

Studying the Effect of Nanoclays on the Mechanical Properties of Polypropylene/Polyamide Nanocomposites

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Abstract : Nanocomposites based on polypropylene/polyamide 66 (PP/PA66) nanoblends containing organophilic montmorillonite (OMMT) and maleic anhydride grafted polypropylene (PP-g-MAH) were prepared by melt compounding method followed by injection molding. Two different types of nanoclays were used in this work. DELLITE LVF is the untreated nanoclay and DELLITE 67G is the treated one. The morphology of the nanocomposites was studied using the XR diffraction (XRD). The results indicate that the incorporation of treated nanoclay has a significant effect on the impact strength of PP/PA66 nanocomposites. Furthermore, it was found that XRD results revealed the intercalation, exfoliation of nanoclays of nanocomposites.

Keywords : nNanoclay, Nanocomposites, Polypropylene, Polyamide, melt processing, mechanical properties.

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