SVEUČILIŠTE U ZAGREBU
FAKULTET STROJARSTVA I BRODOGRADNJE
Središnje povjerenstvo za završne i diplomske ispite
Povjerenstvo za diplomske ispite studija strojarstva za smjerove:
Procesno-energetski, konstrukcijski, inženjersko modeliranje i računalne simulacije i brodostrojarski

Sveučilište u Zagrebu Fakultet strojarstva i brodogradnje	
Datum	Prilog
Klasa: **602 - 04 / 22 - 6 / 1**	
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DIPLOMSKI ZADATAK

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Naslov rada na hrvatskom jeziku: **CAD predložak za pojedine faze proizvodnje vijaka za beton**

Naslov rada na engleskom jeziku: **CAD template for individual stages of concrete screw production**

Opis zadatka:

Anchors are well-known fasteners used in various industries such as construction, automotive or nuclear. As such, they vary in sizes, shapes, applications, and they are produced using different forming techniques. For producing screw anchors, engineers have implemented CAD template for automatically dimensioning the outputs of multi-stage forming process for different screw lengths. However, on various occasions, experts observed discrepancies in terms of geometry and dimensions between used CAD template and finally produced anchors. For that reason, it is necessary to revise and further improve this template by analysing and examining the forming part's behaviour and forming sequences through these different stages using precise measurements and FEM simulation.

The main objective of this thesis, done in collaboration with Hilti AG (Liechtenstein), is to develop a CAD template that will allow to address specificities of the multi-stage forming process and result in less deviated manufactured screw anchors.

As a part of this Master's Thesis, it is required to:

- Study the available literature on screw anchors, metal forming processes and respective design guidelines.
- Analyse existing multi-stage metal forming processes to identify requirements for CAD template.
- Conduct necessary measurements and simulations to improve the input information for the CAD template.
- Develop the CAD template for individual stages of concrete screw production.
- Test the developed CAD template and reflect on the obtained results.

The scope and level of detail related to the provided analysis will be decided during its preparation. It is necessary to cite all used literature sources and acknowledge any support received.

Zadatak zadan:	Datum predaje rada:	Predviđeni datumi obrane:
3. ožujka 2022.	5. svibnja 2022.	9. - 13. svibnja 2022.

Zadatak zadao: Predsjednik Povjerenstva:

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