

EXAMINATION OF MASTER THESIS

Master thesis: **Dimensional stability of parts manufactured by additive technologies**

Student: **Rakeshkumar Durgashankar Soni**

Opponent: **Ing. Martin Frkal**

In the first part had student made a deep research in this theory field aiming particularly to a purpose of this thesis. There were described 3D printing technologies, materials, principles of 3D scanning and description of tests for evaluation. In some part were common repeating of some definitions. No other remarks to this part.

The phase between the theoretical and practical part seems to be a little confusing. Student tried to interconnect theory and practise, but I think some chapters should have been just in theoretical part. From this point of view the practical part is not too large that I would expect.

Practical part respects defined procedure, but I have some negative notes. First in analyze I don't see any reason for describing average values of deviation as it's at figures 48 to 53. More important are two things. First - how each deviation develops in a period of time. Second – current status. Both were described in previous chapter. In the end I would expect final and clear summary in a table. Finally in appendix there are figures called *Comparison*, but it is not clear comparison of what.

Finally student continued according to a rules for elaboration and setted aims were fulfilled. Except of mentioned mistakes and some grammatical mistakes there is no doubt about recommendatiton of this thesis for a title challenge.

Complementary questions:

- 1) What is the maximum size of product for FDM technology?
- 2) How could you explain that deviations of sphere spacings are getting smaller by time? (Pg. 55, Figure 31, FDM For. – no. 3)
- 3) Compare thermal expansivity of used materials. If there is some difference, could it partly cause the crack on the SLA part?

Ústí nad Labem 31. 5. 2018

Ing. Martin Frkal



ASSESSMENT OF MASTER THESIS

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I assess by **2 – very good.**

Ústí nad Labem, 31. 5. 2018

Ing. Martin Frkal

A handwritten signature in black ink, consisting of a large, stylized 'M' and 'F' intertwined, with a horizontal line extending to the right.