CTU in Prague
Faculty of Civil Engineering
Department of Building Structures

Bachelor thesis assessment

Student: Hikmatullah Salarziy
Thesis Title: Residential Apartment Building
Thesis Supervisor: doc. Ing. Tomáš Čejka, Ph.D.
Reviewer: Ing. Radek Zigler, Ph.D.
Date of Thesis Submission: 30. 5. 2016

I. Evaluation Criteria

Evaluation Criteria	A	B	C	D	E	F	Not Rated
Objectives and thesis assignment	☐	☒	☐	☐	☐	☐	☐
Level of expertise	☐	☐	☐	☒	☐	☐	☐
Suitability of used methods	☐	☐	☐	☒	☐	☐	☐
Formal and graphic level	☐	☐	☐	☐	☒	☐	☐
Thesis clarity	☐	☐	☐	☒	☐	☐	☐
Student's ability to apply engineering approach	☐	☐	☐	☒	☐	☐	☐

Note: The fields in the table are checked by double-clicking the mouse on the box (select "Default = checked"), or place an X it in the appropriate cell of the table.

II. Comments

Basis for evaluation of individual criteria (required, ¼ - ½ page):

The objective of the thesis was a comprehensive design of an apartment building, which the student fulfilled to some extent (some minor parts of the design were omitted).

Level of Expertise of the submitted thesis and the methods used are quite low. Suggested solutions are at least questionable if not wrong (use of foamglass for façade thermal insulation, no waterproofing of the underground stories, thickness of some layers, use of vapor barriers in wrong places etc.).

Formal and graphical level of submitted thesis is very poor. There are lots of mistyped or misspelled terms in texts, the technical drawings are not legible (wrong type and thickness of lines, questionable drawing style not according to any standard etc.).

Thesis clarity and student’s engineering approach are, again, very low.

Apart from the above mentioned comments, there are number of other things:

- Form work drawing – openings in the core shaft are missing,
  – there are rounded and rectangular columns used in different stories (variant A),
- Situation drawing – no surface information (paved/unpaved areas…)
  – boundaries of the construction site/building ground, distance between buildings,
  – original/finished grade
- Floor plans – Staircase in 1PP – level of intermediate landing only 440 mm above the main landing?, graphical representation is not correct in all floors,
  – no waterproofing,
  – Foundation drawing – the excavation is wrong, no settlement calculation necessary?
  – Section – floor compositions – vapour barrier in S1 and S4?, vapour barrier in S7 (roof) completely wrong (hygro-thermal evaluation is wrong – the layers are in reversed order, so the condensation is minimal, but it should be very significant), thickness of impact insulation 80-100mm S6 and foamglass used in typical floor S5?, staircase not correctly displayed/drawn.
  – Roof – not correctly displayed/drawn, elevations (not by edges), roof parapets without inclination, etc.
- Details – mostly wrong, serious mistakes made (thermal bridges, roof parapet design, fastening of windows/doors, socle design, ets.)
  – vapour barriers?
  – lintels directly under floor slabs?
  – thermal insulation in lintels in interior?
  – D1 does not correspond to Section A-A, D6 and Staircase detail (marked in Section A-A) not present, D6 is just plain copy/paste from company materials/literature etc.

Overall, the quality of submitted thesis is poor.

III. Debate topics

For the purposes of debate, I recommend the following (required):

- What is the waterproofing design, what possible solutions are there and under what conditions can these be designed?
- Explain the use of Foamglass for the façade insulation.
- What is the correct roof structure composition (order of layers, placement of vapour barrier). What other roof composition could be designed and what are their main advantages and disadvantages?

VI. Overall Assessment

As a reviewer I evaluate the submitted thesis with the grade:

D (satisfactory)

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Grading scale used:

A	*B*	*C*	*D*	*E*	*F*
excellent	*very good*	*good*	*satisfactory*	*sufficient*	*failed*

V. Result

Based on the above as a Reviewer:

☒	I recommend the master thesis for defense
☐	I don't recommend the master thesis for defense

In Prague, June 3, 2016

Ing. Radek Zigler, Ph.D.
Reviewer