



**CORRELATION BETWEEN MORPHOLOGICAL & MECHANICAL PROPERTIES OF TERNARY  
POLYMER BLENDS BASE ON RPET/NBR-G-GMA/PA6**

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Nowadays Poly (ethylene terephthalate) has reached to a special position in polymer industries as an engineering plastic that according to lifetime of this polymer in industries and its life cycle, it is necessary focusing on it due to importance of its recycling. The processing and mechanical properties of recycled PET can be as well as virgin PET, if the recycling of PET is fulfilled well and removed its impurities. It is used different methods and techniques for improvement of properties of PET which almost all of them use of compatibilizers. One of the new theories in PET bottles waste recycling is using elastomers and it causes decreasing in some mechanical properties as modulus. For this reason adding engineering polymers same as PA6 and PC and etc. can be useful for solve this problem. In the first step of this research, the morphology and mechanical properties of ternary RPET/NBR-g-GMA/PA6 blends has been investigated in the limits of constant content of the components (RPET; 75 wt% and PA6; 25 wt%) while changing the composition NBR-g-GMA and second step The weight ratio of RPET and PA6 in ternary RPET/NBR-g-GMA/PA6 blends has been changed at constant NBR-g-GMA content (10 wt%). The morphological and mechanical properties (Modulus, Tensile Strength) of ternary blends (RPET/NBR-g-GMA/PA6) showed that the blend containing 10 wt% of NBR-g-GMA had more regular and finer dispersion of phases, and improved mechanical properties due to better adhesion between the two phases.