

## I. IDENTIFICATION DATA

<b>Thesis title:</b>	<b>Assessment and Comparison of Mathematical Models for Thermal Conductivity and Dynamic Viscosity of Refrigerants Superheated Vapour</b>
<b>Author's name:</b>	<b>Monilkumar Nalinkumar Dabhi</b>
<b>Type of thesis :</b>	bachelor
<b>Faculty/Institute:</b>	Faculty of Mechanical Engineering (FME)
<b>Department:</b>	Environmental Engineering
<b>Thesis reviewer:</b>	Ing. Miroslav Kučera, Ph.D.
<b>Reviewer's department:</b>	Environmental Engineering

## II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b>	<b>challenging</b>
<i>How demanding was the assigned project?</i>	
The bachelor thesis was moderately difficult, but interdisciplinary. The student developed an overview of an assessment and comparison of mathematical models for thermal conductivity and dynamic viscosity of superheated refrigerants.	

<b>Fulfilment of assignment</b>	<b>fulfilled</b>
<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>	
In my opinion, the assignment of the bachelor's thesis was fulfilled. I have reservations about the technical part, which is not so comprehensive. The student searched for refrigerants mathematical models of the above mentioned quantities. The student defined the main parameters dynamic viscosity and thermal conductivity. He presented the found relationships for their calculation. The student prepared a comprehensive overview of the used refrigerants.	

<b>Methodology</b>	<b>correct</b>
<i>Comment on the correctness of the approach and/or the solution methods.</i>	
There is clear description of methodology and structure of the work. In my opinion, the text of the thesis should include a graphic comparison of the results of equations - calculation models. The differences in results obtained would be clearer.	

<b>Technical level</b>	<b>C - good.</b>
<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>	
He is able to make a relevant conclusions about an obtained information. I think the work would be clearer if the graphic dependencies that are in the appendix were in the main part of the text.	

<b>Formal and language level, scope of thesis</b>	<b>B - very good.</b>
<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>	
The thesis is organized in a logical way. Language problems affect the final work very slightly. Language of the thesis is clear and understandable. Thesis well-presented, but I lack a clear graphical comparison of the calculated data. There is not a complete list of symbols in the work.	

<b>Selection of sources, citation correctness</b>	<b>C - good.</b>
<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>	
Bibliographic citations meet the standards. But there are 25 publications in the bibliography and I am missing references to some of them in the text. If a publication is not used, should the reason why be given?	

**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.*

The student presented an overview of the properties of superheated refrigerants. He compared equations with each other and properties of individual superheated refrigerants at comparable conditions. I consider this as a benefit of the work.

**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.*

In my opinion, the assignment of the bachelor's thesis was fulfilled. The student developed an overview of an assessment and comparison of mathematical models for thermal conductivity and dynamic viscosity of superheated refrigerants. The student prepared a comprehensive overview of the used refrigerants. He was able to make relevant conclusions about obtained information. Thesis well-presented, but I lack a clear graphical comparison of the calculated data. I consider a benefit of the work, that the student compared the properties of individual superheated refrigerants at comparable conditions.

The grade that I award for the thesis is **C - good**.

Date: **18.1.2023**

Signature: