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IMPLEMENTATION OF PLANNED MAINTENANCE USING TPM METHODOLOGY FOR A BI-CYCLE MANUFACTURING INDUSTRY

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Abstract

Total Productive Maintenance (TPM) is a proven methodology in manufacturing industries in all sectors - process, and discrete. Objective of TPM is to ensure zero breakdowns and improve overall equipment effectiveness (OEE). The method followed under TPM is called Planned Maintenance (PM) system to achieve maximum availability of equipments minimize cost of maintenance. Equipments deteriorate due to prolonged negligence, lack of understanding of equipments functioning, lack of skill of repairing and no knowledge about the wear and tear of parts so that the same need to be replaced before these fail. The main aim of this work is to implement Planned Maintenance using TPM methodology for a Bicycle Tyre manufacturing company. This will improve and sustain equipment availability and reduce cost of manufacturing through reduction of unwanted and unwarranted break-down due to lack of systematic approach. To achieve these goals, Planned Maintenance system is to be implemented. The strategy adopted to develop a sustainable and cost effective maintenance system by Ranking of equipments based on quality, yield, working status, maintainability, period interval failure, delay factor/cost and safety through collection of past data of failures of equipments. Equipments ranked-A are considered for Planned Maintenance system. Such ranked-equipments are studied in detail and with reference to past failure data a preventive maintenance plan is developed. The objective is to test out this maintenance plan and measure Mean Time Between Failures (MTBF), Mean Time To Repair (MTTR), Availability, Cost of maintenance and effectiveness of the maintenance plan.

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