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Committee D04 on Road and Paving Materials
Subcommittee D04.51 on Aggregate Tests

Research Report D04-1017

Interlaboratory Study to Establish Precision Statements for ASTM D546, Standard Test Method for Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures

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Letter to Participants in Round Robin
of ASTM Method D 546 for Sieve Analysis
of Mineral Filler

Laboratory:

Your "Lab No." in the Report is: No. ____

Dear Participants:

Enclosed is the final report on this study. The following information is enclosed:

(a) Table MF1DAT -- Individual Laboratory Data on Mineral Filler Sample "MF-1". Your laboratory number is given above and your data is tabulated in the column in each table which is headed by your laboratory number.

(b) Table MF2DAT -- Data for Sample "MF-2"

(c) Table MF3DAT -- Data for Sample "MF-3"

(d) Table MF4DAT -- Data for Sample "MF-4"

(e) Draft Precision Statement as distributed to ASTM Subcommittee D04.51 in June. Your comments on this proposed revision to ASTM D546 are welcome.

(f) Table A -- Precision of Plus No. 30, Percent

(g) Table B -- Precision No. 30 to No. 50 Size Fraction, Percent

(h) Table C -- Precision No. 50 to No. 200 Size Fraction, Percent

(i) Table D -- Precision of Minus No. 200, Percent

(j) Table E -- Precision Summary

(k) Table F -- Range of Test Results and Standard Deviations -- both Within-Lab and Between-Lab

Table E reviews the character of the basic data. When the test results were more than 2 percent in a size fraction the standard deviation ranged from about 0.2 to 1.3 in terms of the percent test value and averaged about 0.7 percent. For small values, less than 2 percent, the standard deviation was generally much smaller, averaging about 0.14 percent. This is the basis of partitioning the precision indicies into the two categories shown in the Draft Precision Statement. Table F shows the overall range of test result values and the standard deviations, both within-laboratory and between-laboratory.

To compare the results from your laboratory with the overall results from the study, pick off the percent test results for one of the mineral filler samples for your laboratory number from the MF data tables. Three tests (Rounds A, B, and C) were made on each material in each laboratory. Compare the results for each size fraction with the appropriate Table A, B, C, or D for that size range. For example, for the minus No. 200 values in percent for mineral filler MF-3 use Table D (minus No. 200, percent) and compare the three results from your laboratory with the data in Table D for material No. 3 (for MF-3). The overall average, for example, is 93.57 percent in the top part of the table with no outlier values removed, and 94.68 percent in the bottom part of the table with the outliers removed. The standard deviations and D2S values from the lower sections of these tables were used in determining the proposed precision statements. These values were calculated using a Lotus 123 program developed by Peter Spellerberg of the AASHTO Materials Reference Laboratory at NBS, which follows the methods and terminology in ASTM C 802.

I hope this data is of some help to you and your laboratory. Again, thank you for participating in this study and helping to develop this precision data for use in improving the usefulness of ASTM Standard Test Methods.

Yours truly,

Richard C. Meininger

Richard C. Meininger
Member D04.51

RCM:msd
enc.
cc: Stephen W. Forester,
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D04.51 on Aggregate Tests

Richard L. Davis,
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