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RECYCLED PET/PP AND RECYCLED PET/PP-EP BLENDS COMPATIBILIZED OR NOT WITH ETHYLENE/ETHYL ACRYLATE/ GLYCIDYL METHACRYLATE TERPOLYMER (P(E-*CO*-EA-*CO*-GMA)): MORPHOLOGY AND MECHANICAL PROPERTIES

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In this work, the morphology and mechanical properties of recycled Poly(ethylene terephthalate)/ Polypropylene (R-PET/PP) and recycled Poly(ethylene terephthalate)/polypropylene (ethylene-propylene) heterophasic copolymer (R-PET/PP-EP) blends compatibilized or not with poly(ethylene-*co*-acrylic ester-*co*-glycidyl methacrylate) P(E-*co*-EA-*co*-GMA) was investigated. The compatibilizer concentration ranged from 1 to 5 wt% with respect to the whole blend. All blends were obtained in a 90/10 composition using a twin screw extruder and their morphology was observed by scanning electron microscopy. The mechanical properties were evaluated by tensile, flexural and impact tests. Morphological analysis showed a dispersed particle size reduction and a better adhesion between the matrix and the dispersed phase with an increase of the compatibilizer content. The results also indicated an improvement in both elongation at break and impact strength, while the Young's modulus decreased. The compatibilization effects were more pronounced for R-PET/PP-EP blends.