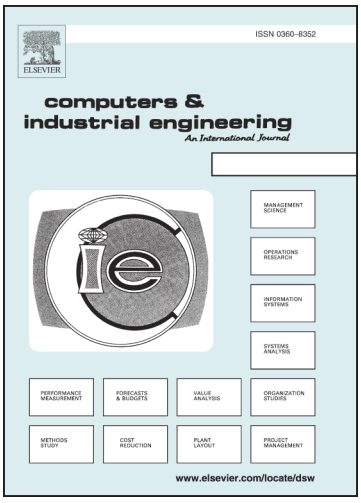

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Minimizing Makespan for No-Wait Flowshop Scheduling Problems with Setup Times

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ABSTRACT

This study investigates no-wait flowshop scheduling problems with sequence-independent and sequence-dependent setup times aimed at minimizing the makespan. We propose an efficient two-phase matheuristic, which can optimally solve all tested instances of three existing benchmark problem sets and a new generated large-sized test problem set, with up to 20-machine and 2000-job test instances, in acceptable computational times. This is a dramatic improvement over all previously known algorithms. In view of the strongly *NP*-complete nature of the two problems addressed herein, this study contributes an exact method that can find optimal solutions for solving these problems with the efficiency necessary to meet real-world scheduling requirements.

Keywords: scheduling; no-wait flowshop; setup times; makespan; matheuristic.

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