ABSTRACT

PT. XYZ is the largest steel industry in Indonesia. PT. XYZ is divided into 6 plant units, one of which is the Cold Rolling Mill (CRM) or Cold Roll Steel. The CRM plant unit produces 3 types of products, the named are Hot Rolled Plate, As Rolled and Full Hard . For Full Hard products there are 3 types of popular sizes that are often produced, the sizes are 0.2 x 914 mm, 0.25 x 914 mm and 0.7 x 1219 mm. The number of defective products in Full Hard products is 0.2 x 914 mm, amounting to 19,404 tons and the percentage of production failure is 9%. When compared to the two popular sizes, Full Hard 0.2 x 914 mm products have the highest number of defective products and the highest percentage of inaccessibility. The percentage of these non-achievements is indicated by defects as in the year 2018 of January s.d. December occurred a defective average of 16% or 1,617 tons This research will focus on improving the Tandem Cold Milling process and the Shearing process that causes Pick Up defect , Friction Pick Up defects and Saw Tooth Edge defects in Full Hard 0.2 x 914 mm products because the process produces the most defects. This research is done by using Six Sigma methodology (DMAIC) is used to minimize the occurrence of problems in the Tandem Cold Milling process and the Shearing process. Prior to the improvement, it was found that the average DPMO value is 26474.3 and the average value of the sigma level is 3.432 and it was identified that the process capability was still less than 6 sigma. To find out the cause of a defect in a problematic process, an analysis using fishbone diagrams and 5 why's, then determines the defect repair priority using FMEA. The proposed improvements given to the Shearing process to reduce Saw Tooth Edge defects are maintenance schedules of knives and make display information to use knives based on specification .While the proposed improvements given to the Tandem Coil Mill (TCM) process to reduce Pick Up defects are the installation of cleaning tools in the form of Nozzle and to reduce the Friction Pick Up defect is to optimize the temperature and pressure for rolling

Keywords: Full Hard Product, Six Sigma, DMAIC, Shearing, Tandem Coll Mill, DPMO, sigma level