## I. IDENTIFICATION DATA

<table>
<thead>
<tr>
<th>Thesis title:</th>
<th>CFD simulation of sedimentation of small particles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author’s name:</td>
<td>Özgür Tarik Kaplan</td>
</tr>
<tr>
<td>Type of thesis:</td>
<td>master</td>
</tr>
<tr>
<td>Faculty/Institute:</td>
<td>Faculty of Mechanical Engineering (FME)</td>
</tr>
<tr>
<td>Department:</td>
<td>Process Engineering</td>
</tr>
<tr>
<td>Thesis supervisor:</td>
<td>doc. Ing. Karel Petera, Ph.D.</td>
</tr>
<tr>
<td>Supervisor’s department:</td>
<td>Process Engineering</td>
</tr>
</tbody>
</table>

## II. EVALUATION OF INDIVIDUAL CRITERIA

### Assignment

**How demanding was the assigned project?**

- **challenging**

### Fulfilment of assignment

**How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.**

- **fulfilled**

### Methodology

**Comment on the correctness of the approach and/or the solution methods.**

- **correct**

### Technical level

**Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?**

- **B - very good.**

### Formal and language level, scope of thesis


- **A - excellent.**

### Selection of sources, citation correctness

**Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student’s original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?**

- **A - excellent.**
III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

Summarize your opinion on the thesis and explain your final grading.

The author showed quite good abilities of individual work. He performed CFD study of sedimentation of small particles, he analyzed the impact of the time step on simulation results which is very important when performing transient analysis. Using the case of sedimentation in a water column, he compared Euler-Granular and DDPM-KTGF model which are available in ANSYS Fluent. Then, using the Euler-Granular model, he made simulations of a geometry representing the part of a real lamella sedimentation tank. The author evaluated the critical velocity reflecting 99% effectiveness with respect to the velocity and inclination angle. The methods and procedures used in the thesis seems to be correct. The language level as well as formal aspects of the thesis are excellent in my opinion.

I evaluate the thesis by grade A - excellent.

Date: 23.8.2021
Signature: