

Investigation of morphological evolution for PP/MAPP/clay nanocomposites via FT-Rheology

김민근, 이섬근, 현 규†

부산대학교

(kyuhyun@pusan.ac.kr†)

Polymer nanocomposites incorporating clay show various properties according to dispersive state even at equal filler-loading due to the presence of interlayers. The well-known method to enhance the degree of dispersion is to introduce the compatibilizer which has affinity to both components. There have been numerous researches for improving the dispersion quality compared to relatively few those of assessing the morphology states. Rheological measurement is typically used to investigate internal structure of polymer composites. Storage modulus (G') from SAOS (Small Amplitude Oscillatory Shear) test is the well-known parameter to represent dispersion quality as a result of lower scaling behavior with power at low frequencies. However, SAOS results are not enough to present the degree of dispersion quantitatively. In this study, LAOS (Large Amplitude Oscillatory Shear) test analyzed by FT (Fourier Transform)-rheology was additionally introduced to explore the degree of dispersion.