

2008 / I. Cutting with Defects

The Two-Dimensional, Rectangular, Guillotineable-Layout Cutting Problem with a Single Defect - An AND/OR-Graph Approach.

This page contains material of the following publication:

Neidlein, V.; Vianna, A.C.G.; Arenales, M.N.; Wäscher, G. (2008):

The Two-Dimensional, Rectangular, Guillotineable-Layout Cutting Problem with a Single Defect - An AND/OR-Graph Approach.

Working Paper No. 35/2008, Faculty of Economics and Management, Otto von Guericke University Magdeburg.



Abstract: In this paper, a two-dimensional cutting problem is considered in which a single plate (large object) has to be cut down into a set of small items of maximal value. As opposed to standard cutting problems, the large object contains a defect, which may not be covered by a small item. The problem is represented by means of an AND/OR-graph, and a Branch & Bound procedure (including heuristic modifications for speeding up the search process) is introduced for its exact solution. The proposed method is evaluated in a series of numerical experiments that are run on problem instances taken from the literature, as well as on randomly generated instances.

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