

ANALISIS EFEKTIVITAS MESIN PRESS DENGAN METODE *OVERALL EQUIPMENT EFFECTIVENESS (OEE)*

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ABSTRAK

Efektivitas mesin memiliki peran strategis dalam mendukung kelancaran proses produksi dan pencapaian target perusahaan. Penelitian ini bertujuan untuk mengevaluasi performa mesin press di PT TOA Galva Industries menggunakan metode *Overall Equipment Effectiveness (OEE)*, menganalisis sumber kerugian melalui pendekatan *Six Big Losses*, serta mengidentifikasi akar penyebab masalah dengan *Fault Tree Analysis (FTA)*. Data dikumpulkan selama Februari 2025 melalui observasi langsung dan laporan operasional mesin. Hasil analisis menunjukkan nilai OEE sebesar 66,16%, yang berada di bawah standar industri (85%). Komponen kerugian terbesar berasal dari *Reduced Speed Loss* (50%), *Idling and Minor Stoppages* (22%), dan *Breakdown Loss* (15%). FTA mengungkapkan bahwa penurunan efektivitas dipicu oleh kombinasi kerusakan mekanis, gangguan sensor dan kontrol, serta intervensi operator. Dengan demikian, langkah perbaikan perlu difokuskan pada perawatan preventif komponen kritis, peningkatan keandalan sistem kontrol dan sensor, serta peningkatan kompetensi operator melalui pelatihan dan standarisasi prosedur kerja

Kata Kunci: OEE, *Six Big Losses*, *Fault Tree Analysis*, Efektivitas Mesin, Pemeliharaan Preventif

ANALYSIS OF PRESS MACHINE EFFECTIVENESS USING THE OVERALL EQUIPMENT EFFECTIVENESS (OEE) METHOD

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ABSTRACT

Machine effectiveness plays a strategic role in ensuring smooth production processes and achieving company targets. This study aims to evaluate the performance of a press machine at PT TOA Galva Industries using the Overall Equipment Effectiveness (OEE) method, analyze the sources of loss through the Six Big Losses approach, and identify root causes using Fault Tree Analysis (FTA). Data were collected throughout February 2025 through direct observation and machine operation reports. The analysis showed an OEE value of 66.16%, which falls below the industry standard of 85%. The major contributing losses were identified as Reduced Speed Loss (50%), Idling and Minor Stoppages (22%), and Breakdown Loss (15%). FTA reveals that the decline in effectiveness is driven by a combination of mechanical failures, sensor and control disturbances, as well as operator interventions. Therefore, corrective actions should focus on preventive maintenance of critical components, enhancing the reliability of control and sensor systems, and improving operator competence through training and standardized work procedures.

Keywords: *OEE, Six Big Losses, Fault Tree Analysis, Machine Effectiveness, Preventive Maintenance.*