Abstract

Cutting Stock Problem (CSP) is a combinatorial optimization problem that commonly found in industries such as in the steel industry. The purpose is to optimize the use of stock in order to fulfill all demands and minimize trim loss.

To meet that goal then offered one solution is to adopt one of the existing optimization algorithms. In addition, also required a search algorithm that is used to declare that a combination of an order is obtained is a valid solution of the problem or not. This is depicted in the visualization of the placement.

So, one solution is to apply Constructive Evolutive Algorithm (ECA). This algorithm combines the concept of evolution optimization based on Genetic Algorithms where the heuristic function based on concept of searching from AAO* algorithm. Thus, ECA based on testing by Parada, ECA will result in optimal system and in accordance with the existing problems [8]. Therefor, researcher will prove ECA could result optimal solution in all of the cases.

From testing, with limited stock the best results are 95,24% obtained in Jakobs 25 order and Jakobs 50 order's case. For Risna 13 order's case, the best result is 93.02%. In Jakobs with unlimited stock result that obtained smaller than limited stock. Different from Risna, result that bigger than limited stock.

Keyword:*Cutting Stock Problem, Evolutive Constructive Algorithm, order, stock*