

ANALISIS EFEKTIVITAS MESIN BUBUT DENGAN METODE OVERALL EQUIPMENT EFFECTIVENESS DAN FAILURE MODES AND EFFECTS ANALYSIS DI CV AKBAR METATAMA

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ABSTRAK

Pada penelitian di CV Akbar Metatama pada bulan Maret 2022 didapat informasi mengalami kendala yang menghambat proses produksi yaitu kerusakan mesin yang mengakibatkan tidak dapat beroperasi. Kerusakan yang paling sering terjadi yaitu kerusakan mata pisau dan kecepatan putaran pada mesin bubut yang terjadi sebanyak 17 kali. Overall Equipment Effectiveness adalah metrik yang menitikberatkan pada seberapa efektif suatu operasi dilakukan untuk menentukan efektivitas dan kinerja suatu mesin dengan memperhitungkan tiga komponen penting yang mempengaruhi efektivitas mesin, yaitu ketersediaan, kinerja dan kualitas. Six big losses merupakan metode yang digunakan untuk mengetahui tingkat kerugian pada suatu mesin atau peralatan. FMEA metode untuk menentukan potensi penyebab kerusakan dengan mengidentifikasi, mengevaluasi dan mengelola risiko secara efektif dalam kegiatan dengan menghitung nilai angka prioritas risiko. Hasil perhitungan OEE yang telah dilakukan rata-rata nilai sebesar 67%. Perhitungan six big losses menunjukkan bahwa nilai losses terbesar adalah *reduced speed losses*. Hasil perhitungan RPN didapat sebesar 77 dengan kegagalan tertinggi yaitu patahnya bilah dengan nilai RPN sebesar 24. CV Akbar Metatama dapat melakukan perbaikan dengan perawatan preventif untuk mencegah kerusakan mesin dan produksi peralatan sehingga memperpanjang masa pakai mesin dengan melakukan pemeliharaan terjadwal. Kemudian, perusahaan disarankan menggunakan OEE dan FMEA untuk menentukan perawatan atau perbaikan mana yang diutamakan agar operator akan memiliki kepekaan yang tinggi dalam meningkatkan perawatan mesin kerja. Dengan menggunakan OEE dan FMEA, mesin juga akan terjaga dengan baik dan dapat mengidentifikasi potensi kerusakan yang akan terjadi.

Kata kunci: OEE, *Six Big Losses*, FMEA

**EFFECTIVENESS ANALYSIS OF LATHE MACHINE USING OVERALL
EQUIPMENT EFFECTIVENESS AND FAILURE MODES AND EFFECTS ANALYSIS
METHOD AT CV AKBAR METATAMA**

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ABSTRACT

In research at CV Akbar Metatama in March 202, information was obtained that the obstacle that hindered the production process was engine damage which resulted in it being unable to operate. The damage that most often occurs is damage to the blade and rotational speed on the lathe which occurs 17 times. Overall Equipment Effectiveness is a metric that focuses on how effectively an operation is carried out to determine the effectiveness and performance of a machine by taking into account three important components that affect machine effectiveness, namely availability, performance and quality. Six big losses is a method used to determine the level of loss in a machine or equipment. FMEA is a method for determining potential causes of damage by identifying, evaluating and managing risks effectively in activities by calculating the value of risk priority numbers. The results of the OEE calculations that have been carried out have an average value of 67%. The calculation of six big losses shows that the biggest losses are reduced speed losses. The RPN calculation results obtained were 77 with the highest failure being blade fracture with an RPN value of 24. CV Akbar Metatama can carry out repairs with preventive maintenance to prevent damage to the machine and equipment production thereby extending the life of the machine by carrying out scheduled maintenance. Then, companies are advised to use OEE and FMEA to determine which maintenance or repair is prioritized so that operators will have high sensitivity in improving work machine maintenance. By using OEE and FMEA, the machine will also be properly maintained and can identify potential damage that will occur.

Keywords: OEE, Six Big Losses, FMEA

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