

09-108

Effect of the incorporation of green lake clay in the property of impact and crystallinity of polypropylene

Sales, J.N.(1); Poveda, P.N.S.(1); Garcia, R.H.L.(1); Valenzuela-diaz, F.R.(2); Silva, L.A.(1);

(1) IPEN; (2) EPUSP;

Clays are extremely versatile materials, being present in many industrial activities. For applications in plastic materials it is necessary to pre-treat the clays by means of an organophilization process. In this work, Green Lake clay was treated with three different ammonium quaternary salts. The choice of the quaternary salt used in the later steps was performed based on the water swelling test results. The efficiency of organophilization of Verde Lago clay was verified by X-ray diffraction technique (XRD), verifying the basal distance between lamellae of the structure. Polypropylene composites were prepared with additions of 0.5% 1.0% and 2.0% by weight of the Verde Lago clay, which were characterized by means of the thermogravimetric test (TGA), to verify the actual clay content in each composite; differential scanning calorimetry (DSC) for analysis of degree of crystallinity and resistance to Charpy impact