



Bachelor thesis assessment

Student: Yosufi Mohammad Fayez
Thesis Title: Residential Apartment House
Thesis Supervisor: Doc. Ing. Hana Gattermayerová, CSc.
Reviewer: Doc. Ing. Martin Jiránek, CSc.
Date of Thesis Submission: 15.1.2017

I. Evaluation Criteria

Evaluation Criteria	A	B	C	D	E	F	Not Rated
Achievement of the objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level of expertise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suitability of used methods	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Formal and graphic level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thesis clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student's ability to apply engineering approach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

II. Comments

Justification of evaluation of individual criterions:

Even though the student chose a very simple building, the project quality is very poor. Student lacks basic knowledge about drawing construction drawings, using different types of lines, etc. He is not able to design the basic structures such as the staircase, basement wall, etc. Design calculations are not clear; they do not correspond to the facts in drawings.

Part Building Structures

Technical report with the description of building structures and individual elements is lacking. Some compositions of structures used for calculation of thermal properties (software Teplo) do not correspond to those used in the project.

It is not clear why the headroom of the 2nd and 3rd floor, where only the flats are situated, is 3,15 m.

Comments on drawings:

- Basemen plan - entrance to the garage is too narrow, it is not clear how the garage is ventilated, number of steps on the staircase is missing;

- Ground floor plan – the cafe is not equipped with hygienic facilities for handicapped and with the storage room, steps above the section plane shall be indicated by a thin solid line, number of steps is missing, structures above the horizontal section plane (beams and balconies) shall be indicated by a double dot-and-dash line;
- 3rd floor plan – vertical levels and slopes are not indicated on balconies;
- Roof plan – the geometric shape of the roof drainage is too complicated, diameters of the drainage pipes are missing;
- Section A-A – the geometry of the staircase is horrible;
- Section B-B – position of this section plane is really strange;
- Detail D03 – asphalt penetration shall be removed from the composition C4, to avoid the thermal bridge the balcony door should be placed in the same position as the window;
- Detail D05 – staircase detail does not correspond to the geometry of the staircase in the section A-A;
- Detail D06 – why two layers of the bitumen membrane are part of the external wall?
- Detail D07 – what type of waterproofing is placed between the wall and the foundation?

Static Part

Selected bearing system is not convenient for two apartments on the 2nd and 3rd floors, because the great height of the beams is not acceptable in bedrooms.

Thickness of basement bearing walls on the house perimeter (400 mm of reinforced concrete) is really oversized.

Geometry of the staircase used in the static calculation does not correspond to that which was actually used.

Comments on drawings of a formwork:

- beams shall be indicated by a thin solid line;
- thermal insulation inserted into the formwork is not shown in plans;
- position of ISO beams (ISOKORB) is not shown in plans;
- some particular sections do not correspond to plans;
- openings in floor slabs for installation shafts are not indicated.

III. Debate topics

For the purposes of debate, I recommend the following topics:

- 1) How would you change the construction system to avoid beams in the bedrooms?
- 2) Explain the design of the thickness of the basement wall.
- 3) Redesign the staircase including the details of connecting flights to the landing.
- 4) How would you prevent the transmission of noise from the staircase to the structure?
- 5) How would you simplify the geometry of the roof drainage?

VI. Overall Assessment

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

D

.....

Grading scale used:

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>
<i>excellent</i>	<i>very good</i>	<i>good</i>	<i>satisfactory</i>	<i>sufficient</i>	<i>failed</i>

V. Result

Based on the above as a Reviewer:

<input checked="" type="checkbox"/>	I recommend the master thesis for defense
<input type="checkbox"/>	I don't recommend the master thesis for defense

In Prague date 26.1.2017



Reviewer