ABSTRACTS

USE OF PLANT SIMULATION IN AREA OF STORAGE

(pages 1-5)

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Keywords: Tecnomatix Plant Simulation, simulation, distribution process, storage
Abstract: Implementation and use of designing and simulation is currently becoming a standard practice in many undertakings. Simulation enables the company to detect bottlenecks in the production and forecast potential threats. Contribution shows the practical usage of the Tecnomatix Plant Simulation student version in the specific conditions of the industrial company. It deals with the problem of storage and dispatching of the finished products. Plant Simulation is a computer application developed by company Siemens PLM Software for modelling, simulation, analysis, visualisation and optimization of manufacturing systems and processes, flow of material and logistic operations. The application enables comparison of complex manufacturing production alternatives, including the internal processing logic, by help of simulation on computer.

MODERN METHODS OF EVALUATION WORKPLACE FACTORS IN ERGONOMY

(pages 7-11)

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Keywords: musculoskeletal diseases, RULA, REBA, evaluation of ergonomic risks
Abstract: Modern methods of assessment the ergonomic risk serve for early identification and enable complex risk assessment of damage to the musculoskeletal system. These advanced methods include RULA ("Rapid Upper Limb Assessment") and Reba ("Rapid Entire Body Assessment"). The above mentioned methods could serve as prevention of musculoskeletal diseases and could be used in assessing of ergonomic risks in company. Musculoskeletal diseases (MSDs) are the most common diseases in Europe related to work. The implementation of ergonomic principles, i.e. ergonomic risk identification, analysis, proposal, implementation of solutions and evaluation of the effectiveness of measures can significantly reduce the number of MSDs.

THE CREATING SOFTWARE CONFIGURATIONS MODULAR PRODUCTION ON THE PRINCIPLES OF ERGONOMICS

(pages 13-17)

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ABSTRACTS

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Keywords: modular building system, design of workstations, Al-profiles kit systems, planning software, ergonomic factors
Abstract: This article is aimed at problems of designing and ergonomic optimizing of production systems with a modular construction structure made up of building-block principles on the basis of Al components. The modular structure allows an individual and flexible adaption to varying requirements and also the realization of low-cost solutions. Benefits to using the modular profile systems and building elements for creation of new or modernized production base of workstations configuration are mainly: simple fast assembly, short planning time, simple disassembly, easy construction, retrospective modifications, reassembling of all elements.

USAGE OF SIMULATION FOR INTEGRALS CALCULATION

(pages 19-22)

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Keywords: simulation, Monte Carlo method, geometric method, estimation of certain characteristics
Abstract: The article deals with the simulation, more specifically with the method Monte Carlo. The term as a simulation, simulate, a simulator is well known in many scientific disciplines. The simulation model allows performing a number of experiments, analysing them, evaluating, optimizing and afterwards applying the results to the real system. By using the Monte Carlo method it is possible to compute one-dimensional and multi-dimensional integral. Monte Carlo method can be divided according to procedure solutions to geometrical methods and calculation based on the estimation of certain characteristics of random variable.