



Erratum

Erratum to “Effects of phase separation on stress development in polymeric coatings” [Polymer 43 (2002) 2267–2277][☆]

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In our recent paper, we showed stress measurement and drying results for coatings in the ternary systems of cellulose acetate–acetone–water and cellulose acetate–acetone–dioxane. The work of Prakash [1] is cited in Section 3.2 of the paper as the relationship between stress development and microstructure is discussed; however, Prakash’s work is not adequately cited in discussion of macrovoid formation in Section 3.3. The purpose of this note is to correct this error.

In coatings that formed macrovoids, stress measurement results showed the presence of a plateau early in the drying process (i.e. the stress remained constant as drying continued). Prakash studied microstructure development of similar coatings that phase separate during drying and on immersion in a non-solvent. His cryo-SEM observations led him to a hypothesis that tensile stress developing in the

polymer-rich phase due to constrained, in-plane shrinkage causes rupture of that phase and the formation of macrovoids. In Section 3.3, we refer to his hypothesis in the context of ideas put forward for macrovoid formation in coatings that phase separate on immersion, but unintentionally missed the fact that his hypothesis also includes coatings that phase separate on drying. Our stress measurement results on drying coatings, therefore, support Prakash’s original postulate. We regret this oversight.

References

- [1] Prakash SS. The origins of microstructure in phase inversion coatings or membranes: snapshots of the transient from time-sectioning cryo-SEM. PhD Thesis. Minneapolis, MN: University of Minnesota; 2001.

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