## *ABSTRACT*

*PT. XYZ is a company engaged in the Clothing and Leather Textile, one of the products it produces is cast net. The products that the company buys and object to the research object are the PE net.*

*In producing PE nets from sewing using a machine to completion, differences in the number of findings were found in the PE nets carried out by the Quality Control and finishing sections. The focus of the research is the Inspection process carried out by the Quality Control section which is a defect part of the marking of PE. From historical production data for January-September 2019, the average defect produced is 3%, which means this value is still above the limit set by the company of 2% defects.*

*This study uses DMAI stages which are expected to improve problematic processes. The sigma value is 2,494 sigma and the DPMO value is 5791,7 and it can be assessed that the process capability is still below 6 sigma. By using an analysis tool consisting of fishbone and 5 why's it will be a determining factor for the problem and priority will be made to improve the factors using FMEA.*

*The results of this research are the proposed improvement of the inspection process on PE nets in the form of addition of a proximity capacitive sensor and a spray gun which will mark all defects in the PE nets, so that in the finishing section there is no need to carry out the inspection process again, onlu focusing on the repair process.*

*Keywords : Poly Ethilene (PE)) fishing net, Inspection process, Sis Sigma, Defect, DPMO*