

Optimization of pallet production

Brouwers Senne & Leemans Arvid

Bachelor IW Electromechanics

INTRODUCTION

The integrated project takes place at Decomecc in Genk. Decomecc stands for Decoiling & Metal Cutting Company. They specialize, among other things, in cutting, slitting and processing sheet materials. Common materials that are processed are steel, stainless steel and aluminum. They use wooden pallets to store the processed sheet material.

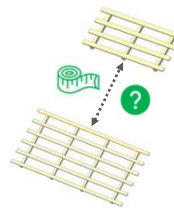


PROBLEM

A lot of custom-made pallets must be made for each order. This brings with it several problems.

- 2 people are needed for its production
- takes a lot of working hours and money
- It is slow and takes a lot of time

SOLUTIONS



The solution is an automated machine to produce the pallets. This is operated by 1 person and capable of producing 4 different sizes with a maximum of 10 pieces per cycle.

Buffer wooden beams

Nailing system

Transporter (base)

Buffer wooden slats

Stacking system

Scissor elevator

CONCLUSION

The automatic production of the pallets can save a lot of time, money and personnel. It is also easier to adjust the dimensions of the pallets since all distances of the beams and slats can be set variable.

RESULT

The result is a machine with 4 buffers for the wooden beams, 1 buffer for the wooden slats, a transporter, a nail system and stacker for the finished pallets. The only manual labor is filling the buffers and removing the finished stack with a forklift. It is also a modular system that can easily be expanded for changes in the future.

Supervisors / Co-supervisors / Advisors: Kellens Karel, Daenen Michael, Bijmens John, Lievens Jeroen