P-18-632

THE INFLUENCE OF SURFACE MODIFICATION OF $CACO_3$ ON THE RHEOLOGICAL PROPERTIES OF HIGHLY FILLED COMPOSITES

P. Jakubowska [a,*], A. Kloziński [a], T. Sterzyński [b]

[a] *Polymer Division, Institute of Chemical Technology and Engineering, Poznan University of Technology, Pl. M. Skłodowskiej-Curie 2, 60-965 Poznań, Poland and* [b] *Polymer Division, Institute of Material Technology, Poznan University of Technology, ul. Piotrowo 361-138 Poznań, Poland.*

**Corresponding author: Paulina.Jakubowska@put.poznan.pl*

The aim of this work was to specify the influence of modification of $CaCO_3$ by stearic acid on the rheological properties of ternary highly filled polyolefins composites (HFPC). The content of CH_3-$(CH_2)_{16}$-COOH was in the range between 0,125 and 3,5 wt. %, where the content of modified calcium carbonate in all HFPC (PE-HD/iPP/$CaCO_3$) was equal 64 wt.%. All investigated composites were prepared by means of the Brabender internal mixer. The rheological measurements were performed by traditional *off-line* methods where cone-plate rational rheometer and extrusion plastometer with various piston charges were applied.
A comparison of the viscosity curves obtained by the *off-line* methods reveals a similar dependence in both cases, e.g. a shear thinning behavior and the viscosity decrease as a function of increasing modifying agent content. The latter is probably due to the slip effect induced by the filler modification with the stearic acid. This slippage directly influences the rheological properties of molten composites with a high filling degree of modified calcium carbonate. This work was supported by the Ministry of Science and Higher Education (Poland) − Grant N N209 106837