



WSDOT Test Method T 126

Determination of Fiber Length Percentages in Hydraulically-Applied Erosion Control Products

1. Scope

- 1.1 This method covers the procedure for measuring the fiber length of a Hydraulically-applied Erosion Control Product (HECP).
- 1.2 HECP is engineered and processed to specific length and width dimensions to facilitate the hydraulic application process. When the correct percentages of fiber lengths and widths exist within the HECP for hydraulic planting, the result will be a properly layered, interlocking mulch to hold seed and moisture.
- 1.3 This standard does not purport to address the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. (**Warning-** HECP's may be dusty, a dust mask is recommended when working with these products.)

2. Terminology

- 2.1 Hydraulically applied - applied within a slurry, solution, or emulsion to the soil surface as a spray-on or dropped-on application through various means (e.g. nozzle, tower, aerially, etc.) formation of a compound by the combining of water with some other substance.
- 2.2 Hydraulically-applied Erosion Control Product (HECP) - A manufactured, degradable, pre-packaged fibrous material that is mixed with water and hydraulically applied as slurry, solution, or emulsion to reduce soil erosion and assist in the establishment and growth of vegetation.

3. Apparatus

- 3.1 Balance – shall have sufficient capacity, readable to 0.1 percent of the sample mass, or better, and conform to the requirements of AASHTO M 231 for general-purpose balance required for the principle sample mass being tested.
- 3.2 Sieves – Meeting the requirements of ASTM E11
- 3.3 Mechanical sieve shaker – Meeting the requirements of AASHTO T 27

4. Sample Preparation

Obtain approximate 60 grams of material from a full, sealed bag or bale in the following manner:

Divide the bag or bale into thirds; top, middle and bottom of bag or bale.

Extract approximately 20 grams of material from the center of each portion (or the inside face of each $\frac{1}{3}$ of a bale) taking care not to damage the extracted material.

Recombine the three samples and reduce the sample, in accordance with AASHTO 248 Method B, to approximately 15 grams. Place the sample in a large container and gently separate the compressed fiber.

5. Procedure

- 5.1 Select sieves with suitable openings to furnish data required by the specifications. Nest the sieves in order of decreasing size from top to bottom and place the sample, or a portion of the sample, on the top sieve.
- 5.2 Place sieves in mechanical shaker and shake for a 5 minutes.
- 5.3 Determine the individual or cumulative mass retained on each sieve and the pan to the nearest 0.1g

6. Calculations

Calculate the percentage of fiber retained on each of the sieves using the following formula:

Percent Retained:

$$CPR = \frac{CMR}{M} \times 100$$

Where:

CPR = Cumulative Percent Retained

CMR= Cumulative Mass Retained

M = Total Sample mass

7. Report

Results shall be reported as follows:

- Cumulative mass retained on each sieve
- Cumulative percent retained on each sieve
- Percent passing and retained on each sieve shall be reported to the nearest 1 percent