

A Study on the Marking Efficiency of Tailored Jacket

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I . Introduction

As competition among apparel makers at home and abroad becomes more and more fierce, and domestic apparel market continues to grow at a slow pace, apparel makers are focusing more on quality management through reduced production cost. To cut down production cost needed to maintain quality management, lowering the cost of raw materials is essential. Efficient use of raw material for clothes should decrease both production cost and product price by cutting down on the amount of cloth used. So, it has an economic impact on the apparel makers and all the consumers who purchase the products.

Efficient marking is a very important work as it could reduce production cost by using smaller amount of cloth. Efficiency of marker varies according to product design, cloth and production conditions, and setting optimal condition could reduce over-consumption. But most of the existing studies are limited to change the design conditions of products or compare marking efficiencies based on how clothes were constructed and where cutting attachment is headed.

Therefore, this study intended to compare and analyze marking efficiencies of tailored jacket, which has one of the most complex patterns among clothes and needs skillful techniques to mark, based on different cloth and production conditions, thus proposing an efficient marking method and basic materials that can be used to create cost-competitive products.

II . Research Method

Basic tailored jacket was selected to evaluate efficiencies based on different marking conditions. And it was completed with industrial patterns by setting size 85 as master pattern and one bigger size for 5cm increase in bust, which is the basic part of the upper body, and marking to sew up after grading sizes 90 and 95. A total 12 working conditions were set with different variables depending on the width of cloth, the number of marking pieces, and the direction for marking deployment. And marking efficiencies and required amount of cloth were calculated and compared based on each condition. Yuka CAD system was used in grading and marking.

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III. Result and discussion

The results of comparing marking efficiencies based on different marking conditions were as follows.

Jacket's marking efficiencies based on the width of cloth showed no difference between cloth width of 110cm and that of 150cm. The experiment was conducted with two markers(two pieces of marker(sizes 85 and 95) and three pieces of marker(sizes 85, 90, and 95)) to see if there was any difference in efficiency according to the number of marking pieces, and the same result was obtained. The reason for the same marking efficiency is presumably because jacket has more patterns in smaller sizes with plenty of accessory patterns(pockets for example) compared to other items such as skirts and pants, making them ideal for efficient deployment. In addition to that, given the fact that in jacket, marking efficiency is not related to the number of marking pieces, we can infer that working on two pieces of marking will be more adequate rather than wasting our time and energy with three pieces of marking, and also reduce the cutting loss when contractors begin cutting.

Then, in all working conditions regardless of the width of cloth and the number of marking pieces, it turned out that there was distinct difference in marking efficiencies according to the direction for marking deployment. "Bi-direction" marker in which cloth(whose figure, texture and gloss bear no importance) is freely deployed regardless of pattern size, was the most efficient marker, followed by "one-direction for each size" marker in which cloth (whose figures or gloss or a little napping has no directional importance) of identical size headed in the same direction and "one-direction" marker in which all patterns used in figures with directions or cloth with a little napping headed in one direction.

As a result, to increase the marking efficiency of basic jacket and to reduce the use of cloth, we have to change the direction of marking deployment rather than other variables such as the width of cloth and the number of marking pieces, which can also lead to the production of competitive goods due to the cost reduction. One of the shortcomings of this study was the fact that the jacket design is limited to basic tailored jacket, which prevented more various analysis. So follow-up study should be conducted on analyzing a wide range of jacket designs simultaneously.

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