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**RHEOLOGICAL PROPERTIES OF MELT MIXED THERMOPLASTIC/POLYHEDRAL OLIGOMERIC SILSESQUIOXANE (POSS) NANOCOMPOSITES**

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The paper presents the results of rheological investigation of thermoplastic/POSS nanocomposites. Composites on the basis of PE-LD and PP were prepared in a Brabender internal mixer with 0,5, 1 and 2 wt. % filler. Unmodified POSS (octakis(dimethylsiloxy)oktasilsesquioxane) and modified POSS (octakis(hexadecylodimethylsiloxy)oktasilsesquioxane; octakis(octakis(dimethylsiloxyoctafluoropenthyloxypropyl)oktasilsesquioxane) were used. Rheological properties by the rational rheometer (cone-plate; platform for extensional rheology) and extrusion plastometer (varying piston load) were obtained. The effect of nanofiller content and kind of FSO' reactive groups on the rheological characteristics were examined. The nanocomposite influence on the viscosity curves and elongation viscosity was observed. The study was realised within the Development Project POIG 01.03.01-30-173/09 Nanosil from the European Fund of Regional Development within the operation programme Innovative Economy.