

ABSTRACT

PT XYZ is one of the State-Owned Enterprises (BUMN) companies that develops its business and products of electronics. One of projects in 2017 is Solar Module 260Wp with total order 3500 units. Based on the company data in the period up from October to December 2017, it experiences the failure of product achievement with average value of failure is 1,45% it is caused by the defect product produced on tabbing, matrixing, terminating, lay up, and laminating process. The types of defect that happens are defect from supplier, crack (micro crack) broken cell, and broken because of the machine. This research is done by using Six Sigma method through DMAIC (Define, Measure, Analyze, Improve, Control) approach. Define step to identify CTQ (Critical to Quality) with the total CTQ obtained is 4 and to know the flow of product process using SIPOC Diagram, measure step to calculate process of stability (Control Chart p) and measuring of process capability (DPMO and Level Sigma) and the value of sigma level is 4,2571, analyze step to analyze root cause of the problems by using the Fishbone Diagram and 5 Why's tools with the cause of defect happened are the value of temperature solder used improperly, operator can't fulfill the target at every session, and the storage for string ribbon material is open air so that causing corrosion on string ribbon, also to determine priority of improvement by using FMEA tools, improve step to give proposal to minimize the defect, and the control step to implement the result of change made on the improve step. Proposal of improvement which is given in the form of optimalization of temperature on solder, making a check sheet as operator controller in order to be able to produce the total product agree with the target, and gives characteristics to store string ribbon material in order not to experience with corrosion.

Keyword: CTQ, DMAIC, Solar Module 260Wp, Six Sigma, Tabbing