

<http://desl-pwrs.epfl.ch>

Student project proposal

Project title

Materials characterization of 3D printed polymers and definition of optimal fabrication parameters.

Project type MSc thesis BA semester project MSc semester project

Project responsible and e-mail

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Project description

In the framework of the reduced scale hyperloop research program, a materials characterization is needed to define the bests printing parameters and ensure the integrity of the chassis and other subsystems of a capsule.

Tasks of the student

- Preparation of a testing campaign in order to cover a maximum of parameters
- Definition and fabrication of samples
- Mechanical testing of the samples
- Characterization of the printed materials and definition of best parameters (utilization matrix)

Requirements

- 3D printing (FDM)
- Mechanical properties
- Mechanical testing
- Materials science