

POLYAMIDE 11 BIO-NANOCOMPOSITES WITH SEPIOLITE AND MMT – STRUCTURAL AND MORPHOLOGICAL STUDY

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ABSTRACT

Polyamide 11 (PA11) bio-nanocomposites were prepared by melt compounding in a twin-screw extruder. An organo MMT (O-MMT) and sepiolite were used as nanofillers. The sepiolite has a fibre like shape (1D) while the O-MMT has a platelet like morphology (2D). The effect of these different morphologies on the thermal and mechanical properties of the polymer was studied. The nanocomposites were also characterized by SEM and TEM analysis. It was found that the sepiolite provided a higher reinforcing effect.