

Author of the thesis: Shehab Hassan Attia

Name of the thesis: Numerical simulation of the filling process in the pressure bottle.

Type of the thesis: Master thesis

Reviewer: Sylvio Simon

Institution of the reviewer: Brandenburg Technical University Cottbus - Senftenberg

- A. **Formal belongings of the thesis:** Excellent minus
(Rate linguistic and typographical level of work, text structure, sorting chapters, illustrations, correctness and completeness of citations literary sources)

All in all the paper is to the greatest possible extent without shortcomings. The order of the chapters is logical. The figures are helpful. The source of figure number 7 is missing. Occasionally the font changes. The descriptions of the figures could be more detailed.

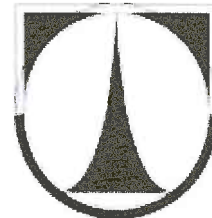
- B. **Thesis theoretical part:** Excellent
(Rate the extent and manner of research, a way of describing the problem solved or the suitability and complexity of used theoretical method.)

The problem got perfectly solved. The theoretical fundamentals are extensively presented. The order is logical.

- C. **Thesis practical part:** Very good
(Rate adequacy and sophistication of the methods used, the level and amount of data obtained.)

The used solution method Ansys generates results that are good to interpret. The chosen integration is adequate for the solution.

- D. **Results analysis:** Very good
(Rate the level of processing of data, including the determination of measurement uncertainties, discussion of the results and formulated conclusions.)



The evaluation of the calculated results and the discussion are very good comprehensible.

E. Level and quality of the thesis:

(Rate overall complexity and scope of work and original contribution of the student.)

The student solve the complex question discrete by himself. The practical results present the correctness of the theoretical suggestions and calculated numeric results.

Overall evaluation:

Questions for the defense:

1. How the process of the filling can be influenced if the filling process will be non-continuous (the filling process will be split into several steps or time periods)?

Qualification:

I suggest this work to classify as "Excellentminus"

In Senftenberg, 06. of June, 2017

I certify that I am not in any personal relationship with the author of the work



Reviewer's signature