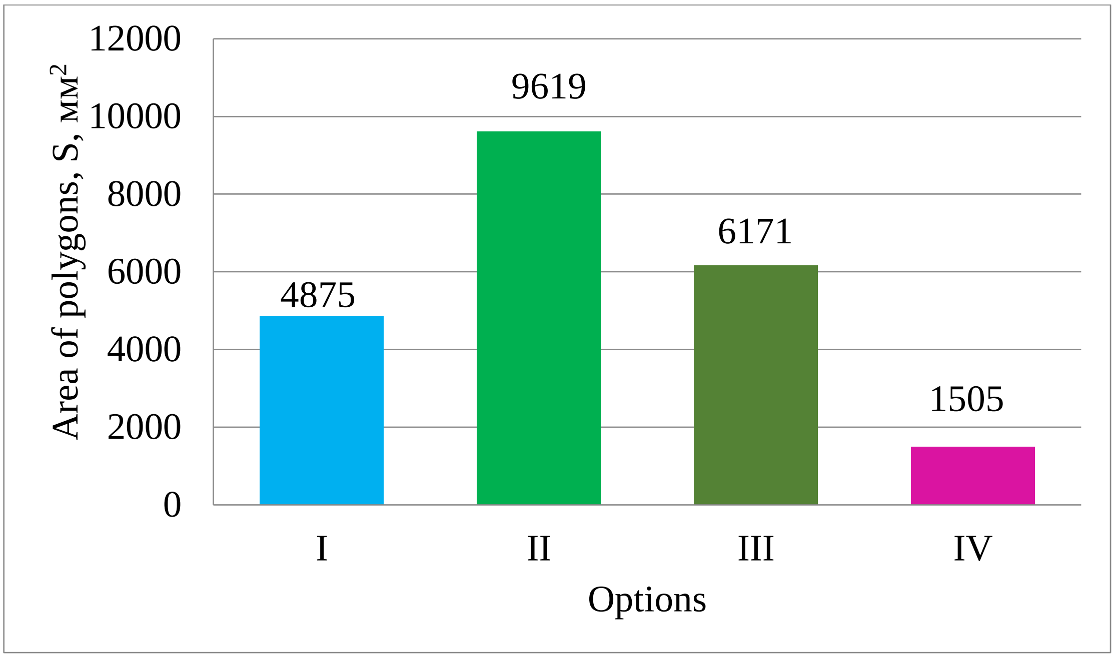

Figure 2. Comparative histogram of the quality indicators of gasses obtained from a mixture of processed fibers with different composition.

III. RESULTS AND DISCUSSION

The analysis of the results of the comprehensive assessment based on the physico-mechanical properties of the gauzes obtained from a mixture of different composition and processed fibers showed that the area of polygons according to the quality indicators of the gasses obtained from a mixture of 10% nitron, 60% cotton and 30% secondary fibers under production conditions is 4875 mm2, 1- The area of polygons according to the quality indicators of the gas obtained according to the option was 9619 mm2, the polygon area according to the quality indicators of the gas obtained according to the 2nd option was 6171 mm2, the area of polygons according to the quality indicators of the gas obtained according to the 3rd option was 1505 mm2. If we compare the obtained results with the quality indicators of the gauze obtained from a mixture of 10% nitron, 60% cotton and 30% secondary fibers under production conditions, the area of polygons according to the quality indicators of the gauze obtained according to option 1 increased by 49.4%, The area of polygons according to the quality indicators of gas obtained according to option 2 increased by 21.1%, according to the quality indicators of gas obtained according to option 3, the area of polygons decreased by 69.1%.

IV.CONCLUSION

Based on the results of a comprehensive assessment of the physico-mechanical properties of gasses obtained from a mixture of different composition and processed fibers, it was determined that the area of polygons according to the quality indicators of gasses obtained according to option 1 is higher than the quality indicators of gasses obtained according to other options.

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