# PERENCANAAN PERAWATAN KOMPONEN MESIN GILING MENGGUNAKAN METODE *RELIABILITY CENTERED MAINTENANCE* DI PT MADUBARU PG MADUKISMO YOGYAKARTA

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ABSTRAK

Proses produksi membutuhkan dukungan mesin dan peralatan yang bekerja secara maksimal. Kerusakan mesin produksi menyebabkan kegiatan produksi terhenti, kualitas produksi menurun bahkan mengancam keselamatan pekerja. PT Madubaru PG Madukismo telah terjadi *downtime* sebanyak 55 kali terhadap komponen mesin giling di 4 kali musim giling pada tahun 2018-2021. Tidak adanya tindakan perawatan yang terjadwal dapat mengakibatkan kerusakan fasilitas dan mesin yang sangat merugikan. Dari masalah tersebut diperlukan tindakan dengan menggunakan metode *Reliability Centered Maintenance* yaitu tindakan utama preventive maintenance yaitu mencegah dan meminimalisasi konsekuensi kegagalan yang muncul, sehingga meningkatkan reliability dan safety. Hasil FMEA komponen kritis yang paling utama dan memiliki prioritas paling tinggi adalah suri-suri gilingan mengalami kepatahan, *Fibrizer* mengalami gumpalan dan baut suri-suri putus serta suri-suri gilingan yang mengalami gumpalan. hasil LTA Outage problem (B) sebesar 60%. Pada time directed (TD) perlu dilakukan perbaikan komponen mesin dengan prioritas tertentu. Tindakan-tindakan perawatan time directed (TD) pada komponen mesin giling Berdasarkan hasil penentuan distribusi Mean Time to *Failure* pada komponen yang dilakukan tindakan perbaikan yakni suri-suri gilingan yang patah dilakukan pergantian komponen setiap 88 hari, baut suri-suri gilingan dilakukan pergantian komponen setiap 52 hari dan *Fibrizer* dilakukan pergantian komponen setiap 46 hari.

Kata Kunci: *Reliability Centered Maintenance*, Perencanaan Perawatan Mesin

# MILLING MACHINE COMPONENT MAINTENANCE PLANNING USING THE RELIABILITY-CENTERED MAINTENANCE METHOD AT PT MADUBARU PG MADUKISMO YOGYAKARTA


## ABSTRACT

The production process requires machines and equipment support that work optimally. Damage to production machines causes production activities to stop, production quality decreases and even threatens the safety of workers. PT Madubaru PG Madukismo experienced 55 downtimes for milling machine components in 4 milling seasons in 2018-2021. The absence of scheduled maintenance actions can result in catastrophic damage to facilities and machinery. From these problems, action is needed using the Reliability Centered Maintenance method, the leading preventive maintenance action, by preventing and minimizing the consequences of failures that arise, thereby increasing reliability and safety. The results of the FMEA of the essential critical components and have the highest priority are the mill bolts experiencing fractures, the Fibrizer experiencing lumps, the bolt bolts breaking, and the mill bolts experiencing lumps. The result of the LTA Outage problem (B) is 60%. In time directed (TD), it is necessary to repair machine components with specific priorities. Time-directed (TD) maintenance actions on milling machine components based on the results of determining the Mean Time to Failure distribution on components for which repair actions were carried out are: broken mill bolts, the component replacement was carried out every 88 days, mill bolts were replaced every 52 days, and the Fibrizer is replaced every 46 days.



**Keywords**: Reliability Centered Maintenance, Machine Maintenance Planning

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