

Slurry and Micro-surfacing Systems Samples 19 (A) and 20 (B) Sample Instructions

Closing Date: October 8, 2026

General Information:

Treat each sample as you would treat a typical sample brought into the laboratory. Any special handling or preparation instructions are included below. Conduct tests on each of the two samples in accordance with the instructions below. Report the results of a single determination only, not the average of two or more unless specified in the test method or instructions.

The instructions and data sheet may direct laboratories to report the results to an extra decimal place beyond what is required by a test method. This extra level of precision improves the quality of the statistical analysis by giving us more detailed data for evaluation.

To permit an estimate of single-operator precision, the same operator should conduct an individual test on both samples. It is not necessary that the same person conduct all the tests in the sample round.

Leave the appropriate spaces on the data sheet blank for any tests you choose not to perform.

Requirements for AASHTO Accredited Laboratories:

AASHTO accredited laboratories are required to perform every test included in an AASHTO re:source Proficiency Sample Program sample round that is also listed in each laboratory's AASHTO Accreditation scope.

[AASHTO Accreditation Policy on PSP Participation](#)

The tests that are not listed in the laboratory's accreditation scope may also be performed, but testing is not required, and the AASHTO Accreditation Program (AAP) will not evaluate the ratings.

Sample Information:

You should have received one box of ingredients for determining your mix time and preparing your test specimens for Slurry and Micro-Surfacing System Design Samples 19 (A) and 20 (B). Each box should contain the following:

- One, 8.0 kg bag of Fine Aggregate [100% passing the 9.5-mm (3/8-in) sieve in moist condition]
- One, 200 g bag of Portland Cement (mineral filler)
- One, 500 mL (16-oz). bottle of distilled water
- One, 1-quart bottle of emulsified asphalt (CQS-1P)

To view a brief video of what should be in each box, please use the following link:

[SMS 19/20 Unboxing Video](#)

To ensure uniformity and stability of the materials, we encourage participants to test the samples as soon as the samples are received and maintain a laboratory temperature as close to 22.0°C (71.6°F) as possible.

Material Preparation:

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- μ m sieve) before testing. Heating/warming is not necessary.

Aggregate Preparation and Moisture Content Determination:

The aggregate has been prepared in moist condition to maximize homogeneity and to provide a starting moisture content for preparation of the mixture formulation. **For this round, the moisture content of the aggregate “as received” is approximately 6.0%.**

Moisture Content of Aggregate by Oven Drying, AASHTO T255-22 or ASTM C566-25: Do not dry the entire bag of fine aggregate. Sample a single (one sample from the bulk bag) 300.0g test sample (miniature stockpile method) for moisture content testing. Do not report this result, however, please use the determined moisture content as the starting moisture for the aggregate when preparing the mixes.

Test Methods:

Determining Mix Time for Slurry Surfacing Systems, ISSA TB 113 (2024): Prepare the mixtures in accordance with the test method using the batching information provided. When performing the mixing, base the proportions in the mixture on 200g of dry aggregate. Adjust the additional water added so the total amount of moisture within the mixture formulation is **7.0% for Sample 19 and 7.5% for Sample 20**. Report the “time to break” (mixture has formed a continuous, semi-solid mass) to the nearest second.

Formulation Table

Batching Information: (By Percentage of Dry Aggregate)	Sample 19 (A)		Sample 20 (B)	
	Ind. Mass, g (%)	Cum. Mass, g	Ind. Mass, g (%)	Cum. Mass, g
1. Aggregate	212.0g	212.0	212.0g	212.0
2. Portland Cement	2.0 (1.0%)	214.0	2.0 (1.0%)	214.0
3. Additional Water to Add to Formulation	2.0 (1.0%) (total 7%)	216.0	3.0 (1.5%) (total 7.5%)	217.0
4. Emulsion	26.0 (13.0%)	242.0	27.0 (13.5%)	244.0

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

Set and Cure Development by the Cohesion Tester, ISSA TB 139 (2025) or ASTM D3910-24 or ASTM D6372-23: Perform the batching and mixing to prepare three (3) test specimens for each mix formulation. When preparing material for this test, sieve the material over a 4.75 mm (No. 4) sieve and discard the retained material. Use the 6-mm ring molds for these samples. Report the torque value obtained for specimens after 30, 60, and 90 minutes. Report the actual torque value to the nearest 0.5 (kg-cm). 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 (2026) or ASTM D3910-24 or D6372-23: Perform the batching and mixing to prepare one (1) test specimen for each sample formulation. Use a 6.35 mm (1/4-in) mold for this round of testing. Follow the procedure for the one-hour (1) immersion in water. Report the corrected loss to the nearest 0.1g/ft².

Measurement of Excess Asphalt in Bituminous Mixtures by Loaded Wheel Tester, ISSA TB 109 (2022): Perform the batching, mixing, and curing/conditioning as described in the test method to prepare one (1) test specimen for each sample formulation. For this round of testing, use a 12.7 mm (0.5 in) mold. 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 sand adhesion results to the nearest 0.1g/ft².

Measurement of Stability and Resistance to Compaction, Vertical and Lateral Displacement of Multilayered Fine Aggregate Cold Mixes (Loaded Wheel Tester) ISSA TB 147 (2022) or ASTM D6372-23: Perform the batching, mixing, and curing/conditioning 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 percentage of the original thickness to the nearest 0.1%. Report the percentage 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@ashtoresource.org or call 240-436-4900 if there are questions.