

ABSTRACT

Balai Besar Keramik is a agencyof research and industrial development which has the task of conducting the research, development, cooperation, standardization, testing, certification, calibration and competence development of ceramic industry. One of the tests performed in the Balai Besar Keramik is test ceramics's rectangularity. Rectangularity calibration in the Balai Besar Keramik still use manual performed by humans. In one day be able to test as much as 60-90 ceramics. With the manual method has the disadvantage of fatigue and long time process can reach 104 seconds /ceramics. Operators will experience fatigue in testing at the time of the test to 35. So as to overcome the problems of fatigue by using automation, the fatigue can be eliminated because of automation tireless, high accuracy and consistent quality. This research will develop a visual sistem automation using *sensors*, PLC and *Human Machine Interface* (HMI) based digital Image Processing with Shi-Tomasi method that can be used to determine the level rectangularity based ceramics tile corner point. In this study focused on reducing set-up time and operator error rate and design automation sistem. Time efficiency which obtained in the proposed system compared to the existing is 62.68%. By using shi-tomasi method for the ceramics rectangularituy measurement, it obtained 43% of error level.

Keywords: Automation, Shi-Tomasi, Balai Besar Keramik, Digital Image Processing, and Ceramics's Rectangularity