ABSTRAK

LED Winker lamp merupakan produk baru yang permintaanya selalu meningkat. Besarnaya permintaan produksi dan bertambahnya tipe produk harus diimbangi dengan kesiapan mesin produksi yang selalu baik dan fleksibel, namun dalam pelaksanaanya masih belum optimal hal ini ditandai dengan penurunan produktifitas mesin *infrared welding* yang disebabkan oleh *lost time* mesin yang tinggi terutama saat proses pergantian jig *(dandori).* Penelitian ini bertujuan untuk mengukur nilai efektivitas mesin, mencari akar penyebab masalah dan melakukan rekomendasi perbaikan dengan penerapan *total productive maintenance* guna untuk menurunkan *losstime* pada mesin *infrared welding*. Metode yang digunakan untuk analisis penyebab terjadinya *lost time* adalah dengan menghitung nilai OEE *(Overall Equipment Effectiveness), six big losses,* dan analisis *fishbone diagram*. Hasil dari analisis ditemukan faktor *breakdown losses* dan *set up and adjustment losses* menjadi penyebab utama tingginya *lost time*. Perbaikan yang dilakukan adalah dengan modifikasi dandori pokayoke jig sebagai rekomendasi perawatan dalam penerapan *total productive maintenance* yaitu pada pilar *focused improvement*. Implementasi *focused improvement* terbukti mampu menurunkan *lost time* akibat proses pergantian jig yang sebelumnya membutuhkan waktu 2 jam dalam satu kali pergantian jig berhasil diturunkan menjadi 0,25 jam. Selain itu dengan penerapan *total productive maintenance* ini terbukti mampu mengembalikan efektifitas mesin menjadi 85,22 % sesuai standar JIPM *(japan institute of plan maintenance)*

Kata kunci: *Total Productive Maintenance, overall equipment efectiveness, six big lossess* , mesin *infrared welding, LED Winker Lamp*

MODIFICATION OF DANDORI AND POKAYOKE JIG TO REDUCE LOST TIME ON INFRARED WELDING MACHINE BASED ON ANALYSIS OF TOTAL PRODUCTIVE MAINTENANCE IMPLEMENTATION METHODE

ABSTRACT

The LED Winker lamp is a new product whose demand is always increasing. The amount of production demand and the increase in the type of product must be balanced with the readiness of the production machine which is always good and flexible, but in its implementation it is still not optimal. . This study aims to measure the value of the effectiveness of the machine, look for the root causes of the problem and make recommendations for improvement with the application of total productive maintenance in order to reduce losstime on infrared welding machines. The method used to analyze the causes of lost time is to calculate the OEE (Overall Equipment Effectiveness) value, six big losses, and fishbone diagram analysis. The results of the analysis found breakdown losses and set up and adjustment losses factors to be the main cause of the lost time. The improvements made were by modifying the pokayoke jig dandori as a treatment recommendation in the implementation of total productive maintenance, namely on the focused improvement pillar. The focused improvement implementation proved to be able to reduce lost time due to the jig changing process which previously took 2 hours in one jig change successfully reduced to 0.25 hours. In addition, the implementation of total productive maintenance has proven to be able to restore the effectiveness of the machine to 85.22% according to the JIPM (Japan Institute of Plan Maintenance) standard

Keyword: *Total Productive Maintenance, effectiveness overall equipment, six big lossess, infrared welding machine, LED Winker Lamp*