Slurry and Micro-surfacing Systems Samples 5(A) and 6(B)
Instructions for Testing and Reporting

Closing Date: October 4th, 2018

All tests shall be conducted on each of the two samples per the ASTM Standard Test Methods or ISSA Technical Bulletins indicated. To permit an estimate of single-operator precision, each individual test should be performed on both samples by the same person, but it is not necessary that all tests be performed by the same person. Report the results of a single determination only, not the average of two or more, except in cases where an average is called for in the method. For any tests you do not choose to perform, leave the appropriate spaces on the data sheet blank. To ensure uniformity and stability of the materials, we encourage participants to test the samples as soon as the samples are received.

The outside of the sample box is labeled samples 5(A) and 6(B). The bottles and bags inside the box are labeled (A) and (B) or for both (A) and (B). Samples 5(A) and 6(B) will use all the same components, however the mix designs between the samples will vary. Samples 5(A) and 6(B) are not identical. The program is designed to obtain two independent test results, one for each numbered sample, for each test method that the laboratory chooses to perform. Treat each sample as you would treat a typical "testing" sample. Any special handling or preparation needs will be included below.

Ingredients:
You have received one box of ingredients for determining your mix time and preparing your test specimens for Slurry and Micro-Surfacing System Design Samples 5(A) and 6(B). The box should contain the following:

- One 8.0 kg bag of Fine Aggregate [100% passing the 3/8" (9.5 mm) sieve in moist condition]
- One 4 oz. tin of Portland Cement (mineral filler)
- One 16 oz. bottle of distilled water
- One 32 oz. bottle of emulsion

Emulsion Preparation
To assist in achieving homogeneity before testing, please prepare the samples as follows:
1. Stir or gently agitate the emulsion to achieve homogeneity and sieve material through a No. 20 (850-µm sieve), then cool on the benchtop before testing. Heating/warming is not necessary.

Moisture Content of Aggregate by Oven Drying AASHTO T255-00 (2012), ASTM C566-13:
Determine the moisture content of the fine aggregate as received. Perform the test on two 300.0g samples. Report the average moisture content of the two specimens to the nearest 0.1 percent. Report the same average value for both Sample A and Sample B.

Once the percent moisture of the "as received" fine aggregate is determined, oven dry the remainder of the fine aggregate sample at 110°C (230°F). Allow the sample to cool to room temperature. Upon completion of the drying and cooling process, add sufficient water to achieve a starting moisture content of three percent (3.0%) by weight of the dry aggregate. Ensure that the sample has been thoroughly mixed and is homogenous prior to batching.

Determining Mix Time for Slurry Surfacing Systems, ISSA TB 113 (2017):
Prepare the mixtures in accordance with the test method using the batching information provided. Report the "time to break" (mixture has formed a soft mass and would not spread) to the nearest second. Report the time to "clear water set" to the nearest minute (Optional). PLEASE DO NOT ADJUST THE BATCHING VALUES. THE DESIGNS ARE NOT INTENDED TO PASS ANY GIVEN (Local, State, or Federal) SPECIFICATION.
<table>
<thead>
<tr>
<th>Batching Information: (By Percentage of Dry Aggregate)</th>
<th>Sample 5(A)</th>
<th>Sample 6(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Mass, g (%)</td>
<td>Cum. Mass, g</td>
<td>Individual Mass, g (%)</td>
</tr>
<tr>
<td>1. Aggregate (at 3% moisture)</td>
<td>103.0</td>
<td>103.0</td>
</tr>
<tr>
<td>2. Portland Cement</td>
<td>1.0 (1%)</td>
<td>104.0</td>
</tr>
<tr>
<td>3. Water</td>
<td>4.0 (total 7%)</td>
<td>108.0</td>
</tr>
<tr>
<td>4. Emulsion</td>
<td>13.5 (13.5%)</td>
<td>121.5</td>
</tr>
</tbody>
</table>

For the remaining test procedures, adjust your batching masses to ensure that the same design proportions are used for the varying sample sizes.

Set and Cure Development by the Cohesion Tester, ISSA TB 139 (2017), ASTM D3910-15, ASTM D6372-15:
Perform the batching and mixing to prepare five (5) test specimens for each sample design. When preparing material for this test, sieve the material over a No. 4 (4.75mm) sieve and discard the retained material. Use the 6-mm high ring molds for these samples. Report the torque value obtained for specimens after 30, 60, 90, 120, and 180 minutes. Report the actual torque value to the nearest 0.5 (kg-cm). DO NOT CORRELATE the mode of rupture to a torque value. Indicate the mode of rupture for each specimen at that time interval by checking the associated box on the data sheet.

Test Method for Wet Track Abrasion of Slurry Surfacing Systems, ISSA TB 100 (2018), ASTM D3910-15, D6372-15:
When preparing material for this test, sieve the material over a No. 4 (4.75mm) sieve and discard the retained material. Perform the batching and mixing to prepare one (1) test specimen for each sample design. Please follow the procedure for the ONE HOUR (1) immersion in water. CORRECT the mass loss (in grams) to correlate to the C-100 mixer using Table 2 in ISSA TB-100 (2018). Report the CORRECTED loss to the nearest 0.1g/f².

Perform the batching, mixing, and curing as described in the test method to prepare one (1) test specimen for each sample design. Apply a total load of 125 lb. including the mass of the wheel tester device on the specimen. Report the number of cycles where “audible tackiness” is first determined. If no tackiness is determined, report “1000”. Report the mass of the adhered sand to the nearest 0.1g.

Measurement of Stability and Resistance to Compaction, Vertical and Lateral Displacement of Multilayered Fine Aggregate Cold Mixes (Loaded Wheel Tester) ISSA TB147 (2005), ASTM D6372-15:
Perform the batching, mixing, and curing as described in the selected test method(s) to prepare one (1) test specimen for each sample design. Apply a total load of 125 lb. including the mass of the wheel tester device on the specimen. Report the percent vertical displacement as a percent of the original thickness to the nearest 0.1%. Report the percent of lateral displacement as the percent increase from the original width to the nearest 0.1%. If the sample breaks apart during testing, report the displacement as 100.0% for both parameters.

Contact AASHTO re:source at psp@aashtoresource.org or call 240-436-4900 if there are questions.