

# A study on periodic maintenance of vacuum equipment-a case study of C Company

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## ABSTRACT

In the panel factory, if equipment is unable to maintain normal functions, the product yield is affected and scraps occur. In order to improve equipment uptime and keep up output quality, regular maintenance on equipment is necessary.

This research studies periodic maintenance of vacuum equipment. FMEA (Failure Mode and Effects Analysis) is utilized to identify potential failure modes, and the possible consequences. The results of the analysis by FMEA allow staff to understand when improving the vacuum pump, various features of the components and order of improvements. In addition, through fitness test conducted using Minitab software, Weibull distribution is selected to describe service lives of components of a vacuum pump. Proper Weibull distributions are then defined and maintenance cycles and policy are formed based on actual maintenance records. Finally, the conducted performance evaluation shows the proposed periodic maintenance policy is able to prolong useful life of a vacuum pump and effectively reduce maintenance costs.

Keyword: Vacuum pump Maintenance Scheduling, FMEA