

## STUDY OF THE PROCESSES OF FORMATION OF THE ASSORTMENT AND DEVELOPMENT OF THE PRODUCTION PROGRAM AT SEWING AND KNITTING ENTERPRISES

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### **Abstract:**

The article presents the results of a complex analysis of the processes of forming assortments and creating a production program in sewing and knitting enterprises. The procedure for determining the volume of production and determining the consumption of knitted fabric per item is given.

**Key words:** sewing and knitting enterprises, technological processes, production planning, assortment, knitted fabrics, material consumption, order volume, size range, work mode.

**Introduction.** Currently, garment enterprises independently plan the volume and assortment of products based on contracts with customers. The production program of the enterprise is planned based on the concluded contracts, as well as the production capacity of the enterprise. Production capacity - maximum production of high-quality products of a certain range, taking into account the adoption of new technology, innovative technologies and progressive organization of production, with full use of equipment and production capacity .

The production program is the basis for the planned calculations of labor and wages, the amount of materials required for the planning period, and the determination of scientifically based plans for cost, profit and profitability. The work plan of auxiliary workshops, the level of utilization of existing production capacities depends on the production program [1,2].

Literature review. Any enterprise has certain expenses aimed at organizing a successful activity, most of them are related to the production and sale of products. In the conditions of the market economy, enterprises use the planning method of covering all the main costs from their own funds. For this, the planned cost estimate of the model being designed, the economic efficiency of this product is calculated. The financial stability of the enterprise, its credit and solvency and reputation as a business partner depend on the timeliness and completeness of cash receipts, first of all, on the profit from product sales.

Research Methodology. During the scientific research activity, the composition of assortments of sewing and knitting enterprises was analyzed. According to the results of the analysis, these enterprises mainly produce a wide range of sewing and knitting products from knitwear such as futer, suprem, interlock, and ribana. Sewing and knitting The activity of enterprises is mainly based on the production of a wide range of sewing and knitting products based on specific orders. The analyzed assortment mainly consists of teenage boys' and girls', children's and adult clothes.

In order to plan the size of the assortment produced in sewing enterprises, all the information about the models produced was formed in the form of a table. The technical drawing of the model, order number, article, fabric type, fiber composition, number of sizes to be produced, consumption of knitted fabric, number of products for each size and the total number of the order were shown here (Figure 1). . For example, in the 4th serial number, the model name is "Men's t-shirt - Mens t-shirt", article - 22Z082PTRI, fabric type - Single Jersey 160 g/cm<sup>2</sup>, fabric fiber content - 100% cotton, order number according to sizes S-25, M -70, L-85, XL-95, 2XL-95 pieces and the total order number is 600 pieces [3,4,5].

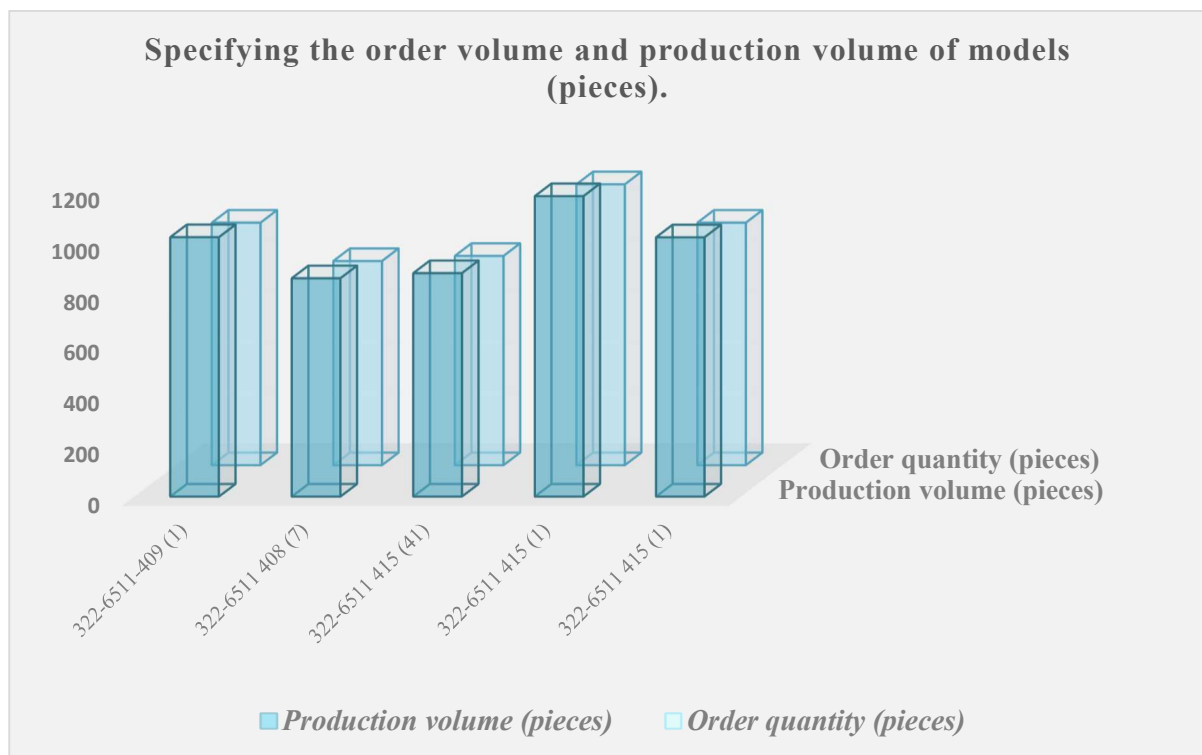


Figure 1. Planning the order volume and production volume of the assortment.

According to the results of the analysis, the fabric consumption indicator of the FRW11142 model is at least 0.45 kg. or 450 grams (Figure 2).

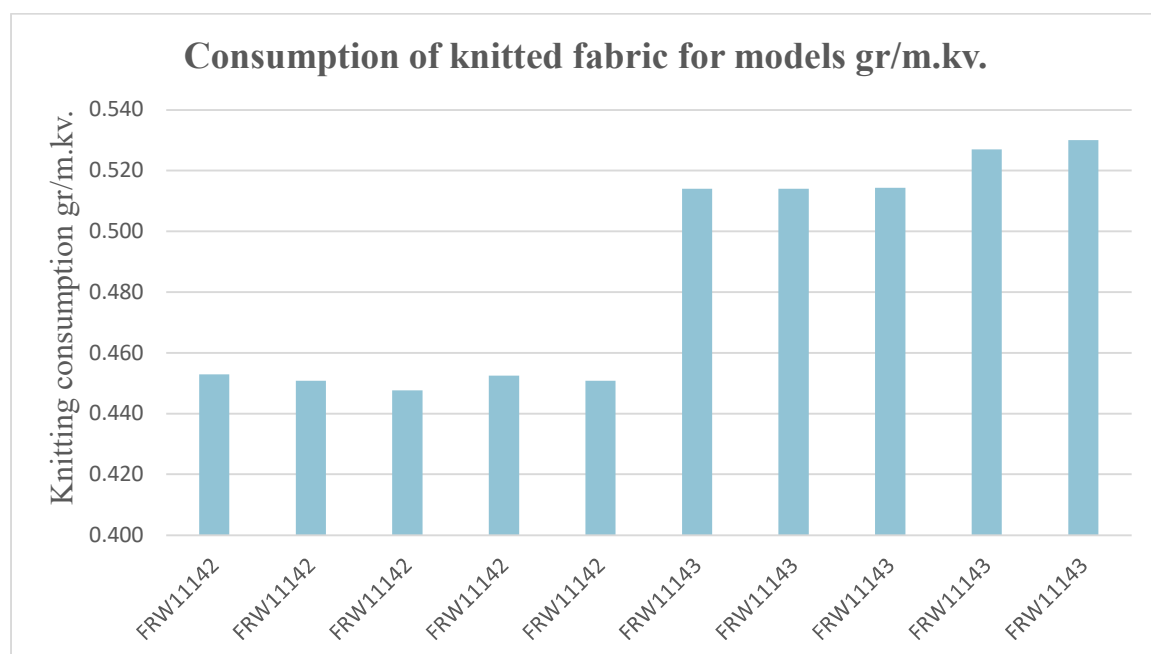


Figure 2. Models of sewing and knitting clothes consumption of knitted fabric, gr.

Analysis and results. According to the first order type, the total volume of the order for 10 different types of models is 6400 units. After the total size of the order is planned according to the range of sizes, the order fulfillment periods are planned. The term of the order includes the period until the day of sending the finished products to the customer. In this case, work is carried out with suppliers of materials and other fittings based on a certain schedule. The next stage is the planning of technological processes in sewing and sewing shops. When planning the order period, the main information is the business day of the enterprise. Enterprises with a 5-day working day can be transferred to a 6-day working mode in order to meet the order period [6,7,8].

Figure 3 shows the result of the analysis of the total size of the order according to the dimensions of the model in the article 23Z038PNTK. (%).

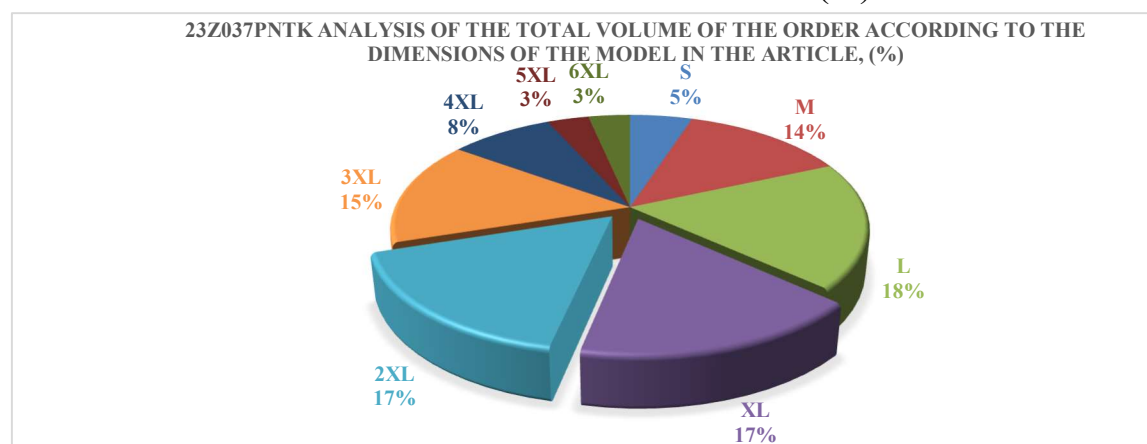


Figure 3. 23Z037PNTK Analysis of the total volume of the order according to the dimensions of the model in the article, (%)

Table 1. Planning of material consumption for the assortment produced according to the order.

											Date:		Customer: Switchshot
Information form (cut workshop, sewing workshop, quality control and packaging of the finished product)													
										22.08.2023			
Name:		Boys' Switchshot					Model №	WTB12088					
№			Canvas		Canvas color		Canvas surface density,		Knitted fabric	Total: kg.		Part y №	


								grammage		consumption per item (gramm)		
1	Front part + Back part + width	20/20 footer 100% cotton			19-3728 Black color			250-260		0,308	163	1362
2	Collar+cuffs	20/1 cashmere 2x2 95% cotton 5% lycra			19-3728 Black color			320-350		0,088	47	
3	Gut part	30/1 supreme 100% cotton			19-3728 Black color			150-160		0,008	4	
№		Color	146	152	158	164	170			Total		
1	Number of assortments in one box	19-3728 Black color										
2	Number of main export products		90	90	100	110			500			
3	Number of blades 10%		95	95	106	117			530			

Table 1 shows the results of material consumption planning for sewing and knitting clothing model. When planning the material consumption, the material consumption for one garment is determined in grams, and the total consumption is given in kilograms based on the total number of orders. In the production of new models, it is very important to accurately forecast the consumption of materials, which in turn ensures the smoothness of the production process, and determines the forecast price of the item. When planning material consumption, the main indicators such as material fiber composition, surface

density, color, batch are included in the table for each type of model.

According to the results of the analysis, the number of products in the size of the model L in the article 23Z037PNTK has a large number of indicators compared to other sizes, i.e. 55 pieces, the total ratio is 18%.

During the analysis, the consumption of knitted fabric in the details of the garment, i.e. front part, back part, hem, collar, cuffs, core part, was determined according to each model. According to the analysis of the consumption of knitted fabric per item, the consumption of the main fabric in the front and back parts of the model in the article 23Z038PNTK is 212 grams.

Conclusion/Recommendations. At this stage of the research work, material consumption was planned for each model and general assortment for orders. The total size of the order was determined and the cost of the necessary material was determined in the amount of 8÷10%. For example, blue footer fabric is 358 kg. 8 percent - 28 kg will be added to it. The total order for blue footer is 386 kg. is [9,10].

The indicators of the production program in sewing enterprises were analyzed on the example of enterprise assortments. The width, novelty, and optimality coefficients of the produced assortment were determined.

The production program provides a basis for determining the planned calculations of labor and wages, the amount of materials required for the planning period, and scientifically based plans for cost, profit and profitability. The work plan of shops in a sewing enterprise, the level of utilization of available production capacity depends on the production program. The monthly volume of work was planned based on the duration of working hours, the number of working days, and the number of employees in the production program of scientific research work.

The price and volume of the defined product range were planned in the research of the processes of setting the production volume and creating a production program. The total volume of the order was planned according to the series of sizes and the terms of order fulfillment were determined. The size of the range between the loss zone, the breakeven point and the profit zone was determined for the garment enterprise.

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