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## **Morphology Development in PP/PET/SEBS Ternary Blend Fibers**

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In the present work the morphology development in the ternary blends composed of polypropylene as a matrix and 30% by weight dispersed phase consisting of PET and SEBS were investigated. The melt blending was carried out in a modular co-rotating twin screw extruder. The blend fiber samples were produced by using a laboratory scale melt spinning machine using the condition similar to that conventionally used for polypropylene. The morphological studies were carried out by using SEM in conjunction with thermal analysis. The flow behavior and linear viscoelastic properties of samples were investigated using Rheometric Mechanical Spectrometer (RMS). From the SEM results it was found that depending on the concentration ratio of PET/SEBS and the extent of compatibilization the PET and SEBS can form two separate dispersed phase or form a single dispersed phase consisting of PET particle encapsulated with SEBS (core/shell). This was supported by the results obtained from the melt viscoelastic measurements and thermal analysis. It was also demonstrated that the morphology of the prepared blends play a significant role in determining the melt spinability of the blends and morphology of the produced fibers.