

Enumerative Search for Crane Schedule in Anodizing Operations

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Abstract : This research aims to develop an algorithm to generate a schedule of multiple cranes that will maximize load throughputs in anodizing operation. The algorithm proposed utilizes an enumerative strategy to search for constant time between successive loads and crane covering range over baths. The computer program developed is able to generate a near-optimal crane schedule within reasonable times, i.e. within 10 minutes. Its results are compared with existing solutions from an aluminum extrusion industry. The program can be used to generate crane schedules for mixed products, thus allowing mixed-model line balancing to improve overall cycle times.

Keywords : crane scheduling, anodizing operations, cycle time minimization

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