2025 Soil Corrosivity and Chemistry Proficiency
Samples 1 (A) and 2 (B)
Instructions for Testing and Reporting

Closing Date: May 8th, 2025

General Information:

Conduct tests on each of the two samples according to the methods below. Report the results of a single determination only, not the average of two or more unless specified in the method. For any tests you do not choose to perform, leave the appropriate spaces on the data sheet blank.

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.

Treat each sample as you would treat a typical sample brought into the laboratory. Any special handling or preparation needs are included below.

The outside of the shipping boxes is labeled 1 (A) or 2 (B). The samples inside the boxes are labeled only (A) or (B). The sample labeled (A) is sample 1. The sample labeled (B) is sample 2.

Each sample box should contain one bag of soil (approximately 4 kg).

AASHTO Accredited Laboratories:

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

AASHTO Accreditation Policy on PSP Participation

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

Test Methods:

Determining Minimum Laboratory Soil Resistivity T288-23: Determine the minimum soil resistivity of material passing the 2.00 mm (No. 10) sieve in units of (ohm) x (cm). *When preparing the test specimen, add 150mL of distilled water to the specimen and allow the sample to cure for 12 hours. After taking the first resistivity measurement, remove and retain the soil from the box and add 100 mL of distilled water between each test until the minimum resistivity is determined.* Report the resistivity to four significant digits and *do not apply a temperature correction*.

Also, please report the resistivity of the water used to prepare the specimens (optional).

Measurement of Soil Resistivity Using the Two-Electrode Soil Box G187-23: Prepare the specimen **with approximately 20% moisture** in accordance with the standard.

Ex. Prepare a specimen where the dry mass of the soil used is 1440g and the amount of distilled or deionized water added is 360g. The total sample mass is 1800g of "saturated" material.

Determine the soil resistivity of material passing the 2.00 mm (No. 10) sieve in units of (ohm) x (cm). Report the resistivity to four significant digits and ***do not apply a temperature correction***.

Determining pH of Soil for Use in Corrosion Testing T289-22: Using a pH meter, determine the soil pH of material passing the 2.00 mm (No. 10). Report the pH value to the nearest 0.1.

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Standard Test Methods for pH of Soils D4972-19(2024)e1: Using a pH meter, determine the soil pH of material passing the 2.00 mm (No. 10). Report the pH values of the soil and water slurry and the Calcium Chloride and soil slurry to the nearest 0.1.

Determining Water-Soluble Sulfate Ion Content in Soil T290-95(2024): Determine the sulfate ion content by using Method A or Method B for the material passing the 2.00 mm (No. 10) sieve in mg/kg. On the data sheet, indicate the method that was used. Report the value to the nearest 0.1 mg/kg.

Determining Water-Soluble Chloride Ion Content in Soil T291-22: Determine the chloride ion content by using Method A or Method B for the material passing the 2.00 mm (No. 10) sieve in mg/kg. On the data sheet, indicate the method that was used. Report the value to the nearest 0.1 mg/kg.

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

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