

## **ABSTRACT**

*PT. XYZ is a company engaged in the manufacture of paving with make to stock and make to order production systems. One of the products produced on a make to stock basis by PT. XYZ is a true pave paving SNI 03-0691-1996. Based on production realization data in 2020, there are several production periods that have a defect value above the defect tolerance determined by the company, which is 3%. The focus of this final project is to make improvements to the problematic processes, namely the printing process and the drying process.*

*Six sigma method is used in the completion of this final project with the DMAI approach. The six sigma method is used to eliminate product variations to improve the production process capability.*

*First, the define stage is the identification of product and process CTQ in determining product quality and knowing the requirements in the production process. Second, the measure stage is identifying the problems that occur through the quantitative measurement stage, calculating the sigma value of 4.104. Next is the analyze stage, at this stage an analysis of the root causes of the problems that occur is carried out using a fishbone diagram, 5 why's, and FMEA. Finally, the priority of improvement is obtained based on the highest RPN value with failure mode there is no standardization of setting the amount of vibration and machine pressure for the compaction process stage. Determined the proposed improvements in the form of optimum settings for the pressure and vibration of the molding machine, making work instructions for the printing process, proposals for procuring auxiliary tools in the form of stacking machines and MHE replacements, as well as designing maintenance sheets and tool repairs.*

*The results of this final project provide a proposal in accordance with the problems found in the hope of improving the process that occurs, based on the proposal given by the author, a new sigma level calculation is carried out with the assumption of reducing product defects by 75%. The average new sigma level for the true pave paving production process is 4,540 which has increased compared to the existing condition.*

**Keyword: Paving, CTQ, Six Sigma, DMAIC, Defect**