

Section 1. INDUSTRIAL TECHNOLOGIES AND EQUIPMENT

UDC 677.026.4: 677.08

DEVELOPMENT OF MATERIAL-SAVING ACTIVITIES FOR ENTERPRISES OF THE SEWING INDUSTRY

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Key words: *textile waste, rational layout, rational cutting.*

Abstract. The article presents one of the options for saving materials in the garment industry, by reducing the waste along the width of the flooring. The proposed event will allow to expand the assortment of the enterprise, reduce the amount of waste generators and will bring additional profit to the enterprise.

The amount of waste generated in the manufacture of garments has a direct impact on their material consumption. Any layout is characterized by the formation of interlocal and other types of textile waste and their quantity is almost always greater than the minimum possible value. This is due to the fact that the details of garments have a complex configuration. Increasing the amount of waste even by 1% is completely unacceptable. Consequently, before the light industry workers is a very difficult task to find a tight layout for the cutting of materials.

Irrational residues arise as a result of the calculation of a piece of material in the flooring because of the non-multiplicity of the total length of the webs involved in the calculation, the length of the piece. The number of irrational residues takes a value from 0 to 4 % for different assortment groups and types of materials used.

At the Department of "Designing and Technology of Clothing" of Ural State Technical University, the possibility of using inter-sheet waste by the length and width of the flooring in products for clothing purposes is being investigated. We propose to make a new model of a sweater from the remainders of the width of the flooring of a monophonic knitted fabric and attacks, which were formed as a result of cutting a dress from a coupon knitted fabric.

Appearance of the dress is shown in Figure 1. The layout of the patterns on the product is shown in Figure 2.

The appearance of the jumper is shown in Figure 3. The layout of the patterns for the jumper is shown in Figure 4.

To determine the effectiveness of this task, we compare the cost of a cardigan made of solid material and a cardigan made of waste produced by cutting a dress.

In the calculation of the cost of the product included all items of expenditure. The cost of the product was 16.67 rubles of the single-piece material and 9.68 rubles - from waste. As a result of the use of waste from the main production, the cost of a sweater decreased by 41.9 % compared to the cost of a jumper made of single-piece material.



Figure 1 – Appearance of the dress

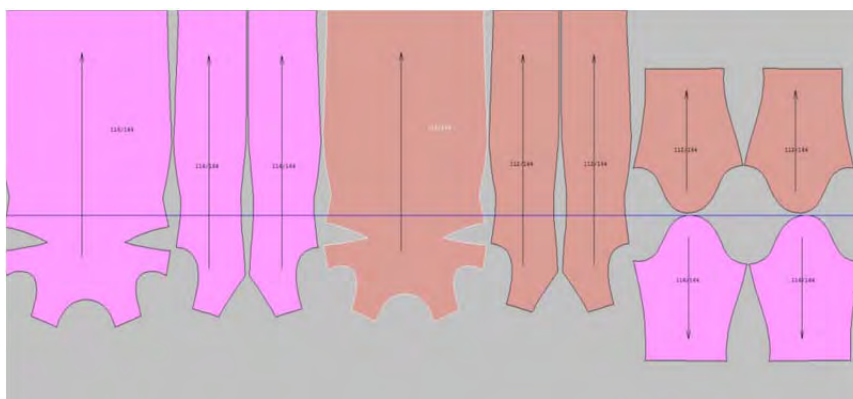


Figure 2 – Layout of the dress patterns



Figure 3 – Appearance of the sweater



Figure 4 – Layout of the patterns on the dress and cardigan

The magnitude of inter-leaf losses along the length and width of the deck characterizes the economics of the layout and the use of the area of the fabric. A useful area is considered to be the area of the curves of all parts of the product. Consequently, the rate of flow of the web with regard to the additional product is less than without an additional product. When cutting the canvas without an additional product, the rate of application of the web and waste is increased.

Thus, it can be concluded that additional products are advantageous for production. As an additional product, products are used that can be made from this article, taking into account the way of laying, the width of the fabric.

This event allowed to expand the assortment of the factory, to get a new product with a low cost that will reduce the amount of waste generators and bring additional profit to the enterprise.