


Autonomous University of Zacatecas

# Study of the effect of Fly Ash as reinforcement in polymer matrix composites (PET) processed by Mechanical Alloy

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## Abstract

The alarming situation of pollution and global warming opens an urgent demand to develop sustainable alternatives of materials suitable for use in everyday life. This research will add to the environmental fight an explanation of the reuse of waste materials that can produce new composites of equal or better impact than those currently used in the construction and manufacturing area.

Given the degradation that plastic undergoes when raised to temperatures close to its melting temperature (Tm), another process that avoids intense heat processing can preserve the intrinsic properties of the polymers, and increase its mechanical and structural properties when processed to create the composite: the mechanical alloying.

This research found structural and mechanical differences between the composite material of Fly Ash (FA) reinforcements on a rPET polymeric matrix obtained by Mechanical Alloying (MA) contrasted with melting processing.