SUMMARY

Aliffia Yanuarrizki Yulianto, Department of Industrial Engineering, Faculty of Engineering, University of Brawijaya, August 2015, *Cost Analysis on Rework for Furniture Product and Minimize Rework Based on Fault Tree Analysis (FTA),* Supervisor: Nasir Widha Setyanto and Rakhmat Himawan.

This research was conducted at PT. ROMI VIOLETA, in the QA Department. This research was based on the inspection result for three types of products. Because these types of products were manufactured continuously. According to the inspection result indicated that the largest number of rework existed in the ABL 10113-73 *Scrolling* with percentage of rework 20% from total production, followed by *Item Wittlaer Chair* with percentage of rework 8.6%, and WT 0934-001 *Arm Chair* with percentage of rework 2.7%. According on these data, it is necessary to calculate the total cost based on the types of rework and evaluate the cause of rework in ABL 10113-73 *Scrolling* to produce applicable solutions for PT. ROMI VIOLETA.

Cost Analysis is used to calculate total cost for each types of reworks in ABL 10113-73 *Scrolling* as a product. Rework with the most influential total cost value will be the main focus to be processed by using FTA method. FTA can reveal the cause of the rework types, then suggestions for the improvements in accordance with the cause of the rework types were designed.

The result of Cost Analysis method shows that there are two types of reworks with the highest total cost value. These are colour deviation rework with total cost for each rework Rp 151.197 and colour variation rework with total cost for each rework Rp 142.837. These two types of reworks became the main focus to be processed by using FTA method. Based on FTA quality analysis result colour deviation rework caused by lack of worker training or lack of control worker recruitment system, the oven does not have a door, bad weather or lack of monitoring water content, and worker does not have panel example. As for colour variation rework caused by lack of worker training or lack of group leader control, the oven does not have a door, and lack of lighting at the worker job area or lack of group leader control.

Based on those causes six suggestions for improvement were designed. The first suggestion is a new SOP for worker training, the second is check sheet and designing SOP for group leader control, the third is a new design for the oven door, the forth is always do a water contain inspection before finishing process, the fifth is increase the number of color panel example for painting operator and the sixth is increase the number lighting at the painting station.

Keywords : ABL 10113-73 *Scrolling*, *Furniture*, *Cost Analysis*, and FTA