



### IN LINE AND OFF LINE RHEOLOGY OF PP CLAY NANOCOMPOSITES

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As part of a study of process structuring of polymer nanocomposites, both off line and in line rheometry of PP-clay nanocomposites (up to 10wt% nanoclay) has been used to explore the effect of nanofiller on the rheological characteristics of the composite. Off line studies include conventional rotational rheometry, and in-line studies have been undertaken on a novel minimixer (used to screen a range of samples in a DOE study to optimise processing of PP-clay nanocomposites), which incorporates a twin cam mixer and a single extrusion screw fitted with an in-line rheometry die at its outlet. Good agreement is observed between the two techniques. A particularly interesting feature is the apparent percolation effect at higher loadings.