

## **255c Melt Processing and Rheological Behavior of Modified Clay/Polyolefin Nanocomposites**

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The generation of nanocomposites from clay upon intercalation and exfoliation is a difficult process. Here various modified polyolefins were melt processed with organophilic clay particles using a well-instrumented co-rotating and fully-intermeshing twin screw extruder. The composite samples were characterized employing small-angle x-ray scattering, SEM and TEM. The rheological behavior of the suspensions were characterized employing multiple rheometers to cover small-amplitude, steady torsional, rectangular slit, capillary, uniaxial extensional and squeeze flows. As expected the rheological behavior and the microstructural distributions of the suspensions were found to depend significantly on the chemistry of the clay/polyolefin interface and the thermo-mechanical history during the processing operation.