

Review of Ph.D. thesis of Ing. Miroslav Janíček with title “Crystallization of Polymeric Materials: Study of Nucleation on Active Particles with Large Specific Surface”

The topic of this thesis is very interesting and many laboratories all over the world perform research in the area of crystallization of polymeric materials. This topic has extraordinary importance for industry. Polymer crystals hold together amorphous chains, they play a role of tie points. Mechanical and optical properties are greatly influenced by the level of crystallinity. Presence of nucleating agents influences overall crystallization kinetics and size of the spherulites. Therefore the study of nucleation is extremely important for polymer scientists.

The whole thesis consists of 91 pages. On the 10 pages of introduction student well explained the background of the research. Experimental part on 4 pages describes material preparation, thermal analysis, XRD, optical microscopy and mechanical tests. It contains also 70 references and abstracts of 4 papers. Three papers were already published and one was submitted.

First paper was published in Macromolecules with current impact factor being 5.927, second and third paper in Cellulose with current impact factor 3.033. According to Web of Science his papers were already cited 4 times by other authors, h-index is 2. Certainly positive fact is that he is listed in all of them as a first author.

Altogether this research was performed on high level with great number of experiments. Student has shown the ability to study literature, perform experiments, analyze experiments and summarize them into well-arranged form.

This doctoral thesis does not contain visible flaws and therefore I recommend it for defense.

On the basis of above mentioned facts I recommend Miroslav Janíček to obtain a Ph.D. title.

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