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The study of production performance of water heater manufacturing by using simulation method (Conference Paper) (Open Access)

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Abstract

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In industrial companies, as demand increases, decision-making to increase production becomes difficult due to the complexity of the model systems. Companies are trying to find the optimum methods to tackle such problems so that resources are utilized and production is increased. One line system of a manufacturing company in Malaysia was considered in this research. The Company produces several types of water heater and each type went into many processes, which was divided into twenty six sections. Each section has several operations. The main type of the product was 10G water heater which is produced most compare to other types, hence it was taken under consideration to be studied in this research. It was difficult to find the critical section that could improve the productions of the company. This research paper employed Delmia Quest software, Distribution Analyser software and Design of Experiment (DOE software) to simulate one model system taken from the company to be studied and to find the critical section that will improve the production system. As a result, assembly of inner and outer tank section were found to be the bottleneck section. Adding one section to the bottleneck increases the production rate by four products a day. The buffer size is determined by the experiment was six items. © Published under licence by IOP Publishing Ltd.

Author keywords

production rate production parameters production performances simulation method utilization waiting

Indexed keywords

Engineering controlled terms: Decision making Design of experiments Manufacture Waste utilization Water heaters

Engineering uncontrolled terms: Critical sections Increase productions Industrial companies Manufacturing companies Production parameters Production performance simulation method waiting

Engineering main heading: Industrial research

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