ABSTRACT

CV. Gradient is a company that produces various types of products, including plastic-based products such as long grip as shock breaker protector. Long grip has an average total daily production reaching 35 thousand units of products. Based on the company's historical data from January 2016 to February 2018, there are several types of defects that occur in long grip processes production which are short mold, striped, silver, hollow, crack, and watery. The tolerance of the defect products set by the company is 0.2% per month, but the number of defect products that happen every month always exceed the company's tolerance. One type of defect with the highest percentage of long grip products is stripe that occurs on mixing process that will be the focus of this case. This research uses six sigma method to reduce stripe defect that occur in long grip product with DMAIC stage (Define, Measure, Analyze, Improve, Control). At the Define stage, there are three types of potential CTQs that are identified on mixing process. At Measure stage, from the calculation of process stability using p control chart known that the process has stabilized after second iteration, other than that from the calculation of process capability known that the average of DPMO score and sigma level is 548 and 4.766. In Analyze stage, search root of the problem cause using fishbone diagram and 5 why's, so known that the main factor that cause striped defect is machine and material. At the Improve stage, a determination of the proposed improvements can be made to reduce the number of defect products. The proposals include the provision of material storage shelves, the application of FIFO system (First In First Out), and the addition of the inspection process.

Keywords: defect, long grip, mixing process, striped, Six Sigma