FACULTY OF CIVIL ENGINEERING
DEPARTMENT OF STEEL AND TIMBER STRUCTURES

CTU
CZECH TECHNICAL UNIVERSITY IN PRAGUE

Re.: 0020-09/23/111134/Wal

Prague, 31 January 2024

Evaluation of the course of study by the supervisor

Mr. Batuhan Der

Doctoral thesis

Numerical calculation of members and joints at elevated temperature

Numerický výpočet prutů a spojů při zvýšené teplotě

Mr. Batuhan Der studied at the Department of Steel and Timber Structures as a full-time doctoral student from 2018 to 2024. During his studies he p completed professional and language exams. He passed the state doctoral exam in 2022.

During his studies he had the opportunity to participate in the projects TAČR Merlion III FW01010392 Advanced design of structural details/elements using machine learning. He is co-author of several technical publications on contact beams in steel structures.

His Ph.D. thesis is on the numerical calculation, modelling and design of steel structures and determination of their resistance. The thesis includes experimental and numerical research on the topic. Through the proposed model and prepared numerical calculation, a higher load capacity can be achieved, which leads to a more economical design of the structure. The economic design of the structure, where the same load capacity can be achieved by using less material, has a positive effect on the amount of C02 emissions associated with industrial production. The proposed design approach has a very positive impact on the environment.

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