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**Thermoplastic Elastomers From Chemically or Irradiation
Activated Polyolefin Wastes and Ground Tyre Rubber**

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Thermoplastic elastomers (TPE) are known as materials with unique combination of elastomeric properties and thermoplasticity. Among the TPE of different type the polymer blends of thermoplastics and rubbers are the most commonly used. Recently a very effective technology of dynamic vulcanization of rubber component inside thermoplastic matrix has been developed. As a result of rubber vulcanization and dispersion inside thermoplastic the new type of TPE so-called thermoplastic dynamic vulcanizates (TPV) are obtained. In our work we have applied the technology of dynamic vulcanization for recycled components (PP, HDPE, GTR). It has appeared that such components are not mixed well and the resulting TPV have poor mechanical properties. To solve a problem of poor compatibility of the components used we carried out a pre-modification (functionalization) of the component surfaces by γ -irradiation or by chemically or γ -irradiation induced grafting of reactive monomers. Both the polyolefin (HDPE) and GTR were functionalized before mixing. The monomers were selected by such a way that being grafted to be able to react to each other in interface during the components blending. For example, we used maleic anhydride and acrylamide. The effect of better compatibility has appeared in higher tensile characteristics of TPV synthesized.