

**IMPROVEMENT OF METHODS FOR TREATMENT OF ITEMS  
OF OVERALLS WITH USING SEWING EQUIPMENT WITH SOFTWARE**

**УСОВЕРШЕНСТВОВАНИЕ МЕТОДОВ ОБРАБОТКИ ДЕТАЛЕЙ СПЕЦОДЕЖДЫ  
С ИСПОЛЬЗОВАНИЕМ ШВЕЙНОГО ОБОРУДОВАНИЯ  
С ПРОГРАММНЫМ ОБЕСПЕЧЕНИЕМ**

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*The method of processing the basic details of overalls with the help of software is proposed, which allows to fundamentally change the technology of tailoring of overalls using the techniques of low-operational technology and high-performance equipment, in which several indivisible assembly and connecting operations are performed simultaneously, which makes it possible to improve the technological processing of the details of overalls.*

*В работе предложен метод обработки основных деталей спецодежды с помощью программного обеспечения, позволяющий принципиально изменить технологию пошива спецодежды с использованием приемов малооперационной технологии и высокопроизводительного оборудования, при котором одновременно выполняются несколько неделимых сборочно-соединительных операций, что дает возможность усовершенствовать технологическую обработку деталей спецодежды.*

**Keywords: special clothing, computer technology, methods of treatment, plasterer, low-operational technology, zip fastener.**

**Ключевые слова: специальная одежда, компьютерная технология, методы обработки, штукатурщик, малооперационная технология, застежка.**

Currently, modern technologies are used in the production of special clothing for plasterers. High requirements are set for the quality of special clothing, and for its production, modern sewing equipment with computer control (microprocessor) is used. At the same time, in order to improve the effectiveness of special clothing production process, progressive methods of treatment are used for the special clothing parts.

When choosing the methods of treatment we studied the working conditions, interviewed the plasterers, and examined the parts of special clothing (edges, collar, sleeves, methods of joining the product with sleeves, paddings, linings), which should be treated in various ways.

The special clothing developed for workers are made in compliance with the technical conditions for manual, machine works, as well as for the performance of wet-heat treatment. We offer the techniques of threaded and glued compilation of the special clothing parts during the production of special clothing; PET-cotton threads are offered to be used, since which in comparison with the cotton thread has high strength, elasticity and tightness of connection and resistance to hazardous harmful factors of manufacture.

When treating the basic parts of special clothing such as the back, the sleeve head seams, the shoulder and elbow seams of jacket and trousers are treated in 1...1.5 cm of the stitch, the main sections of the parts and the

buttonholes of the special clothing are overstitched and overcast on a special machine.

Zip fasteners for special clothing are made with a detachable delimiter made of metal and plastic.

The quality of special clothing manufacture, methods of its treatment, compilation, seam, thread and needle design depend on the textile materials used and modern equipment. All this allows to apply the low-operational technology methods to the parts of special clothing and fabrication properties and to automate the technological process of special clothing production.

Low-operational technology allows performing several indivisible assembly-compilation operations in a single pass and mounting assemblies, bypassing the preliminary connection of individual parts of special clothing.

The use of low-operational technology as a means of mechanisation and automation

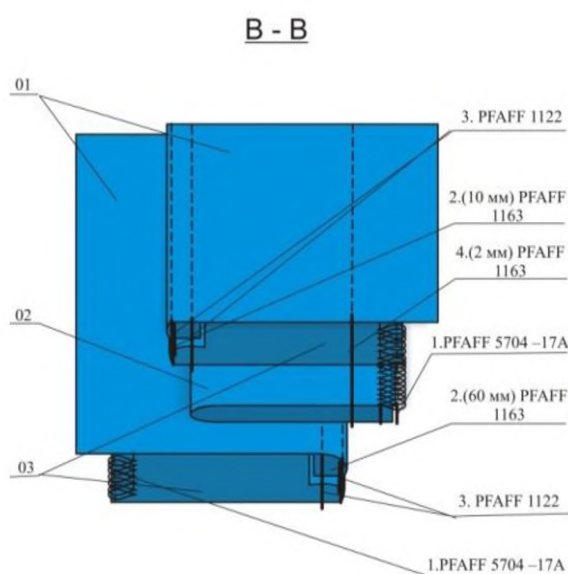


Fig. 1

The proposed fastening of special clothing meets the requirements of occupational safety. Methods for jacket fastening treatment are shown in Figure 1.

As it can be seen in Fig. 1, 2 (Fig. 1 – jacket edge treatment method; Fig. 2 – front yoke and patch flap pocket treatment method) the methods for special clothing treatment ensure the strength and density of the joint,

contributes to the maximum concentration of homogeneous technological operations in special clothing production.

In order to produce the designed special clothing for plasterers, the modern high-performance equipment of PFAFF (Germany) was used.

High-speed sewing equipment with a high number of revolutions up to 5000 per minute is used.

The use of the proposed high-tech sewing equipment in the manufacture of special clothing for workers will affect the quality of parts treatment, according to the requirements of protective and aesthetic properties of special clothing.

In order to increase the safety of plasterers, we have developed a functional and technological fastening for special clothing, a feature of which is the unity of the style solutions of all elements, corresponding to the working conditions of the workers.

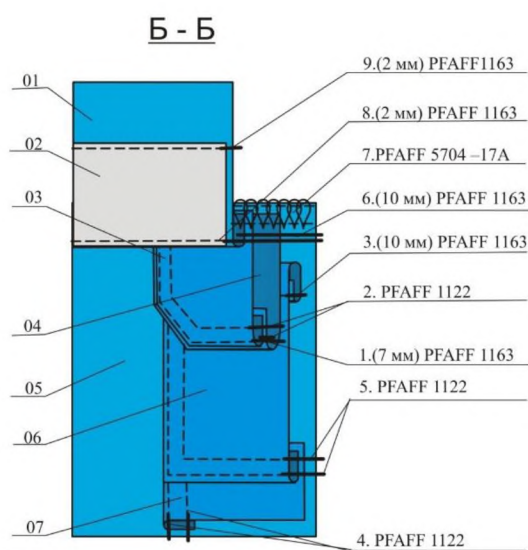


Fig. 2

determines the stylistic orientation. The jacket has a hidden button panel, which prevents the penetration of dust and paint and protects against wind, cold, frost, and rain.

The proposed methods of special clothing treatment allowed increasing the protective and functional features:

- the use of two needle machines for felling of parts (pockets, knee pads, lapping

seams) provides not only aesthetics but also the strength of the connection;

- the use of felled seam or denim treatment is used in seams requiring special strength and elasticity: these are the elbows and the middle seams of trousers;

- the use for straps treatment with the help of a 4-needle chain stitch machine allows ensuring the durability of the elastic braid without reducing its functionality and provides an attractive appearance;

- the use of a 4-needle machine in the manufacture of cuffs gives a modern look to the jacket, provides additional rigidity to the cuff while increasing its wear resistance;

- the use of special fastenings made on automatic machines gives special clothing a modern design and increases the strength of connections on pockets, cuts;

- the use of semi-automatic machines for sewing buttons and whip-stitched button-holes.

As it can be seen in figures, the methods have been developed with the use of computer technology that makes it possible to change fundamentally the technology of special clothing production. This method will reduce labour, time and material costs, improve the quality of special clothing in order to study the working conditions of workers and improve their labour efficiency.

## CONCLUSIONS

1. The method for the treatment of the main parts of special clothing using the computer technology is proposed, which allows to change fundamentally the technology of special clothing production using the techniques of low-operational technology and high-performance equipment, in which several indivisible compiling and connection operations are performed simultaneously, which makes it possible to improve the technological treatment of special clothing parts.

2. In order to increase the safety of workers, a functional and technological fastening for special clothing has been developed, a feature of which is the unity of the style solu-

tions of all elements corresponding to the working conditions of plasterers. The development of the design solution for special clothing fastening meets the requirements of occupational safety.

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Рекомендована кафедрой технологии, конструирования изделий и товаров. Поступила 29.08.17.