



**CZECH TECHNICAL UNIVERSITY IN PRAGUE**  
**Faculty of Civil Engineering**

**Department of Concrete and Masonry Structures**

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**BACHELOR THESIS EVALUATION**

Name of the student: Samal Gubasheva  
Title of the bachelor thesis: Adobe bricks as a building material  
Supervisor of the bachelor thesis: Ing. Iva Broukalová, Ph.D.  
Reviewer of the bachelor thesis: Ing. Petr Bílý, Ph.D.

**1. Contents of the bachelor thesis and accomplishment of goals**

The thesis had three main goals:

1. To perform a literature review and to summarize information about adobe bricks
2. To analyse and evaluate adobe efficiency in contemporary building.
3. To try to produce a sample adobe brick and test its strength.

The first two goals were accomplished successfully and they comprise the whole content of the thesis. The third goal was not even attempted. This is unfortunate because it could have increased the value of the thesis significantly.

**2. Technical standard and elaboration**

Although the content of the thesis is rather simple – just a literature review, summary and brief evaluation of the information found – the technical standard of the thesis is good. There are no factual mistakes in the thesis, the terminology used is basically correct. Several minor remarks:

1. Page 18: The amount of straw fibers should be 5 – 10 kg/m<sup>3</sup>, not 5 – 10 g/m<sup>3</sup>. The student should pay more attention to the units (see also below).
2. Page 26: The reviewer has never seen the term “traction strength”, the correct term is “tensile strength”.
3. Table 2: It should be clearly stated that weight percentages (0 – 0.9 % wt.) are listed in the table, not volume percentages.
4. Table 4: On the other hand, in this case it should be stressed that volume percentage (5 – 10 % vol.) of the straw is quoted, not weight percentage.

**3. Language level and comprehensibility**

The language level is very good, the thesis is completely comprehensible. There are several minor grammatical mistakes throughout the text, such as:

1. Capital letter is used in the beginning of a word in the middle of a sentence in numerous cases. This applies mainly to the word “adobe”, which is often written with capital A.

2. The use of singular and plural is incorrect in several cases. This mainly applies to the phrase “one of the building material” which is used several times. It should be “one of the building materials”.
3. Some prepositions are used incorrectly (e.g. “focus in” instead of “focus on”, “in 3.12.1984” instead of “on 3<sup>rd</sup> December 1984” etc.).

#### 4. Graphic layout

Graphic layout is very good. Formatting is neat. All the figures are clear and understandable. The only remark is related to figure 2.6. The use of figures with watermarks should be avoided in bachelor thesis.

#### 5. Literature resources

The student looked up and studied sufficient number of relevant literature resources. However, the format of many references is not correct. When a journal paper is cited, the name and the volume of the journal should be also given; when a webpage is cited, the date of citation should be given because the content of the webpage may change in time; etc.

References [22] to [27] are links to Google search results – such a reference is unacceptable. The reference must clearly define the concrete source of information.

Numbers [14] and [27] are used twice in the list of literature which may lead to confusion.

#### **Comments, suggestions, remarks that shall be explained and commented during the defence of the thesis**

1. The thesis clearly describes the advantages of adobe masonry, but the disadvantages are just briefly mentioned. Please give several examples of climate conditions and types of structures where the use of adobe masonry is not appropriate.
2. What would be the effect of freeze-thaw cycles on wet adobe bricks?
3. As adobe bricks can absorb humidity, there surely is a risk of presence of moulds on the surface of adobe walls. What measures would you take to reduce the risk?
4. Which type of thermal insulation is more suitable for adobe walls: Cavity wall with ventilated air gap or external thermally insulating composite system (ETICS)? Explain your answer.

Although the thesis is rather simple and could be improved in many aspects, its overall quality is good. The student did a decent job. Therefore my evaluation is:

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 Reviewer: Ing. Petr Bílý, Ph.D.  
 Date: 31<sup>st</sup> May 2017

**C (good)**  
 Evaluation  
 (A-excellent, B, C, D, E, F-failed)