FACTORS FOR THE FORMATION OF HEAT STORAGE PACKAGES OF SEWING ITEMS OF DIFFERENT ASSORTMENT

Yunuskhodzhaeva Kh.M.*
Tashkent Institute of Textile and Light Industry, Professor, Department of Fashion and Design, PhD *

Yunuskhodzhaeva N.D. **
Namangan Institute of Textile Industry,
Assistant at the Department of Design **

ANNOTATION: In this article, the study of the analysis of textiles and other materials from the factors used in the heat-preserving packages of various assortment of clothing. As a result of the analysis, rational options for the formation of insulated clothing packages and methods of fastening heat-retaining packages containing natural and mixed fibers of structural layers from textile materials are proposed in the textile industry.

KEY WORDS: Sewing products, package, textile material, formation, insulated clothing, functional material, operation process.

INTRODUCTION

Currently, the sewing product is forced to use materials for the production of clothing, which must be insulated. Many enterprises do not have the opportunity to use materials with an optimal set of necessary properties. The desire to lighten clothing, increase its aesthetic level in design, finish and shape stability has led to the need to largely abandon traditional insulation batting and replace them with synthetic insulation materials. The expansion and updating of the range of insulating materials for clothing determine the trend of deeper differentiation of their properties. The thermal conductivity and thermal resistance of materials and packages were determined at normal temperature under the influence of two factors: moisture and mechanical pressure. [1]

The conducted research has allowed us to establish that the addition of upper fabrics with high sorption properties (woolen drape) to various insulating materials leads to a more drastic decrease in the thermal resistance of the entire package. In this case, if a fabric with low sorption properties (raincoat fabric) is used as the upper material, then the decrease in the thermal resistance of the package is less significant. The use of the obtained results makes it possible to make an optimal choice of materials in the package of a product with the required thermal protection properties. [2]

However, with increasing the comfort of clothing for outdoor work, especially in mountainous areas and foothills, during winter and off-season (geologists, railway and road transport workers, builders, shepherds, etc.) and ensuring its compliance for the entire period of operation is important and becomes particularly relevant. [3].

And also, many domestic and foreign scientists have contributed to solving the problems of designing heat-protective human clothing: Tashpulatov S.Sh., Bekmurzaev L.A., Rastorgueva L.N., Andreeva E.G., Abramov A.V., Ivashchenko I.N., Tungusova N.A., Rasulmukhamedova B.A. and others. [4]

In the world, one of the leading places in the textile and light industry is occupied, especially for regions where trends of cold cyclones and low temperatures in winter have formed, by the use of innovative technologies and technical means based on the use of convenient construction and materials safe for health when creating insulated clothing. It is known that in the manufacture of sewing products to ensure the heat-protective properties of clothing, textile material or a package are subjected to various technological influences to create the necessary package. [5]

If the necessary shape of the heat-protective package is created by using the molding properties of the package structure made of textile materials, and the fixation of a given package shape is ensured by the use

of adhesive cushioning materials, application of polymer composite materials and chemically active working media to the surface of the material during the technological processing of the package of sewing parts. The use of various methods for fixing a given package is due to the fact that when the deformed structure of textile materials is relaxed, it is quickly lost, especially in textile materials with natural fibers, which leads to a decrease in the quality of garments. [6]

Insulated clothing is a multi-layered complex product. Thermoregulating clothing is clothing that requires additional functional layers of textile materials and the use of various polymer and other components that provide the desired properties in the layers of clothing. Each layer of the material that makes up the clothing package performs certain functions, and the materials that make up the package must meet certain requirements. The materials of the multilayer product must match each other in appearance, surface density, have appropriate shrinkage and performance properties. The range of materials is characterized by a wide variety, constantly expanding and updating. [7]

The materials are selected from an assortment of modern upper materials for the manufacture of heat-protective clothing from the cold. At the same time, if we consider materials from the point of view of application in the production of workwear for protection from cold, then a number of materials do not meet the requirements of the surface density of the material (at least 200 g/ m2), which requires separating materials into separate groups, taking into account differences in the design of thermal protective clothing for household and special purposes. [8]

In the production of multilayer clothing, insulating materials are used to reduce heat losses, which are different in structure, fibrous composition, thickness, and surface density. The choice of such materials is made according to the properties of the base material and depends on the operating conditions of the garment and its purpose. [9]

Thus, in comparison with the parameters of the thickness of the upper fabrics, the established data allow us to consider it not only as a material for the inner surface of clothing, but also as an additional auxiliary material when creating new thermoregulation elements in clothing, since such fabrics slightly affect the mass of the product as a whole and can provide technologically necessary details when processing new elements structures aimed at heating a person in case of physiological necessity. [10]

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