

عنوان مقاله:

Master production scheduling in pipe production industries: A case study

محل انتشار:

هجدهمین کنفرانس بین المللی مهندسی صنایع (سال: 1400)

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نویسندگان:

Elahe Javadi - Faculty of Engineering, Urmia University, Urmia, West Azerbaijan Province, Iran

Reza Babazadeh - Faculty of Engineering, Urmia University, Urmia, West Azerbaijan Province, Iran

Ali koniavi - Faculty of Engineering, Urmia University, Urmia, West Azerbaijan Province, Iran

hatef javadi - Department of Industrial Engineering, Hacettepe University, Ankara, Turkey

خلاصه مقاله:

In this research, with the aim of integrating production planning in several periods, the mixed integer linear programming (MILP) approach has been used for Glass Reinforced Polyester (GRP) Pipe production. The model presented in this research, in addition to providing a mathematical model for the production line, is able to select the best supplier from among various suppliers. This model also reduces the inventory of the final product and raw materials in the factory and optimizes the amount of raw materials purchased from suppliers as well as the amount of final product production. In this research, minimizing the total cost of production is considered as the objective function of the model. Total costs include supplier selection, purchasing cost, raw material inventory cost, pipe production cost, and final product inventory cost. Also, the limits of the final product inventory level, raw material inventory level, factory capacity, supplier and warehouse capacity for storing the final product and raw materials are included. The proposed model determines the optimal number of suppliers, the optimal amount of purchases, inventory and production in each period. Comparing the total cost of the proposed model with the current cost of the company shows an improvement of approximately ۲۰%.

کلمات کلیدی:

(Production planning, Supply chain, integrated production planning, Glass Reinforced Polyester (GRP)

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