

Use of Nanoclay in Various Modified Polyolefins

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Abstract : Polyethylene (PE), Polypropylene (PP), Polyethylene (vinyl acetate) (EVA) and Surlyn (modif-PE) nano composite samples were prepared with montmorillonite fillers Cloisite 93A and Dellite 67G. The amount of modified Na⁺ montmorillonite (MMT) was fixed to 5 % (w/w). For the compounding of polymer matrix and chosen nano fillers twin-screw kneader was used. The level of MMT intercalation or exfoliation in the nano composite systems was studied by transmission electron microscopy (TEM) observations. The properties of samples were evaluated by dynamical mechanical analysis (E* modulus at 30 °C) and by the measurement of tensile properties (stress and strain at break).

Keywords : polyethylene, polypropylene, polyethylene(vinyl acetate), clay, nanocomposite, montmorillonite

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