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# MORPHOLOGY DEVELOPMENT AND MELT LINEAR VISCOELASTIC BEHAVIOR OF PC/ABS BLENDS

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The aim of the present work was to study the relationship between rheological properties and morphology of PC/ABS blends with using two ABS grade (namely ABS-HU and ABS-SD). The PC /ABS Blend samples over a range of composition were prepared by melt mixing in an internal mixer. While storage modulus (G') and complex viscosity ($\eta^*$) of 80/20 and 20/80 PC/ABS-SD blend samples almost followed the mixture law, the blend sample containing 35% wt of ABS-SD exhibited a strong positive deviation from mixture law. This was in contrary to the results obtain for the blend sample containing 35% ABS-HU whose the viscoelastic results followed the almost the mixture law in all range of blend ratio. The positive deviation of the blend sample containing 35% wt of ABS-SD could be explained in terms of higher portion of engrafted SAN with greater miscibility with PC matrix which may lead to some interaction between PC and SAN molecules. This was in agreement with the SEM results obtained for the sample etched in PC solvent which showed fewer amounts of SAN remaining in the sample as a result of extraction of some part of SAN by the PC solvent. This was evidenced by the DMTA results which showed a considerable reduction in damping associated with SAN phase in the blend.