

**Příloha k protokolu o SZZ č.**

Univerzita Tomáše Bati ve Zlíně

Fakulta technologická

Ústav inženýrství polymerů

Datum odevzdání posudku: 17.5.2007

Student/ diplomant: Bc. Eva Macíková

Vedoucí \*) **Ing. Lucie Kovářová, Ph.D.**

Oponent \*) Ing. Pavel Mokrejš, Ph.D.

## **POSUDEK DIPLOMOVÉ PRÁCE**

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### **BARRIER PROPERTIES OF POLYMER/CLAY NANOCOMPOSITES**

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The present Master thesis deals with the study of barrier properties of polyvinyl chloride/clay nanocomposites. Firstly, the di-ethylene glycol and poly-ethylene glycol was used as an intercalation agent to modify clay surface. These compounds were applied separately or together with one of the co-intercalating agents. The plasticizers, dioctyl phthalate, isodecyl diphenyl phosphate and tricresyl phosphate, were used as the co-intercalation agent. The compounds of the suspension-type of PVC and modified montmorillonite were prepared by the melt intercalation method. Finally, the barrier properties of prepared compounds, it means water vapour permeability, organic solvent permeability, water absorption and exposure to liquid chemicals were tested. Finally, laboratory prepared samples were compared with commercially insulation membranes.

Student develops a very intensive research activity devoted to the barrier properties of PVC/Clay Nanocomposites. She investigated various intercalation techniques of montmorillonite and tested their final properties, namely barrier properties. I can testify that she is able to integrate research group without any problems. Her ability to be able in a quite short time to learn about new methodologies, techniques and practices to do research will allow her the future to be able to integrate easily any type of laboratory.

I recommend this Master thesis to the defence.

\*) Prosím zvýrazněte jméno osoby, která posudek vypracovala.

Návrh na klasifikaci diplomové práce:

A

Lucie Nováková

podpis recenzenta diplomové práce

Zlín, 17. květen 2007

Stupeň klasifikace					
A - výborně	B - velmi dobře	C - dobře	D - uspokojivě	E - dostatečně	F - nedostatečně