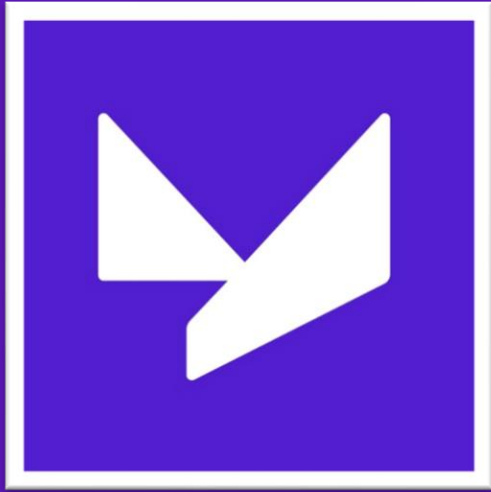


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The effect of polyethylene with grafted maleic anhydride on the properties of secondary polypropylene with the inclusion of aluminosilicate microspheres

Aluminosilicate (ASM) and hollow glass microspheres (HGM) are promising fillers for recycled polypropylene (PP) due to their high chemical resistance, cheapness and low true density, due to which it is possible to obtain lightweight and durable plastic products with the possibility of their recycling. Due to the incompatibility of polypropylene and aluminosilicate microspheres in the preparation of polymer composites, the tensile strength of the samples decreases, and therefore the purpose of this work was to study the effect of polyethylene with grafted maleic anhydride (PE MA) on the properties of secondary polypropylene containing aluminosilicate and hollow glass microspheres.

The inclusion of 1 to 5% polyethylene with maleic anhydride practically does not change the melt flow rate of polymer composites and at the same time an increase in the tensile strength of polymer composites is observed using the AGS-X Shimadzu testing machine.

According to the exo- and endothermic curves obtained by differential scanning calorimetry, it was also found that the addition of PE MA leads to an increase in the melting and crystallization temperatures of polymer composites.

