

The polyethylene wax grafted with maleic anhydride through radical reaction

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The purpose of the work is to analyze thermal properties of the polyethylene wax modified with polar monomers. To functionalize polyethylene wax, graft polymerization of polyethylene wax with maleic anhydride using dicumyl peroxide(DCP) as the initiator was carried out. the occurrence of the grafting reaction was analyzed by FTIR spectrum and the degree of graft was measured by titration method. The percent grafting increased initially with an increase in initiator content upto 0.15g and then remained constant. The overall change of enthalpy or heat of reaction with a change in the doses of monomer and initiator was observed by DSC. We can be seen that the heat of reaction(J/g) for the overall graft copolymerization increased with an increase in monomer and initiator content. Change in peak temperature of melting with changing degree of graft was also studied by DSC.