

ABSTRACT

Quality is an essential aspect of every product. Each product must meet the required standard of quality. Every industry in the globalized twenty-first century faces fierce competition as marketplaces become more complex. PT Leading Garment Industries is a garment company with an export market and became the location of this research. One of the main products in PT Leading Garment Industries is sportswear.

One of the buyers who put their trust in PT Leading Garment Industries is a brand from Japan, Yonex. The production process for making a garment product generally includes spreading, marking, cutting, sewing, and finishing. Sewing is a process of assembly of the component after they are cut. A sewing needle is a tool that has the function of helping sewing thread penetrate the fabric and form loops. Sewing needles have varied types and sizes that should match the main fabric that will be sewn. Sewing needle selection should be correct to make an excellent finish to a garment. In the sewing process of creating a T-Shirt order with style YOB23070, there is a defect in the material caused by using an incorrect sewing needle for spacer fabric composed of 100% Recycle Polyester with sublimation print, and weighing 145gsm. The fabric with 145gsm is classified as a medium-weight fabric. That condition is affected by the finished good quality that does not meet the buyer's requirement. This condition should be fixed preventively before the order is produced on a bulk scale.

This research aims to know the most suitable type of sewing needle to use on knit fabric with specifications of 100% Recycle Polyester, with sublimation print 145gsm and determine the standard for using sewing needles for that kind of fabric. Furthermore, the research has objectivities to improving the quality of finished garment products and making preventive corrections, so this kind of challenge will not present in the future.

Based on this challenge, efforts were made to enhance by sewing examinations with an overdeck machine using the type of chain stitch and fabric of spacer fabric composed of 100% Recycle Polyester with sublimation print, and weighing 145gsm. The experiment was carried out with four different types and numbers of sewing needles. Three specialists, QC End Line, QC Buyer, and QC Supervisor, will evaluate the experiment's results using an ordinal scale, and from that they make decision which one who pass or failed. The results of this experiment is the sewing needles with the FFG SAN10™ type and the size is 55/7, which produced stitches that did not cause pinhole defects and obtained an average value of 9.46=A in the Very Good category. That result proved that the medium-weight fabric should be sewn with a small-size sewing needle, and the knitted fabric should be sewn with an FFG type of sewing needle. These sewing needles provide quality improvement in the finished goods from order YOB23070 to meet buyer' standards.