ABSTRACT

PT Mitra Rekatama Mandiri is a manufacturing company engaged in casting metals, non-metals and machining into machine spare parts products and infrastructure products, where most of the production process uses semi-automation casting processes. With a total production of 3531 pcs PT Mitra Rekatama Mandiri carried out quality control by setting a maximum defect tolerance limit of 5%. In controlling the quality there are still defective products in the 24th sample (November 10) above the tolerance limit of 27.3%. The cause of damage to defective products that occurred in Manhole was predominantly defective of the Rat Tail 34.41%, Overlap 33.20% and Kempong amounted to 32.39% who were qualified as Critical To Quality. The purpose of this research is to minimize manhole product defects with the DMAIC (Define, Measure, Analyze, Improve, Control) cycle of Six Sigma.

This Six Sigma method is used in an effort to reduce defects in Manhole product production and improve product quality through the stages of DMAIC (Define, Measure, Analyze, Improve, Control). This DMAIC cycle focuses on defects and variations, starting with identifying critical elements of quality (critiqal to quality) from a process to providing improvement proposals related to defects that arise. The stages are carried out systematically by defining, measuring, analyzing, and improving, so that they can be used for quality control processes in Manhole products with an increase in sigma in the product process.

The results of the analysis showed that after using the Six Sigma method there was a decrease in the value of DPMO (Defect Per Million Opportunities) of 171,889 There was an increase in the sigma which was originally 2.21 to 3.00. The main contributing factor to the occurrence of defective products is the machine or tool factor that is the absence of mold lockers, then the material factor mixing materials during the smelting process and the method factors as other causes that form the final product.

Keywords: Critical To Quality, DMAIC, Quality Control; Six Sigma