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Committee C09 on Concrete and Concrete Aggregates
Subcommittee C09.49 on Pervious Concrete

Research Report C09-1034

Interlaboratory Study to Establish Precision Statements for ASTM C1701-09, Test Method for Field Permeability of Pervious Concrete Pavements

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1. Introduction:

Interlaboratory Study 364 was conducted to establish a precision statement for C1701, Test Method for Field Permeability of Pervious Concrete Pavements.

2. Test Method:

The Test Method used for this ILS is C1701-09. To obtain a copy of C1701, go to ASTM's website, www.astm.org, or contact ASTM Customer Service by phone at 610-832-9585 (8:30 a.m. - 4:30 p.m. Eastern U.S. Standard Time, Monday through Friday) or by email at service@astm.org.

3. Participating Laboratories:

The following laboratories participated in this interlaboratory study

1. Middle Tennessee State University
P.O. Box 19
Murfreesboro, TN
37132
US
Dr. Heather Brown
615-904-8060
hjbrown@mtsu.edu

4. Description of Samples:

There were 3 samples of varying targeted results used for this study. Each sample was prepared and by Middle Tennessee State University. Below is a list of the samples with the corresponding supplier:

1. Location 1
   Provided by Middle Tennessee State University

2. Location 2
   Provided by Middle Tennessee State University

3. Location 3
   Provided by Middle Tennessee State University

5. Interlaboratory Study Instructions

Laboratory participants were emailed the test program instructions. For a copy of the instructions, please see Annex A.

6. Description of Equipment/Apparatus[1]:

[1] The equipment listed was used to develop a precision statement for C1701-09. This listing is not an endorsement or certification by ASTM International.

For information on the equipment/apparatus used by each laboratory, please see Annex B.

7. Data Report Forms:

Each laboratory was provided with a data report form for the collection of data. A copy of the data is provided in Annex C.

Please note: The laboratories have been randomly coded and cannot be identified herein.

8. Statistical Data Summary:

A summary of the statistics calculated from the data returned by the participating laboratories is provided in Annex D.

9. Precision and Bias Statement:

9.1 The precision of this test method is based on an interlaboratory study of WK17606, Standard Test Method for Infiltration Rate of In Place Pervious Concrete, conducted in 2008. One laboratory participated in this study. The lab reported replicate test results at three locations over a period of 10 days. Every "test result" reported represents an individual determination. Except for the use of only one laboratory, Practice E 691 was followed for the design and analysis of the data; the details are given in ASTM Research Report No. D16-1034.

9.1.1 *Repeatability limit (r)* - Two test results obtained within one laboratory shall be judged not equivalent if they differ by more than the "*r*" value for that material; "*r*" is the interval representing the critical difference between two test results for the same material, obtained by the same operator using the same equipment on the same day in the same laboratory.

9.1.1.1 Repeatability limits are listed in Tables 1 – 10 below.

9.1.2 *Reproducibility limit (R)* - Two test results shall be judged not equivalent if they differ by more than the "*R*" value for that material; "*R*" is the interval representing the critical difference between two test results for the same material, obtained by different operators using different equipment in different laboratories.

9.1.2.1 Reproducibility limits cannot be determined with data from only one reporting laboratory.

9.1.3 The above terms (repeatability limit and reproducibility limit) are used as specified in Practice E 177.