

should be commented. therefore I ask which component of the physical parameters of the nanocomposite system can we expect to play the most important rôle at thermal decomposition of polymer matrix? There was also shown, that polymer/clay nanocomposites unmodified, e.g. using Cloisite Na<sup>+</sup> in spite of lower exfoliation presented have quite good mechanical properties.

In the fourth paper the candidate has studied another parameter, the time of the treatment of the nanocomposite mixture in extruder, which influences the morphology and properties of polymer/clay nanocomposite. PP was used as a matrix and filler was commercial product Nanofil 5. Quite interesting results were found about the influence of shear rate on exfoliation. At the study of influence of the treatment time of the mixture in extruder, the author came to the conclusion that after longer treatment time the particles incline to formation of agglomerates.

### Conclusions:

The thesis has shown that the author, Mr. Tomáš Peprníček, studied in four papers systematically the relation between the polymer matrix (mainly PVC or PP) and the filler. The studies were focused on measurements of thermal stability and morphology (the level of dispersion) in polymer/organoclay nanocomposites.

All papers have clearly formulated the aims of the work and the obtained results which were also attained. From the submitted Thesis I have got impression and strong belief that the candidate Mr. Tomáš Peprníček is fully qualified for scientific work.

So **I r e c o m m e n d** the Thesis of Mr. Tomáš Peprníček for further processing and awarding. Mr. Tomáš Peprníček with the Title PhD

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