PROCEDURE FOR THE CALIBRATION OF THE BLAINE FINENESS APPARATUS ASTM C 204

A. PURPOSE

The purpose of this procedure is to calibrate the Blaine Fineness Cell. This calibration is conducted annually (See note).

B. APPARATUS REQUIRED

l. NIST Standard Reference Material No. 114.

2. Mercury ACS Reagent grade or better.

3. Scales.

4. Apparatus required for the Blaine Fineness Test.

C. PROCEDURE

BULK VOLUME OF COMPACTED BED OF POWDER

1. Place two (2) filter paper disk in the cell, pressing down the edges until the filter disk is flat on the perforated metal disk.

2. Fill the cell with mercury-remove all air bubbles; use tongs to hold cell.

3. Level mercury with the top of the cell by pressing a glass plate against the mercury surface until the glass is flush to the surface of the mercury and rim of the cell.

4. Remove the mercury from the cell, weigh the mercury and record the weight as WA.

5. Remove one (1) of the filter disk from the cell.

6. Using a trial quantify of 2.80 grams of Standard Reference Material No. 114, compress the cement in the cell in accordance to ASTM C 204, Section 4.5.

7. Fill the remaining portion of the cell with mercury, remove air and use glass to level mercury with top of cell as before.

8. Remove mercury from cell, weigh and record weight as WB.

9. Calculate the bulk volume of cement:

V = (WA-Ws)/D

V = Bulk volume of cement cm^3

W_A = Grams of mercury required to fill the cell. No cement in the cell

W_B = Grams of mercury required to fill the cell with a bed of cement

D = Density of mercury at the test temperature Mg/m^3 (Table 1 of ASTM-C 204)

Make at least two determinations of the bulk volume of cement. Average the two (2) values. Use the average value as the volume of cell in future test.

Record the temperature before the test and at the end of the test, place the thermometer in the vicinity of the determination.

D. TOLERANCE

As set in ASTM C 204

Note: The CCRL inspection shall be the calibration of record.

EQUIPMENT CALIBRATION RECORD

Calibrated By: _____ Date: _____

Equipment: Blaine Fineness Apparatus Location (Lab): _____

Identification No.: _____ Calibration Frequency: 12 months

Previous Calibration Date: _____ Next Due Date: _____

Calibration Equipment Used: NIST Reference Material No. 114; Mercury; Scales, SN: _____

Calibration Procedure: (In-house) OMR-CVP-41 / ASTM C 204

	(1)	(2)
W_A = grams of Mercury no cement in cell	_____	_____
WB = grams of Mercury with cement in cell	_____	_____
D = density of Mercury.....*	_____	_____

$$Y = \frac{(W_A - W_B)}{D}$$

* See ASTM C 204, Table 1