

## ABSTRACT

PT. Pindad Indonesia is a manufacturing company specializing in military products and commercial. This activity includes the design, development, engineering and fabrication, and maintenance. PT. Pindad aware that product and service quality in accordance with customer needs is very influential on the success of the company's business. This factory manufactures products like Bushing and Coupling Head. Bushing has a high level of complexity in production process, but the number of defects and the number of orders are relatively low, while the Coupling Head's level of complexity, the number of orders and a amount of defects are high, so that special attention is needed to determine the cause of the high level of defect at the Coupling Head. From the data produced during the year 2009, showed the number of defective products Coupling Head on top of the target company, namely the number of defects <5%. In order for customer satisfaction and enterprise efficiency can be achieved, PT. Pindad is trying to control and improve the quality of production.

Six Sigma Methods is a comprehensive and flexible system for achieving, maintaining and maximizing business success which is controlled by a strong understanding of customer needs, disciplined use of facts, data and statistical analysis and careful attention to managing and improving in business processes towards perfection (zero defects ). Six Sigma is based on the measurement to reduce variation or inconsistency of a system in the company's business. Stages that must be done in the implementation of Six Sigma is Define, Measure, Analyze, Improve, and Control (DMAIC). Performed on stage define product selection and identification of Critical To Quality (CTQ) and the formulation of the problem of Six Sigma. In the Measure step measurement process capability at the level of output. After the capabilities of existing processes as a baseline performance is known, the analysis of some types of defects that occur along the root causes using Pareto analysis and fishbone chart. Furthermore, on the improve phase provided a proposed improvement is to minimize the critical defect in the Coupling Head.

Based on measurement by using quality data of Coupling Head from January until December 2009, knowable that potential defect are *beku dini* defect, *geser cetakan* defect, *inklusi terak* defect, and *inklusi pasir* defect. Performance existing of production process Coupling Head is DPMO value 10902 and sigma level 3,8 sigma at output level. This sigma level still stay in industrial average value in Indonesia so that Pindad Co. need to do continuous improvement in order to reach value of Six Sigma.

Keywords : Coupling Head, Defect, Six Sigma, DPMO