

## **ABSTRACT**

*PT Maha Keramindo Perkasa is one of company that produce many kind of ceramics. This company maintain to increase its product quality so that it can compete with many other companies like this. Till now, this company faces quality problem like defection in ceramics. To solve this problem, quality control is needed by detecting and analyzing critical product that contribute largest defection, and by identify what kind of defection happened as root cause of this problem. By identifying root cause of ceramics' defection problem, the next step is to give refinement suggestions for quality control.*

*From that point, the writer tries to maintain the amount of defection that give impact to product quality by using Six Sigma. Main goal of Six Sigma is to reach perfection (3.4 DPMO) by maintaining processes in producing ceramics. There are five steps in implementing Six Sigma, such as Define, Measure, Analyze, Improve, and Control (DMAIC). But in this project, the writer only doing this implementation until Improve. In Define step, the processes will be mapped, identify and formulate CTQ (Critical to Quality), and define the potential CTQ. Then, in Measure step, gathering CTQ data, calculate sigma level, measure the processes stability, so that the processes capabillity can be also measured. After that, in Analyze, crawling the root cause of problem and then the writer will analyze the potential impact of defection in many sources. Last, in Improve step, the writer will give the refinement suggestions to minimize the ceramics defect.*

*Based on calculation and research which has been done, can be seen that the largest amount of ceramics that produced in research time (January-March 2010) is A3POO with 13 kind of defections. They are, scratch, concave, curve, curvature, angle concavity, wedging, mechanical holes, black coring, black holes, body broken, preheating crack, cooling crack, and hair crack. Factors that influence the ceramics defection are human error (careless, less of training and motivation), measurement (broken of temperature equipment), environment (dust because of clay, temperature and moisturizer), methods (temperature control, miss in setting and kind of glatser), machines (problem in burner nozzle, actuator, gearbox, kiln panel, gas panel, and roller kiln). To solve that problem, the refinement that match the problem is needed, such as by refining kiln process, improving burner system from single burner to twin burner, making a schedule for overhauling kiln machine, calibrating measurement system in machine, documentation and collected production system completely, and refinement worker's job desk, and arranging good organization structure.*

*Key words: Six Sigma, Ceramics, Quality Control.*