1223

FLAKINESS INDEX
FLH T 508 (Mn/DOT Modified)

1223.1 Scope

The Flakiness Index test determines the percentage of flat particles in a seal coat aggregate.

1223.2 APPARATUS

A. A metal plate approximately 0.0625 inches thick with slotted openings conforming to the design and dimensions shown in Figure 1.

B. Balance - A balance conforming to the requirements of AASHTO M 231 (Class G2) with a minimum capacity of 2000g, a readability and sensitivity of 0.1g and an accuracy of 0.1g or 0.1%.

C. Oven - Capable of maintaining a temperature of 110 ± 5 °C (230 ± 9 °F).

FIGURE 1 – SLOTTED SIEVE OPENINGS.

<table>
<thead>
<tr>
<th>Aggregate Fractions(^2)</th>
<th>Passing Sieve</th>
<th>Retained on Sieve</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>3/4</td>
</tr>
<tr>
<td>Retained on Sieve</td>
<td>3/4</td>
<td>1/2</td>
</tr>
</tbody>
</table>

Note:
1 Not to Scale. Slot dimensions shown in inches.
2 U.S. standard Sieve Sizes
1223.3 SAMPLE PREPARATION

Refer to Section 1201.4I1. Use the material retained on any of the following sieves: ¾", ½", 3/8", ¼" or the #4 sieve and has been placed into separate containers. Aggregates retained on each sieve which comprises at least 4 percent of the total sample, shall be tested.

1223.4 PROCEDURE

A. Wash and oven dry samples to a constant weight at 110 ± 5 °C. (230 ± 9°F.)

B. Test each of the particles in each size fraction using the proper slot opening for each sieve size.

C. Separate the particles passing through the slot from those that do not pass through the slot.

C. Weigh the particles passing the slot to the nearest 0.1 gram.

D. Weigh the particles retained on the gauge to the nearest 0.1 gram.

1223.5 CALCULATIONS FOR AN INDIVIDUAL SIEVE SIZE

% Flakiness Index = \( \frac{A}{A + B} \times 100 \)

Where:
A = Weight passing a given slot
B = Weight retained on the same slot

Report Flakiness Index to the nearest whole number.

1223.6 CALCULATIONS FOR MULTIPLE SIEVE SIZES

% Flakiness Index = \( \frac{A + A_1 + A_2}{A + A_1 + A_2 + B + B_1 + B_2} \times 100 \)

Where:
A, A_1, A_2 = Weight passing a given slot
B, B_1, B_2 = Weight retained on the same slot

Report Flakiness Index to the nearest whole number.
FLAKINESS INDEX
FLH 508

Laboratory ______________ Type of Material ________________

Source __________________________________________________

Location_________________________________________________

Tested By_______________________ Date ____________________

<table>
<thead>
<tr>
<th>SIEVE SIZES</th>
<th>WEIGHT PASSING (g)</th>
<th>WEIGHT RETAINED (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1/4&quot;) 0.375&quot; Slot</td>
<td>10.1</td>
<td>35.0</td>
</tr>
<tr>
<td>(3/8&quot;) 0.263&quot; Slot</td>
<td>4.2</td>
<td>62.1</td>
</tr>
<tr>
<td>(1/4&quot;) 0.184&quot; Slot</td>
<td>22.5</td>
<td>57.4</td>
</tr>
<tr>
<td>(#4) 0.131&quot; Slot</td>
<td>16.0</td>
<td>65.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOTAL PASSING</th>
<th>TOTAL RETAINED</th>
</tr>
</thead>
<tbody>
<tr>
<td>52.8g</td>
<td>220.4g</td>
</tr>
</tbody>
</table>

% Flakiness Index = \( \frac{\text{TOTAL PASSING}}{\text{TOTAL PASSING} + \text{TOTAL RETAINED}} \) x 100

% Flakiness Index = \( \frac{52.8g}{52.8g + 220.4g} \) x 100

% Flakiness Index = 19.3% rounded to 19%