

ABSTRAK

Fokus penelitian ini adalah mesin moulding di PT Synergy Karya Cemerlang. Mesin-mesin ini terus mengalami masalah seperti penundaan waktu, penurunan kecepatan produksi, dan produk yang rusak, yang semuanya menyebabkan proses produksi tidak berjalan dengan baik. Tujuan penelitian ini adalah untuk mengukur tingkat efektivitas mesin moulding dengan menggunakan metode Overall Equipment Effectiveness (OEE), menemukan penyebab rendahnya efektivitas berdasarkan analisis Six Big Losses, dan memberikan rekomendasi untuk perbaikan dengan menggunakan metode Total Productive Maintenance (TPM). Dengan data yang diperoleh melalui observasi, wawancara, dan dokumentasi, penelitian menggunakan pendekatan deskriptif kuantitatif. Ini mencakup data tentang waktu produksi, penundaan produksi, output produksi, waktu siklus ideal, dan produk cacat. Pengukuran OEE didasarkan pada tiga elemen utama: ketersediaan, kinerja, dan kualitas. Kemudian six big losses dievaluasi dan penyebabnya diidentifikasi dengan menggunakan diagram Pareto dan fishbone. Hasil penelitian menunjukkan bahwa rata-rata nilai Overall Equipment Effectiveness (OEE) mesin moulding selama periode Juli–Desember sebesar **55%**, masih berada di bawah standar JIPM sebesar 85%. Nilai tersebut terdiri dari rata-rata Availability sebesar 80%, Performance sebesar 81%, dan Quality sebesar 85%. Hasil analisis Six Big Losses menunjukkan bahwa faktor kerugian dominan adalah Breakdown Losses sebesar 39,80%, Reduced Speed Losses sebesar 29,04%, dan Defect and Rework Losses sebesar 23,36%. Kondisi tersebut menunjukkan bahwa rendahnya efektivitas mesin terutama dipengaruhi oleh downtime yang disebabkan oleh kerusakan komponen, penurunan kecepatan mesin, dan produk yang tidak memenuhi standar kualitas. Menurut hasil analisis, perbaikan yang disarankan meliputi penerapan perawatan pencegahan secara teratur pada komponen penting, penerapan perawatan mandiri yang dibantu oleh operator, peningkatan pengendalian kualitas, penyediaan suku cadang penting, dan evaluasi berkala nilai OEE. Diharapkan bahwa implementasi rekomendasi ini akan mengurangi kerugian produksi, meningkatkan ketersediaan, kinerja, dan kualitas, serta meningkatkan efisiensi dan efektivitas proses.

Kata kunci: Total Productive Maintenance (TPM), Overall Equipment Effectiveness (OEE), Enam Kerusakan Besar, Efektivitas Mesin, Mesin Moulding.

ABSTRACT

This study was conducted at PT Synergy Karya Cemerlang's kayu molding facility, which is still experiencing issues with downtime, decreased production efficiency, and cacat production, which results in a less-than-ideal production process. The purpose of this study is to increase the effectiveness of the molding process using the Overall Equipment Effectiveness (OEE) method, identify the factors that contribute to its effectiveness based on the Six Big Losses analysis, and provide recommendations for improvement thru Total Productive Maintenance (TPM). The study used a deskriptif quantitative approach using data collected via observation, wawancara, and documentation, including production time, downtime, output, optimal siklus time, and cacat product. Pengukuran OEE is based on three primary components: availability, performance, and quality. This is followed by an analysis of the Six Big Losses and the identification of the causes using the Pareto and Fishbone diagrams. The study's findings indicate that, on average, the Overall Equipment Effectiveness (OEE) of molding over the July–December period was 55%, which is still below the JIPM standard of 85%. Rata-rata availability is at 80%, performance is at 81%, and quality is at 85%. The results of the Six Big Losses analysis indicate that the dominant factors are Breakdown Losses (39,80%), Reduced Speed Losses (29,04%), and Defect and Rework Losses (23,36%). This situation indicates that downtime due to component failure, decreased mesin efficiency, and products that do not meet quality standards are the main factors affecting mesin effectiveness. Based on the analysis results, the recommendations for improvement include routine preventive maintenance on critical components, autonomous maintenance with operator assistance, and increased quality control. increasing mesin molding's effectiveness and efficiency as well as its availability, performance, and quality.

Keywords: Total Productive Maintenance (TPM), Overall Equipment Effectiveness (OEE), Six Big Losses, Machine Effectiveness, Moulding Machine.