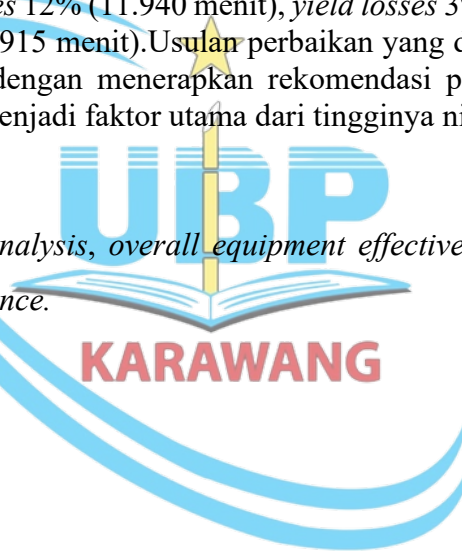


ABSTRAK

PT. XYZ merupakan perusahaan yang memproduksi *steel cord* atau kawat baja menggunakan mesin *bunching*. Permasalahan yang sering terjadi di mesin *bunching* adalah sering mengalami downtime yang disebabkan faktor *six big losses* selama 32001 menit atau 534 jam atau 22 hari, untuk mengetahui tingkat efektifitas mesin *bunching*, dilakukan pengukuran menggunakan metode OEE. Metode OEE memiliki tiga faktor yaitu *Availabilty* (A), *Performance Efficiency* (P), dan *Rate of Quality* (Q). Apabila nilai OEE belum memenuhi ideal, maka akan dilakukan perhitungan *Six Big Losses* untuk mengetahui faktor apa saja yang menyebabkan rendahnya nilai OEE, dan selanjutnya dianalisis dengan menggunakan metode *Fault Tree Analysis*. Dari hasil perhitungan rata-rata tingkat efektifitas (OEE) mesin *bunching* di PT. Bekaert Indonesia pada tahun 2019 adalah 79%, Faktor terbesar yang menyebabkan *lost time* dari perhitungansix big losses adalah faktor *breakdown losses* sebesar 58% (57.119 menit), kemudian diikuti *idling & minor stoppages* sebesar 14% (14.197 menit), *setup and adjusment losses* 12% (12.140 menit), *reduce speed losses* 12% (11.940 menit), *yield losses* 3% (2.805 menit), dan *quality defect losses* 1% (915 menit). Usulan perbaikan yang dapat dilakukan pada mesin *bunching* adalah dengan menerapkan rekomendasi perbaikan dari faktor *breakdown losses* yang menjadi faktor utama dari tingginya nilai *down time*.

Kata kunci: *fault tree analysis, overall equipment effectiveness, six big losses, total productive maintenance.*



ABSTRACT

PT. XYZ is a company that produces steel cords using bunching machines. The problem that often occurs in bunching machines is that they often experience downtime due to a factor of six big losses for 32001 minutes or 534 hours or 22 days. To determine the effectiveness of the bunching machines, measurements were made using the OEE method. The OEE method has three factors, namely Availabilty (A), Performance Efficiency (P), and Rate of Quality (Q). If the OEE value does not meet the ideal, then the Six Big Losses calculation will be carried out to find out what factors cause the low OEE value, and then analyzed using the Fault Tree Analysis method. From the calculation of the average effectiveness level (OEE) of bunching machines at PT. Bekaert Indonesia in 2019 is 79%, the biggest factor that causes lost time from the calculation of big losses is the breakdown loss factor of 58% (57,119 minutes), followed by idling & minor stoppages of 14% (14,197 minutes), setup and adjustment losses 12 % (12,140 minutes), reduce speed losses 12% (11,940 minutes), yield losses 3% (2,805 minutes), and quality defect losses 1% (915 minutes). The suggestion for improvement that can be made in mesin bunching is to implement the recommendations for improvement breakdown losses factor which is the main factor of the high value of down time.

Keywords: *fault tree analysis, overall equipment effectiveness, six big losses, total productive maintenance.*

