

THESIS SUPERVISOR FORM



1. Identification of the student:

Student:	Safa'a Joudeh
Thesis:	Static Assessment of Judit Tower in Prague
1 st Institution:	Universidade do Minho
2 nd Institution:	Czech Technical University in Prague, Czech Republic
Academic year:	2022/2023

2. Identification of the supervisor:

Name:	Doc. Ing. Petr Fajman, CSc.
Institution:	CTU in Prague, Faculty of Civil Engineering
Position:	Associative Professor

3. General comments

The thesis deals with behaviour of Judith tower in Prague in the Czech Republic under ringing bell. The 3D FEM model of tower was established and material properties were obtained from dynamics experiment. The thesis is divided in seven chapters.

- The first three chapters aim at the description of problems and historical survival.
- Chapter four specifies cracks from the visual inspection
- Chapter five establish the model with 2D elements and 3D elements. The dynamics experiment, which was used to set the material properties and boundary spring parameters of the calculation, is described. The value was obtained from in the comparative study (first five engine values). It contains the final linear 3D FEM model.
- Chapter six Conclusions and recommendations and future works. The tensile stresses are compared with places with cracks found at the tower. More accurate nonlinear model was not made, because it wasn't the subject of the thesis.

Annex A – the geometry, positions of cracks are described in great detail in the pictures
Annex B- a detailed evaluation and description of the cracks is made according to the photographs
Annex C - categorization of stone defects and their causes

Very excellent pictures and historical review is made.

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Mrs. Safa'a Joudeh has proven very good ability to collect, analyse and classify a large amount of diverse information. She prepared the thesis with a very little intervention from the supervisors. The student had to acquire advanced knowledge of modelling and FEM with commercial software RFEM Dlubal for advanced structural analysis. In general, we can report that Mrs. Joudeh successfully coped with all tasks assigned to her.

We regard Mr. Joudeh as competent to solve advanced problems related to analysis of monuments and historical constructions and recommend her admission to the state exam and to process the defending act of her thesis.

We assess her thesis by 99 points out of 100, i.e. grade A on the ECTS scale A (excellent).

4. Grade: A (excellent)

Use the following scale

A (excellent)	B (very good)	C (good)	D (satisfactory)	E (sufficient)	F (fail)
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Czech Technical University in Prague, Czech Republic

July 18, 2023

The Supervisor,

Petr Fajman