ABSTRACT

Steel industry is one industry that affects the growth of other industries. Therefore, it can be said that the growth of steel industry has a strong influence on the economics of a country. In Indonesia, processed products from the majority of steel industry are still imported from others countries. One of the effort to reduce the value of imports of processed steel is to strengthen the product of the steel itself. In order to compete with imported products, it is necessary to improve the quality of the existing steel industry in Indonesia. In this study, the parameter to be measured is the steel surface roughness. However, in reality the process of measuring roughness of steel is still done in experiential and laboratory experiments. In this study, researchers focused on optimizing the identification of steel surface roughness with digital image processing. There were found 5 factors with 3 levels each affecting the identification of steel surface roughness with digital image processing. After do the Design of Experiment with Taguchi approach, the optimal result is the light of 2000 lux, 11.5 cm camera distance, 1280x720 px resolution, Prewitt operator and threshold 0.03.

Keywords: Design of experiment, Taguchi, Image Processing, Steel surface roughness