

I. IDENTIFICATION DATA

Thesis title:	Evaluation of selected properties of boards with increased fire resistance
Author's name:	Assel Maidanova
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Civil Engineering (FCE)
Department:	Department of materials engineering and chemistry
Thesis reviewer:	Ing. Jitka Krejsová, Ph.D.
Reviewer's department:	Department of materials engineering and chemistry

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	ordinarily challenging
<i>How demanding was the assigned project?</i>	
This project was ordinary demanding. The number of required experiments was rather smaller, however, these experiments were technically quite challenging.	

Fulfilment of assignment	fulfilled
<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>	
The main four goals of this work have been achieved. 1) The two required sorption isotherms have been defined based on a suitable experiment. 2) The usage of gypsum board (covering OSB) as a fire-resistant material has been tested and its suitability has been confirmed. 3) The abrasion test was performed. 4) The OSB in specified humidity was tested.	

Methodology	correct
<i>Comment on the correctness of the approach and/or the solution methods.</i>	
The methods were chosen appropriately in relation to the objectives of the work.	

Technical level	C - good.
<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>	
The student chose the appropriate experiments based on student's theoretical knowledge gained in his field of study. The experiments were performed correctly, but explanation of many phenomena is missing (for example specification of used materials and technology of applying plaster to OSB in the Preparation of samples chapter; chapter describing OSB testing in a very humid area). Some information is also unclear - for example units are not specified in Tab. 3 (p. 28) and the choice of 89% humidity during testing in a very humid area is not justified.	

Formal and language level, scope of thesis	D - satisfactory.
<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>	
Formalisms and notations are used mostly correctly. The bachelor's thesis is organized in a logical way with one exception – OSB testing in very humid area should be a separated chapter and should also be mentioned in the discussion. The thesis is sufficiently extensive. Some parts of the thesis are not connected logically or are less clear. One paragraph occurs twice in the work (on page 8). The language is understandable, but the text contains many spelling errors.	

Selection of sources, citation correctness	C - good.
<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>	
The student worked correctly with the literature and chose adequate sources. However, the contribution of the literature to this work is not emphasized and no conclusions are drawn.	

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.

Examples of mistakes:

Page 8 and 10: two same paragraphs; dihydrate (not dehydrate); $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ (neither $\text{CaSO}_4 2\text{H}_2\text{O}$ nor $\text{CaSO}_4.2\text{H}_2\text{O}$)

Page 9: anhydrite = CaSO_4 (not $\text{CaSO}_4 2\text{H}_2\text{O}$)

Page 13: average thickness of OSB is from 12.1 to 13.4 mm (not cm)

Page 15: several well methods (it means good methods?)

Page 19: X_0 (X_0)?

Page 22: the chapter starts with a lowercase letter and the sentence doesn't make sense

Page 30: "As it can be seen in Figures 10-13 all the twelve samples were inside the conditioned boxes for more than month." Where can you see it?

Figure 16 on page 33: Sorption Isotherm curve of OSB - unclear description – OSB with plaster

Page 39: the verb is missing in the last sentence

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

The student has demonstrated the ability to work on a larger project, process gained data and summarize the results. The main goals of this work have been achieved. The thesis contains many spelling and terminological errors and the explanation of many phenomena is missing. The discussion is not elaborated much in detail.

My questions are:

- 1) *Could the dynamic water sorption method be applied within the experimental part? Why did you choose the stationary method? Could you compare these two methods?*
- 2) *Why did you dry the samples at 105°C? Did you dry also samples before abrasion testing? Would drying affect the results and how?*
- 3) *What do you mean by the term "burn form of gypsum"? (page 8)*

The grade that I award for the thesis is **D - satisfactory**.

Date: **25.1.2023**

Signature: