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SELECTING THE OPTIMAL COMBINATION OF THE FASHION FABRICS TO DESIGN A TRANSFORMABLE DRESS

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Transformable fashion is one of the appropriate alternatives to reduce consumption and reinforce consumers to engage in sustainable lifestyle [1].

Transformable garments are very popular nowadays. The ability to change its function makes transformable clothes very useful when life conditions are changing as fast as nowadays. These clothes can be worn for longer periods of time and on various occasions, thus minimizing waste generation in two ways by reducing the consumer's need to purchase additional garments, and by decreasing materials consumption in the fashion industry.

When designing a transformable dress, first of all, a harmonious appearance must be achieved.

All of transformable garments might be made of different fabrics, and they might meet to different quality requirements.

A harmonious look is provided by the selection of things in style and color, as well as the right combination of fabrics, which is determined by the ability of materials to use them together, which will not cause unwanted interactions [2]. When combining materials in a transformable dress, very important is to take into account the texture and different types of properties of fabrics

The main purpose of this research is to obtain recommended indexes of the fabrics properties for transformable dresses (fig. 1) in order to meet all of quality requirements.



Fig. 1. Creative sketches of the author's transformable dress

The range of materials for dresses is very diverse and includes fabrics, knitted and non-woven materials of various fibrous composition [3].

For sewing of transformable dress fabrics for dresses and suit fabrics are most often used. Functionality of clothing is performed on the basis of the choice of properties of materials, layers of fabrics, constructive-composite and coloristic solution of models.

The best method of a research for definition of the most important factors is a questionnaire method.

As input data for the research the of specific parameters of the different types of fabrics properties were used. Compiled list of the fabrics properties of the different fabrics groups includes value ranges of specific parameters [3]: wrinkle resistance, dimensional stability (shrinkage), air permeability, pilling, stiffness, residual strain, colour fastness, water permeability, smoothness, bursting strength, hygroscopicity, etc.

The weighting factors of fabrics properties obtained by scientists (15 experts) of the Khmelnytsky national university.

According to the results of the survey, it was determined that transformable dress should be made of materials with high air permeability (weighting factor 0.19), average thickness (weighting factor 0.16), stiffness (weighting factor 0.15), surface weigh (weighting factor 0.15), high hygroscopicity (weighting factor 0.12), average wrinkle resistance (weighting factor 0.12), high colour fastness (weighting factor 0.11).

The list of properties of fabrics for sewing transformable dress is compiled and presented in table 1.

Table 1 – Indexes of the properties of fabrics for the transformable dress

Properties	Alterations of the dress	
	first alteration	second alteration
Air permeability, dm ³ /(cm ² *s)	297	542
Thickness, mm	0,38	0,15
Stiffness, μN*cm ²	5800	1800
Surface weigh, g/m ²	216	130
Wrinkle resistance, %	85	76
Hygroscopicity, %	10,2	8,3

Analysis of the results, presented in tabl. 1, has shown that the fabrics for the transformable dress (fig. 1) are compatible by all indexes of the properties. The total values of their main properties do not exceed the value of fabrics properties, obtained from standards with general specifications for the fabrics for dresses [4].

The obtained values can guarantee high quality products, good looks and long life of the transformable clothing.

Reference

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