

## I. IDENTIFICATION DATA

<b>Thesis title:</b>	Rheology of collagen material
<b>Author's name:</b>	Arslanturk Serdar Can
<b>Type of thesis :</b>	bachelor
<b>Faculty/Institute:</b>	Faculty of Mechanical Engineering (FME)
<b>Department:</b>	Process Engineering
<b>Thesis reviewer:</b>	doc. Ing. Karel Petera, Ph.D.
<b>Reviewer's department:</b>	Process Engineering

## II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b>	ordinarily challenging
<i>How demanding was the assigned project?</i>	

<b>Fulfilment of assignment</b>	fulfilled with minor objection
<i>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.</i>	
It seems that the results are not very satisfying, the confidence intervals of the model parameters are quite huge. The interpolated exit pressures are negative which is not physically correct.	

<b>Methodology</b>	partially applicable
<i>Comment on the correctness of the approach and/or the solution methods.</i>	
I am not sure if the Herschel-Bulkley or power-law models are the right models to describe viscoelastic behavior.	

<b>Technical level</b>	D - satisfactory.
<i>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?</i>	
Should there be steps or seconds as units on horizontal axes of Figures 4.4, 4.5 and possibly others? It would be nice to see there some graphical example (plot) of the fitted data compared with the model function and corresponding parameters.	

<b>Formal and language level, scope of thesis</b>	E - sufficient.
<i>Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?</i>	
There are many formal and typographical mistakes in the thesis. For example, missing spaces, capital letters in the middle of sentences, wrong reference numbers to figures, etc. The English level is bad and it is getting worse towards the end of the thesis, some sentences do not make sense there. Wrong terms are used in some places (confidence interval instead of confidence interval, etc.). Inconsistent notation of some quantities is used frequently - for example $\tau_0$ or $\tau_y$ as the yield stress. Hershel-Bulkey (page 42) should be Herschel-Bulkley, ...	

<b>Selection of sources, citation correctness</b>	D - satisfactory.
<i>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?</i>	
In the list of references, page 49, there is item "[16] - Petera, K. (2017, May 6). PDF. Prague." What is it??	

**Additional commentary and evaluation (optional)**

*Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.*

**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. Pose questions that should be answered during the presentation and defense of the student's work.*

Many formal and typographical mistakes complicate reading of the thesis so that it is quite difficult to find some positive results there. It is not very clear what was author's main contribution, does he performed the experiments or he just processed the measured data in MATLAB?

Questions:

- Is it correct to assume that the pressure dependency is linear for viscoelastic material?
- What is the basis of the mentioned Rabinowitsch and Bagley corrections which might improve the prediction of exit pressure as mentioned in the thesis?
- It is mentioned in Conclusion that "The parameters of the power-law model achieve an acceptable agreement with data from the literature." What data from the literature? There is no reference there.

I evaluate the thesis by grade

Date: 23.1.2020

Signature: