ABSTRACT

PT. Semen Padang is the oldest cement factory in Indonesia. PT. Semen Padang also produces their own bags of cement to be used to facilitate the distribution of cement. Product manufactured is pasted bag. Companies capable of producing as many as 73,888,137 sheets of pasted bag in the period June 2011 to July 2012. Based on data obtained from the Bureau of Plant Pockets, product defect rate is quite high. In January 2011 the number of defective products reached 5.493%. Maximum number of defective products that has been set is 1% of the total products produced each months.

To overcome these problems, six sigma method is used. Six sigma method refers to the DMAIC steps, those are define, measure, analyze, and improve. Define phase is to identify the CTQ of pasted bag, measure phase is to calculate DPMO that being converted into sigma level, analyze phase is to analyze the root cause of the problem using the fishbone chart, and the improve stage is to provide suggestions for improvement in accordance with the results of the analysis in the previous stage .

In the define phase, known that the mismatch of length of pasted bag is the highest type of defect, which is 37.32% of the five types of defects. Performance of the current production process can be seen from DPMO obtained, which is 2850.76 and the average of sigma level,that is 4.33. Some of the proposed improvements to improve the quality of pasted bag are, using automated tools to adjust the composition of the glue, perform maintenance or periodic maintenance on the engine, and also provide training to the operators to improve their competence.

Key Word : *Six Sigma, Defect, DMAIC, Pasted Bag*