EPTP-P-05.- Elutriation of PET Flake.

Background

After the flake is washed and dried, in the industrial PET recycling process, the flakes are submitted to an elutriation process to remove fines, small particles and other light materials compared to the relatively heavier PET flake.

This document presents standard practice to elutriate PET flake post wash.

Equipment Required

- Weigh scale (0.01 ± grams)
- Elutriator with variable air velocity (typical < 8 m/s)
- Vacuum cleaner or compressed air line to clean the elutriator.

Materials and Reagent Required

- Cleaning material
- Containers to contain pre and post process material.

Practice Steps

1. Weigh the sample of flake to be tested.
2. Clean the elutriation unit to remove any particles or residues from previous use
3. Place the control PET flake sample.
    a. Adjust the air velocity.
    b. Adjust time to 1 minute
    c. Maximum weigh lost have to be <5% of weight (to be determined).
4. Process all test flake samples in batches at the established air velocity.
    a. Clean the elutriator between each control or test sample batch.
    b. Weigh the amount of material removed and the remaining flake to calculate the total yield and yield loss % for each sample.
    c. Retain each sample in a sealed and labeled container.
    d. Retain 50-100-grams of each flake sample after elutriation
5. Retain additional final flake samples of at least 1kg each for:
    a. IV measurement.
    b. Bulk density
    c. Optical properties
    d. Other required measurements
    e. Additional samples can be saved if desired for

Elutriation Test data results collection sheet (PET-P-05)

Innovation Reference. -

Representative company reference. -

Date. -

Control Article Flake.

Processing Practice Step	Article Weight (g)	Yield (%)
Starting Weight		
Recovered Flake		
Total Lights Removed		
Total Weight		

Test Article Flake

Processing Practice Step	Article Weight (g)	Yield (%)
Starting Weight		
Recovered Flake		
Total Lights Removed		
Total Weight		

Made by:	Signature

DOCUMENT REVISION HISTORY

Version	Publication Date	Revision notes
V0		NEW DOCUMENT