

ABSTRACT

The type of MT fish net is a fish net product that has the highest risk of failure in producing defects. The number of defects in the production of MT type fish nets has a percentage value of 5.53%. Surikire defect is one of the defects produced during the production of fishing nets, namely the wound on the surface of the thread on the fish net produced in the mesh assembly process using a netting machine which has a defect percentage of 22%. Fishbone diagram is a method for determining the root cause of the problem and conducting an assessment using the repair priority value for defect problems using FMEA (Failure Mode and Effects Analysis) analysis.

The research objective was to analyze the proposed improvements to the problem caused by machine factors, namely damage to the makikagi spare parts surface against surikire defects. From the results of the study using a proposed repair design for spare parts with the Reverse Engineering method Compilation of the design concept by increasing the hardness by 60 HRC, roughness in class N5, and thickness of 928 μm . Using Ceramic Coating surface coating using Titanium Dioxide material in accordance with the target specifications on the alternative repair proposals.

Based on the results of the design of improvements to increase the durability of spare parts to be more durable for their service life and resistant to wear due to friction from the threads during the fishing nets making process in the netting machine. The results of the simulation carried out on the yarn by testing for 5 times in 5 minutes state that the recommended spare parts are better because they do not experience breakage and damage on the surface of the yarn. Keywords : Surikire, Fishbone, FMEA, Reverse Engineering