

Study on the Design and Production of Modern Garment Technology Template

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Abstract: Modern garment process template is a common mould in garment processing and manufacturing process, which is an innovation of garment technology, and plays a role in promoting the development of garment industry under the new economic conditions. The garment construction pattern and sewing process are the basis of the design of the template, we should use professional template materials and equipment cutting to make the template. This paper analyzes and studies the design and development of modern garment process templates.

1. Introduction of Modern Garment Template

Modern garment technology template technology has been widely used in the industry, but its research and development is still very inadequate, only a small number of introductory literature and patent literature, as a new clothing technology in higher education of clothing is still a blank. The modern garment technology template is combined with the modern advanced technology in the garment processing and manufacturing industry, which promotes the development of garment manufacturing template. by garment plate making and technologist plate making. By sharing their work experience with ordinary garment processing and production workers, we can further reduce the technological difficulty in garment processing and manufacturing, change the current situation that garment production is highly dependent on labor, and promote the scientific, rational and standardized processing of clothing. With the minimum labor cost, to ensure the quality of clothing shelves to the maximum extent, leading the clothing industry to specialization and modernization.

As a new technology based on the principles of garment engineering, mechanical engineering and CAD digitization, modern garment technology template is mainly used in garment making, such as sewing, ironing, positioning and so on. The common sewing process template is a kind of process mould which combines the corresponding mould making parts on the organic plywood according to the required size according to the automatic equipment, according to the sewing process and process requirements. When using the template, the corresponding tools can be modified on the sewing equipment, such as press pin board, tooth piece, etc., or adopt professional automatic sewing equipment to realize the sewing operation according to the slotting track of the mould. The application of process template technology in the specific process of sewing clothing or the sewing process of parts can make the process achieve standardization requirements without relying on the proficiency of lathe workers, while greatly improving production efficiency. As a modern garment worker's template which is specially used in garment processing and manufacturing, according to the characteristics of garment sewing process, a variety of garment making templates are designed. According to the different forms of garment sewing, they can be divided into combination templates and component templates. The combined template can also be divided into three types according to its working attributes: sewing template, positioning template, ironing template, garment template belongs to positioning template, as well as arc fold template, sticker bag ironing template, etc. The component template is mainly the template of various parts, including garment collar template, garment pocket template, shoulder seam template, waist special template, etc.



Figure 1 Readymade Garments Process Template Machine

2. Development of Modern Garment Technology Template

Modern garment craft template clothing historical garment mould making is in the clothing production link, uses the hard plywood and so on material to control the needle thread, the tight and so on sewing process one kind of technology mold making technology, originated in the 1960s Germany, originally used in the clothing production, because of the material limited, can only use the thin steel plate to make the mold. The technology was later passed to Japan, and the materials used to make the templates were even more tried. Since the 1980s, relatively easy-to-manufacture plexiglass templates have emerged in Taiwan. Along with the development of scientific technology, new materials such as pv[°]C and acrylic are gradually increasing, which lays the foundation for the popularization of template technology [1]. At the end of the 20th century, some coastal enterprises began to introduce clothing template technology, and its value has been recognized by more and more garment enterprises as its application becomes more and more extensive.

3. Present Situation of Modern Garment Craft Template

The rise of modern garment technology template has brought some impact to the traditional garment processing mode in China, but to really promote it, we still need to pay attention to the following points: many enterprises demand to maintain the existing model, and take a wait-and-see attitude towards template technology. The process template technology improves the management level, makes the production standardized, runs efficiently, and makes the original management mode adjusted. Template technology needs the integration of layout CAD. NC cutting and other technologies, and talent training based on template technology is the basic premise of clothing template technology promotion.

4. Role of the Template

Combining the garment board, garment technology and the popular garment CAD、 intelligent equipment cutting technology, the template operation of each process of garment production is realized. Although the development of garment modeling technology in China is not long, it plays an important role in the technological innovation of enterprises.

4.1. Role at the Technical Level

Garment process template technology is to make use of the experience of "experts ", such as garment pattern maker and garment craftsman, so that ordinary production workers can share through template. The use of template greatly reduces the difficulty of garment process, solves some technical bottlenecks of workers, eliminates the dependence of garment manufacturing enterprises on skilled workers, replaces some expensive professional equipment, improves the

standardization of process, ensures the consistency of garment specifications, improves product quality, improves production efficiency, changes the traditional garment manufacturing and processing enterprises, and promotes the change of production mode to a more modern direction.

4.2. Role at the Management Level

The garment process template technology solves the problem of recruitment difficulties, reduces the pressure of employment, improves the working mode, reduces the auxiliary personnel in the production link, saves the cost and improves the efficiency of the enterprise.

4.3. Role at the Financial Level

The use of garment template technology reduces the investment of special equipment, saves capital expenditure, improves production efficiency and reduces costs. The production process is balanced and optimized, the flow work is improved efficiently, and the production efficiency is maximized, thus enhancing the enterprise interests and corporate image.

5. Design of Process Template for Adult

5.1. Template Design Principles

As a mould used in garment processing, the structure and process of garment template play a decisive role in the design of the template. The template is composed of different parts, and the design of these parts should be based on the basic structure of garment parts, usually the template of one part, and the size of the template determines the size of the template and the position of the seam opening [2]. According to a certain process method and process, the combined design of template components can form a mold structure which is convenient for clamping, sewing and taking out. Different template designers combine the use of sewing equipment to design and optimize the template, which can effectively reduce the process difficulty and improve the production efficiency.

5.2. Component Composition of the Template

According to its use and function, garment process templates can be divided into basic components and other components. The necessary component of the template is the basic construction, which plays a decisive role in the processing and use of the template. The basic construction mainly includes the main clamps, slots and connectors; other components, in addition to the foundation, also include other components that play an auxiliary role in the processing and use of the template, such as intermediate clamps, positioning parts, anti-slip parts, internal and external even parts, non-ironing parts, etc.

5.3. Fabrication of Garment Process Templates

Die-making materials and equipment mold-making raw materials are mainly special plywood, PVC mixing materials in the majority, mold-making special cloth tape, sand strip, sponge strip double-sided adhesive pin. Die cutting tools are mainly die cutting machine tools, clothing die cutting is the use of intelligent die cutting equipment for PVC and other related materials die cutting production. By using modern clothing CAD、 cutting equipment and other advanced technology, combined with clothing template technology and production technology, according to different production processes, complete the design and production of professional production template, complete the simplification and standardization of complex processes. According to its technical characteristics, the commonly used clothing template cutting equipment can be divided into flat cutting machine, laser cutting machine, special data cutting machine.



Figure 2 Special plywood for garment templates

6. Template Production Process

Design template. At present, most of the garment process templates are drawn and designed by CAD software, according to the actual production needs and clothing style requirements to deal with the clothing template, so that the function and structure of the process template can be adapted to the actual production needs. The second is template cutting. Die cutting is a more important link in the process of making, in order to improve the efficiency of die cutting, it is necessary to ensure the scientific nature of die cutting and the perfection of cutting process. At present, more use is one-time die cutting, mainly including die cutting edge and cut two kinds. One-time cutting plays an important role in improving cutting accuracy and integrity, which is mainly divided into manual cutting and laser cutting. Because the manual cutting operation is difficult, requires the operator to have the high operation ability, especially when digging the special slot, must have the senior mechanic ability to complete, so at present uses the laser cutting way more, not only reduces the cutting time, but also effectively improves the cutting quality of the processing template. ultimately trial seam and template optimization. After the process template is finished, the trial seam operation should be carried out, and the application test should be carried out through the special template sewing equipment. In the process of use, if the unreasonable phenomenon of template making is found, it should be adjusted and improved in time to make the garment process template with high efficiency, application and accuracy, so as to meet the needs of actual production.



Figure 3 Cutting machine for garment vertical pattern machine

7. Conclusion

The reasonable application of garment process template can not only improve the working efficiency of garment industry, but also maximize the quality of garment production, effectively reduce the labor cost, and promote the further improvement of garment production efficiency. It is also an ideal choice for large-scale and standardized production in garment industry. As a new

scientific and technological means, garment template technology has been widely used in today's garment production. The use of sewing templates and cooperation with assembly lines can make garment factories get rid of the dependence on skilled workers, solve difficult problems in sewing technology, improve sewing efficiency, ensure the unity of sewing quality, and provide a strong guarantee for mass production and standardization.

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