

# THESIS SUPERVISOR FORM



## 1. Identification of the student:

Student:	Mason Conrad Moritz
Thesis:	The influence of carpentry joint stiffness and modelling techniques on internal force distribution in traditional timber structures
1 <sup>st</sup> Institution:	Universidade do Minho
2 <sup>nd</sup> Institution:	Czech Technical University in Prague, Czech Republic
Academic year:	2022/2023

## 2. Identification of the supervisor:

Name:	Ing. Jiří Kunecký, PhD.
Institution:	ITAM
Position:	Researcher

## 3. General comments

The goal of the thesis was to quantify the effect of semi-rigid joints on internal forces distribution in three historic roof types from the Czech Republic. The time given for such a task was relatively short. Mason Moritz made a lot of work to reach the goal and he has definitely proven his ability to work using scientific/engineering tools, work with literature and think critically. I appreciate the time we spent together. Under this light I want to sum up our collaboration and the thesis.

Influence of joint stiffness on the force distribution included the first step: create models of three trusses representing the roofs while considering hinges only. Next, the student focused on the typology of the joints and inserted linear translational and rotational springs with literature-based values of stiffness. The differences in internal forces distribution are depicted in the thesis and are clearly described and discussed. Of course, there can be many doubts about the values and models used, however, in such a complicated subject we are glad we reached realistic values. All models, force magnitudes were computed by the student and I, as the tutor, was critically evaluating the approach, but the final models and values have been produced and discussed in the thesis by Mr. Moritz.

As the supervisor I have to point out student's steep learning curve in ANSYS APDL, good intuition in structural modeling, effort and enthusiasm. Because of limited time, the final days were hectic and the work would be better if it gets matured over time. However, that is a common issue.

Nevertheless, the goals have been met, methods learned, ability proven. That is why I choose the following grade.

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4. Grade: \_\_\_\_\_ **A** \_\_\_\_\_

Use the following scale

A (excellent)	B (very good)	C (good)	D (satisfactory)	E (sufficient)	F (fail)
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ITAM CAS CR, Prague

July 18<sup>th</sup> 2023

The Supervisor,

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Ing. Jiří Kunecký, PhD.