

OPTIMAL AND HEURISTIC ALGORITHMS FOR A SPECIAL  
TYPE OF TWO-DIMENSIONAL CUTTING STOCK PROBLEM

by

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In this dissertation, a real-world Two-Dimensional Cutting Stock Problem, where-in metal discs are cut from small rectangular stock sheets by a two-stage gullotine cutting process, is formulated as a mathematical programming problem.

Inter-disc allowances, multiple discs per piece, grade substitutability, flexible demands, limited stock, limitations of shearing and punching machines and operational convenience are some of the practical considerations which have been incorporated into the formulation either explicitly or implicitly.

An optimal and four heuristic algorithms have been developed. Computational experiences is reported for all the algorithms.