Method of Test for Pulverization of Clay Additive for Granular Material

1. **Scope:**

   This test determines the approximate percentage of pulverization obtained on undried clay used as admixture for granular material.

2. **Apparatus:**

   2.1 Scale or balance having the capacity to weigh any sample which may be tested utilizing this procedure and readable to the nearest 0.1 gram.

   2.2 Container. Pails or pans of sufficient size for transporting and testing the sample.

   2.3 Sieve. Standard square opening, conforming to ASTM E11.

   2.4 Pans, scoops, brushes, etc., for handling materials.

3. **Procedure:**

   3.1 Obtain a representative sample from the belt feeding clay to the plant.

   **NOTE:** Obtain and handle samples with care to prevent breakdown of oversize material. Reduce the sample to size using the quartering method. Do not use a sample splitter.

   The sample shall be of sufficient size to yield test specimens having a minimum weight as shown below.

<table>
<thead>
<tr>
<th>Maximum sieve size</th>
<th>Minimum weight of sample, grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot;</td>
<td>1000</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>2500</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>3000</td>
</tr>
</tbody>
</table>

   3.2 Weigh the sample to the nearest 0.1 g and record as total weight of sample on form DOT-26.

   3.3 Hand sieve the sample using sieves necessary to determine compliance with the specifications. Consider the thoroughness of sieving satisfactory when not more than 0.5% of the weight of the material on the sieve will pass through it in 1 minute of shaking. The particles must not be turned or manipulated through the sieve by hand.

   **NOTE:** When sieves are shaken individually (Not in a stack), care must be taken to ensure all material passing the sieve is introduced on the next sieve in the series being used.
3.4 Weigh and record the material retained on each sieve to the nearest 0.1 gram.

3.5 Reintroduce the weighed material to the largest sieve for re-screening.

In making this separation, thoroughly wash material through each sieve. Continue washing until all soil and fine particles have been removed and only the rock remains on each sieve.

**NOTE:** When unpulverized clay cannot be washed through a sieve, but can be broken down or otherwise identified as unpulverized clay, discard the pieces; however, be careful not to discard the rock.

3.6 After blotting with a soft cloth or absorbent paper to remove excess moisture, weigh the material on each sieve and record to the nearest 0.1 gram.

4. **Report:**

4.1 The percent of unpulverized clay will be recorded on a DOT-26 to the nearest 0.1% calculated as follows:

\[
\text{Percent unpulverized soil retained on a sieve} = \frac{\text{Weight unpulverized soil retained on a sieve}}{\text{Total weight of soil after rock is removed}} \times 100
\]

4.2 Report to the nearest whole percent.

5. **References:**

ASTM E11
DOT-26