ABSTRAK

Sektor industri manufakturing plastik kemasan merupakan sektor industri hilir, selama ini telah menjadi supply chain dari customer product, khususnya menjadi bagian dari industri pangan, industri farmasi, kosmetik dan alat kesehatan. Dengan meningkatnya permintaan plastik kemasan, pelaku industri dituntut untuk menjaga produktifitas dan kualitas produk yang dihasilkannya. Untuk dapat menjaga performance produk maka harus dilakukan pengendalian terhadap proses produksi diantaranya menjaga kinerja mesin. Efektifitas untuk mengukur kinerja mesin produksi yaitu dengan indikator OEE (*Overall Equipment Effectiveness*). Nilai OEE dipengaruhi oleh 3 variabel yaitu *availability, performance dan quality*. Variabel tersebut dijabarkan kedalam *six big losses* yang terdiri dari *breakdown losses, set up and adjusment, start up, idle and minor stoppage, speed losses*, dan *defect losses*. Tujuan penelitian ini adalah untuk melakukan analisa *six big losses* pada unit mesin blow molding yang ada di perusahaan manufaktur plastik kemasan. Metode analisa yang digunakan pada penelitian ini yaitu menggunakan fihsbone diagram dan *why why* analisis untuk mengetahui penyebab rendahnya nilai OEE serta menggunakan FMEA (*Failure Mode and Effect Analysis*) dalam menetapkan tindakan perbaikannya. Berdasarkan hasil analisa, didapatkan bahwa losses terbesar pertama adalah *breakdown losses* dengan nilai sebesar 36,4% atau 1.174 jam dari waktu operasi. Sedangkan *losses* kedua adalah *setup and adjustment losses* dengan nilai sebesar 20,1% atau 648 jam terhadap waktu operasi mesin. Upaya perbaikan yang dilakukan adalah dengan melakukan *autonomous maintenance*, melakukan perubahan frekuensi PM (*Preventive Maintenance*) serta membuat perencanaan stock spare part dengan menentukan minimum *stock spare part*. Dari hasil perbaikan yang telah dilakukan dapat dinyatakan cukup efektif karena nilai OEE meningkat sebesar 5.8%.

Kata kunci: OEE, Mesin Blow Molding, *Six Big Losses*, *Fishbone Diagram*, FMEA (*Failure Mode and Effect Analysis*)

ABSTRACT

The plastic packaging manufacturing industry is a downstream industrial sector, so far it has become the supply chain of customer products, especially being part of the food industry, pharmaceutical industry, cosmetics, and medical devices. With the increasing demand for plastic packaging, industry players are required to maintain the productivity and quality of the products they produce. In order to maintain product performance, control over the production process must be carried out, including maintaining engine performance. The effectiveness for measuring the performance of production machines is the OEE (Overall Equipment Effectiveness) indicator. The OEE value is influenced by 3 variables, namely availability, performance, and quality. These variables are translated into six big losses which consist of breakdown losses, set up and adjustment, start-up, idle and minor stoppage, speed losses, and defect losses. The purpose of this research is to analyze six big losses on blow molding machine units in plastic packaging manufacturing companies. The analytical method used in this study is to use a fishbone diagram and why why analysis to find out the cause of the low OEE value and use FMEA (Failure Mode and Effect Analysis) in determining corrective actions. Based on the results of the analysis, it was found that the first largest losses were breakdown losses with a value of 36.4% or 1,174 hours from machine operating time. While the second losses are setup and adjustment losses with a value of 20.1% or 648 hours of machine operating time. Improvement efforts made are by performing autonomous maintenance, changing the frequency of PM (Preventive Maintenance), and making spare part stock planning by determining the minimum stock of spare parts. From the results of the improvements that have been made, it can be declared quite effective because the OEE value increased by 5.8%.

Keywords: *Overall Equipment Effectiveness, Blow Molding Machine, Six Big Losses, Fishbone Diagram, FMEA* (*Failure Mode and Effect Analysis*)