

TRIBOELECTRIC SEPARATION OF PE AND PP FROM MUNICIPAL WASTES

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ABSTRACT

Portion of plastic waste in municipal solid waste accrete year after year. Recycling is the most effective method of plastic waste minimization. A condition of effectual plastic recycling is source of enough clean plastics and space opens hence here for separation technologies that are making possible from plastic waste mixture to separate individual components and contaminants. The article interests in separation of PP and PE. These two plastics separation is not possible by general gravitational methods, because the specific gravities of the two polymers overlap. Electrostatic separation appears as possible method on their separation. At this method electric field that is created between positive and negative electrode separates particles on the basis of charge size and polarity. By electrostatic separation of HDPE/PP mixture with particle size 1×1 mm was made possible from negative charged product to separate HDPE with recovery 96.10% and from positive charged product to separate PP with recovery 97.52%.

Key words: triboelectric separation, plastic wastes, polypropylene, polyethylene