

Supervisor's report

Amir Mohamed Amir Elhosiny Ibrahim

POWER CHARACTERISTICS OF IMPELLERS

The aim of the work was to carry out a literature search in field of mechanical mixing in non-baffled vessels with centrally placed impellers focused especially on description of power characteristics of impellers with regard to the effect of various parameters of system vessel-impeller (diameters ratio, position above vessel bottom). The student should also try to find information about concentration profiles for chosen impellers, if a suspension is mixed in such systems. In the second part of the work the student should carry out experimental measurements and determine power characteristics of anchor agitator, pitched four-blade impeller and four-blade turbine. Obtained results should be compared with values obtained from the literature search. Different sizes of vessels and impellers should be used to describe the effect of the scale-up on the mixing process. The difficulty of the task was standard.

I was not satisfied with the way how Mr. Elhosiny carried out the literature search. He was not able to find necessary literature by himself. I had to give him several hints on required references. He used just two of them and completed the search with other four works, which was insufficient. He was not able to extract the required information about power characteristics of impellers in non-baffled vessels and used just information related to baffled vessels. The resulting literature search has very poor quality.

Much better work was done by Mr. Elhosiny during experimental measurements. After I gave him a short introduction to the aims and way of the measurements, he was able to work independently most of the time. However, his attitude was not based on high activity. The measurements were done in short time, but interleaved with long pauses between working days.

The low quality of the work appeared again during handling the experimental data. The student was not able to evaluate the needed results individually without supervisor's help. The processing time of data evaluation and writing the final texts of the work was very long. The final form of the thesis was created just few days before the submission deadline and could not be checked properly by the supervisor (due to vacation, assoc. prof. Lukáš Krátký was appointed as a second supervisor to check the final work).

In result, the submitted work has poor quality (both, formal and content), it satisfies the tasks hardly. Regarding the quality of the work, the knowledge of the author, his attitude, I evaluate the work with the qualification grade

sufficient (E).

In Prague, 18th June 2018

Ing. Jiří Moravec, Ph.D.

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