

Release of PVA from PVA/PA Compounds into Water Solutions

Authors : J. Klofac, P. Bazant, I. Kuritka

Abstract : This work is focused on the preparation of polymeric blend composed of polyamide (PA) and polyvinyl alcohol (PVA) with the intention to explore its basic characteristics important for potential use in medicine, especially for drug delivery systems. PA brings brilliant mechanical properties to the blend while PVA is inevitable due to its water solubility. Blend with different PA/PVA ratios were prepared and the release study of PVA into the water was carried out in a time interval 0-48 hours via the gravimetric method. The weight decrease is caused by the leaching of PVA domains what can be also followed by the optical and scanning electron microscopy. In addition, the thermal properties and the miscibility of blend components were evaluated by the differential scanning calorimeter. On the bases of performed experiments, it was found that the kinetics, continuity development and micro structure features of PA/PVA blends is strongly dependent on the blend composition and miscibility of its components.

Keywords : releas study, polyvinyl alcohol, polyamide morphology, polymeric blend

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