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## Morphology-Rheology Correlation of Reactively Compatibilized PTT/m-LLDPE Melt Blends

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A detailed study on the influence of a reactive compatibilizer, n-Butylacrylate glycidyl methacrylate ethylene terpolymer, with different quantities (0-10 wt%), on morphological and dynamic rheological parameters was carried out for different compositions of melt-blended poly (trimethylene terephthalate),(PTT), with metallocene linear low-density polyethylene (m-LLDPE) systems. The Palierne model was employed to analyze the experimental data, since it well describes viscoelastic interfacial properties of compatibilized blends. The introduction of compatibilizer to the system was found to reduce the interfacial tension and suppress droplet coalescence. It then resulted in a smaller size and narrower size distribution of the dispersed phase in proportion to the extent of compatibilizer content. This has been attributed to the presence of copolymers at the interface, formed *in situ*, by reaction between the PTT and the terpolymer giving rise to an interphase between the dispersed droplets and the matrix. Furthermore, the complex viscosity of the system was significantly enhanced upon addition of the terpolymer which has been ascribed to the reduction of chain mobility due to interactions between GMA functional groups of terpolymer and the polyester end groups.