

Phase Behaviour of Ternary Homopolymer/Diblock Blends: Microphase Unbinding in the Symmetric System

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We consider the phase behaviour of a symmetric AB-diblock blended with corresponding A- and B-homopolymers, all of equal polymerization index. Evaluation of the phase diagram in mean-field theory reveals phase coexistence of two or three distinct lamellar phases. Hexagonal and cubic phases are not stable. For strong incompatibility, added homopolymer phase separates from the microstructure, while at weak segregation, it swells the lamellar phase leading to an unbinding transition. These regimes are separated by a sharp transition.