

ABSTRACT

The economic growth of the manufacturing sector in Indonesia is increasing rapidly every year. One that contributes to this economic growth is the textile industry. Along with the growth that occurs, textile companies strive to achieve a more effective and efficient production process, namely by reducing defective products or defects from the production carried out. CV. Surya Gemilang is a company that faces similar problems. CV. Surya Gemilang is a company engaged in the manufacturing industry sector, one of whose products is textile products, namely list webbing. list webbing is a superior product from CV. Surya Gemilang which has collaborated with 4 companies with requests for up to 15 rolls per month per company, where each 1 roll contains approximately 60 list webbing. In the production process list webbing still has a defect value produced after a fairly large production process. One of the factors that cause defective products to occur is the machine used, the machine used for the production of list webbing is a cutting roll machine. For this reason, it is necessary to conduct research using the design of experiment method using a full factorial design approach with 2 replications. The factors used are roll rotational speed (rpm), feeding speed (rpm), and horizontal moving blade speed (rpm). This study aims to find factors that have a significant effect and find the optimal cutting roll machine settings to reduce the defects produced. From the results of this study, the factors that have a significant effect are the factor of feeding speed, horizontal speed, and the interaction between the factors of rotating speed and feeding speed and the optimal cutting roll machine settings are rotating speed with a level of 50 rpm, feeding speed with a level of 125 rpm and horizontal speed with a level of 50 rpm.

Keyword: *Design of Experiment, Defect, Full factorial design, List webbing.*