

Design of an automated handling tool

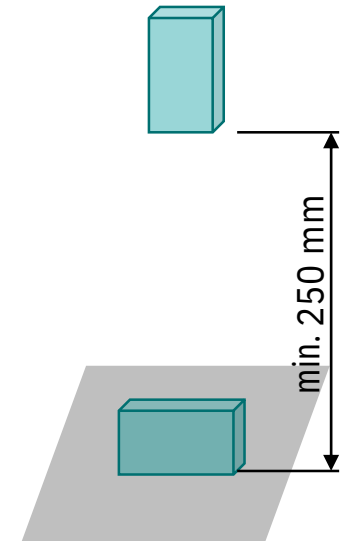
Task description:

A block (dimension 70 x 50 x 30 mm, mass 350 g) with very rough surfaces needs to be lifted by 250 mm and rotated by 90° during a production. The handling tool to be designed should fulfill the following requirements:

- Solution for picking and release of the block
- Mechanical setup enabling the movement and rotation of the block
- Evaluation and selection of suitable actuators¹

Deliverables:

- Systematic development of the required mechanical setup incl. a description of the technical principle by *sketches and schematic diagrams*, dimensioning process and mathematical verification
- 3D-model of all needed components and assemblies considering their manufacturability
- Material suggestions for all components
- Generation of drawings for all components and assemblies as merged pdf document
- Written description in form of a report



Project template for submission of the project work

Instructions for the use of the project template:

-Please design the project work using the project template and submit the complete project folder (as zip-archive)!

-Naming of the zip-archive → **lastname_matriculationnumber.zip**

Files with other naming won't be accepted !!!

-Where can you find the project template? –In the course in moodle

Lab course

Exercises and lab tasks:

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Project copy templates:

Please use these template files when you want to start new design projects. User instructions are included in the zip-folder.

 Project_Copy_Template_2021

 Project_Copy_Template_2022

Project template for submission of the project work

How to use the project template?

Please follow the instruction in the file „User instructions.pdf“!!!

- 1) Make a copy of the complete folder “project_copy_template_2022” in your target folder
- 2) Rename the copied folder using the following title: **Last name_matriculationnumber**
- 3) In the renamed folder: rename the project file with ending *.ipj with the identical name as the project folder
- 4) Please start Inventor and open the project folder by finding the project folder and opening of the project file with ending “.ipj”