ABSTRACT

Customer satisfaction is the important things from all of company. It was hopeful of customer will faithful if customer satisfied. If customer disappointed, they will be thinking twice to buy products with the same brand. Then they will turn from our brand and buy product from another company. This concerning must be attention by producer. To fill a customer satisfaction, quality control needful.

PT. Ecco Indonesia is a company that producing upper shoes. All of the products exported to abroad, so PT Ecco Indonesia have a principal purpose to be approaching company with world class standard. PT Ecco Indonesia has three principal missions. They are best quality product, on time delivery and cost efficiency.

PT Ecco Indonesia has 30 production lines. Line 14, which is producing upper type Track FYM article 26774 are line with the bigger defect percentage. The most important quality characteristic that upper is thickness of front upper from toe moulding process. If thickness of front upper well of outside from specification so customer would be feeling not comfortable when shoes wearied.

Process improvement conducted by using DMAIC (define, measure, analyze, improve and control) cycle of sigma six as a framework. Problem definition and selection of product and its critical to quality (CTQ) was done at define phase. Process measurement as performance baseline conduct at measure phase. The objective of analyze phase is to determine process capability and causes of thickness of front upper variability. After root cause of problems identified, we need to conduct an action plan to increase the quality. Improvement process conducted by using design of experiment with Taguchi method. The optimum combination for right upper are temperature top plate 125°C, temperature bottom plate 170°C, warming time 28 second and cold time 30 second. The optimum combination for left upper are temperature top plate 125°C, temperature bottom plate 170°C, cold time 30 second and pressure 4.5 bar. The objective of control phase is to ascertain that the process is appropriate with optimum combination from process improvement. Decreasing defect can reduce production cost until 0.21 % and reduce quality loss until 40% for right upper and 32.63% for left upper.

Keywords: Quality control, upper, toe moulding process, six sigma, DMAIC, critical to quality, Taguchi method, quality loss function.