

I. IDENTIFICATION DATA

Thesis title:	Design methods for flat slabs subjected to punching shear
Author's name:	Haythem Cherif
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Civil Engineering (FCE)
Department:	Department of Concrete and Masonry Structures
Thesis reviewer:	Ing. Josef Novak, Ph.D.
Reviewer's department:	Department of Concrete and Masonry Structures

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>How demanding was the assigned project?</i>	
Punching shear resistance is a well-known topic which was fully investigated in the past. The thesis contains fundamental findings about design methods from different standards and technical publication (EC 1992-1-1, ACI-318, fib Model Code 2010) and their comparison. Most of these standards are not included in the bachelor study and as a consequence the selected topic is 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 assignment was fulfilled completely. Several design methods for flat slabs subjected to punching shear were presented and analyzed. Particularly, general information about flat slabs, various design methods and types of punching shear reinforcement were summarized. Then, the obtained findings were used for the elaboration of the structural design of a selected building and the comparison of results.	

Activity and independence when creating final thesis	B - very good.
<i>Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.</i>	
During the elaboration of the thesis, the student showed the ability to investigate a wide range of foreign literature, standards and research papers. The main findings related to the topic were summarized in the state-of-the-art part. The student consulted the conception regularly and work rather independently. The end of the thesis was being completed very close to the deadline and as a consequence, it likely affected the technical level of the thesis.	

Technical level	B - very good.
<i>Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?</i>	
The technical level of the thesis is high. The overview of design methods provides fundamental information about three different computational approaches (Eurocode, ACI 318, fib Model Code). However, only a brief comparison and evaluation were made about these design methods. The list of punching shear reinforcement contains a wide range of reinforcement with a short description which is possible to use for the improvement of punching shear capacity of reinforced concrete slabs. Subsequently, the student used the knowledge he gained during the bachelor study and findings obtained from technical literature for the elaboration of the preliminary design of a selected building and the detailed design of a reinforced concrete slab. The comparison of the results is very brief and either personal hypothesis or thoughts are missing.	

Formal level and language level, scope of thesis	C - good.
<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 rather well-organized and well-written. The look of the thesis could be improved – the caption for figures should be unified, the quality of some pictures are low and some headings have strange numbering. The look of the drawings could be improved as well.

Selection of sources, citation correctness

A - excellent.

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?

The sources used in the thesis are adequate and citations meet the standards.

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.

Please insert your comments here.

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 grade that I award for the thesis is **B - very good**.

Date: **11.6.2020**

Signature: