

Design of Ternary Coatings System to Minimize the Residual Solvent in Polymeric Coatings

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Abstract : The coatings of homogeneous ternary solution of Poly(styrene)(PS)-Poly(ethyleneglycol)-6000(PEG) Chlorobenzene (CLB) of two different concentrations (5.05%-4.98%-89.97% and 10.05%-5.12%-84.82%) were studied and dried under quiescent conditions. Residual solvent percentage and coatings thickness were calculated by gravimetric weight loss data. Residual solvent remained lower in case of the single thick layer as compared to layer-by-layer assembly technique. The Results suggests the effectiveness of the single thick layer for minimizing the residual solvent. A single thick layer had an initial coating thickness of 1098 μm and the final thickness of 106 μm which is lower as compared to the dried coatings of nearly the same final thickness by layer-by-layer assembly technique.

Keywords : films, layer-by-layer assembly, polymeric coatings, ternary system

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