Concrete Samples No. 155 & No. 156

Please Note:

- **IMPORTANT!! Data Entry Confirmation** - After you successfully submit test results on the CCRL website:
  - You will receive a confirmation screen.
  - You will receive a confirmation email sent to the email provided on the data entry page.
  - Sign out and sign in again, visit the Data Entry page to review and confirm your test results. If the Data Entry page is blank CCRL did NOT receive your test results.
  - **Print and keep** the confirmation email and screen as proof your data was submitted.
- If you did not receive data entry confirmation visit "Trouble Data Entry Trouble Shooting" or contact CCRL at 301-975-6704.

- Please allow until April 30th for receipt of samples. CCRL must be notified by May 5th of missing or damaged samples to assure replacement samples are available.

- All instructions for mixing the concrete MUST be followed.

- The fine and coarse aggregates must be dried, and cooled.

- The cement, fine aggregate, and water must be carefully weighted.

- **Compressive Strength Specimens** - You may use either 4x8" or 6x12" specimens but not both. Use 3 specimens for 4x8" cylinders and 2 specimens for 6x12" cylinders.

- Closing date for submitting test results submitted is June 4, 2010.

CCRL
Cement and Concrete Reference Laboratory

www.ccrl.us

April 8, 2010

TO: Participants in the CCRL Concrete Proficiency Sample Program

SUBJECT: Concrete Proficiency Samples No. 155 & No. 156

The current set of samples in the CCRL Concrete Proficiency Sample Program has been shipped to your laboratory, the last box was sent around April 8, 2010. The two samples are packaged in a total of six boxes, three boxes for each sample.

Allow until April 30, 2010 for the receipt of these samples. If you have not received the samples on this date, or if the samples you receive are seriously damaged, notify us by sending email to ccrl@nist.gov or by calling 301-975-6704. Replacement samples will be forwarded. **Failure to notify us of missing or damaged samples by May 5 may result in replacement samples not being available or not received in time to perform testing.**

Instructions covering the proposed tests, and the necessary data sheets for reporting the test results are on the following pages. Please read these carefully before proceeding with tests. The tests should be made as soon as possible, and the results should be promptly submitted to this office, upon completion of testing. The same person, or persons, should perform the same tests on each sample.

The closing date for submitting test results is June 4, 2010. CCRL test results should be submitted at our Proficiency Sample Program website: http://www.ccrl.us/. It is very important that you receive an email confirmation that your results have been submitted without errors. Save this confirmation as proof that your results have been received by CCRL. If you do not receive data entry confirmation visit "Trouble Data Entry Trouble Shooting Tips" on the Concrete Proficiency Sample web page or contact CCRL at 301-975-6704.

Sincerely,

Robin K. Haupt

Robin K. Haupt, Supervisor, PSP
Cement and Concrete Reference Laboratory
Materials and Construction Research Division
Building and Fire Research Laboratory

CEMENT and CONCRETE REFERENCE LABORATORY
CONCRETE Proficiency Sample Program
Samples No. 155 and No. 156

Six packages containing the material for the current pair of Concrete Proficiency Samples have been shipped to you. Upon receipt of these cartons, check for damaged boxes or ruptured inner bags. If there appears to be any loss, notify us immediately so that we may replace any questionable material.

Each sample will consist of three cartons, one containing the cement, one containing fine aggregate, and another containing the coarse aggregate. The material will be in plastic bags, which will be identified with the sample number. Please read the following instructions, and the accompanying reporting sheets, thoroughly before opening any of the bags.

Prior to use, dry the coarse and fine aggregate, preferably in an oven (temperature 105 to 115 degrees C), to a constant weight. Place in a covered container and allow the material to come to ambient temperature before use. There is a small excess of both cement and fine aggregate. The quantities to be used are given in the mix design table. The coarse aggregates are preweighed, and the entire contents of these bags are to be used in the designated batch. For the purpose of this program, the mix calculations were based on the assumption that both the coarse and the fine aggregates have absorption factors of zero percent. Care should be taken not to lose any material from the bags.

TEST INSTRUCTIONS

Test each sample in accordance with the current ASTM Methods designated below. Reported test results should be based on a single test determination and not on the mean of replicate determinations. It is preferred that one operator make the same test on both samples.

Procedure	ASTM Designation
Slump of Concrete	C 143-08
Unit Weight of Concrete	C 138-08
Air Content (Volumetric Method)	C 173-08
Air Content (Pressure Method)	C 231-08b
Making and Curing Concrete Test Specimens	C 192-07
Compressive Strength of Cylindrical Concrete Specimens	C 39-05
Temperature of Freshly Mixed Portland-Cement Concrete	C 1064-05

Air Content: There is sufficient material to determine air content by both C173 Volumetric Method and C231 Pressure Method (measuring bowl 0.20 - 0.25 ft^3). **For test method C231 use an aggregate correction factor of 0.0%.** Concrete should not be reused from these tests.

Compressive Strength: In order to have sufficient concrete to make the compressive strength test specimens, it is necessary to reuse the material from the slump tests and the unit weight test (if not used for C231). Prior to making the cylinders, recombine the material from the these tests with the unused portion of the batch, and mix thoroughly. You may use either 4x8" or 6x12" specimens to determine compressive strength. When using 4x8" cylinders make three specimens for each sample. When using 6x12" cylinders make two specimens for each sample. Report the total load and diameter for each cylinder, and report the average strength in psi for each of the concrete samples. **IMPORTANT** - Test results are cylinder size specific and must be entered in the appropriate area of the reporting form.

MIX DESIGN

	Sample No. 155	Sample No. 156
Water	5141 g	5238 g
Cement	9,700 g	9,700 g
Fine Aggregate (oven dried)	19,400 g	19,400 g
Coarse Aggregate (oven dried)	use entire contents of box	use entire contents of box

MIXING INSTRUCTIONS

The material supplies should provide approximately 0.85 cubic feet of concrete. Prior to mixing the test material, the mixer should be "buttered," using aggregates and a non air-entraining cement, other than that supplied by the Cement and Concrete Reference Laboratory. The mixing procedure given in Sections 7.1.1 and 7.1.2 of C192-07 must be followed. **Hand mixing should not be used.**

REPORTING INSTRUCTIONS

The test results for the Concrete Proficiency Sample Program should be entered at the CCRL Proficiency Sample Program website found at: http://www.ccrl.us/. **Test results must be submitted no later than June 4, 2010.** You will need your laboratory's identification number and pin number to access the data entry form on the website..

The results of this proficiency sample is based on consensus values. There are no predetermined right answers. Replicate determinations when not specified by the test method, collusion between laboratories, or results biased by previous proficiency sample results can affect the outcome of the proficiency sample program. Collusion between laboratories is contrary to professional, scientific conduct and only nullify the benefits of proficiency testing.

CCRL PROFICIENCY SAMPLE PROGRAM
Portland Cement CONCRETE Sample Nos. 155 & 156
REPORTING FORM

RETURN TO: R.K. Haupt, Supervisor, PSP
Cement and Concrete Reference Laboratory
National Institute of Standards and Technology
100 Bureau Drive, Stop 8618
Gaithersburg, Maryland 20899-8618
FAX: 301-975-2243

FROM: _____
_____
_____
_____
e-mail: _____
Check here if name or address has changed _____

Test Results

Report Results as Indicated in []

	Sample No. 155	Sample No. 156	CCRL Test ID
SLUMP: Inches *[nearest 0.25 inch]*			2
AIR CONTENT - C173 Volumetric Method: Percent *[nearest 0.25 percent]*			1
AIR CONTENT - C231 Pressure Method: Percent *[nearest 0.1 percent]*			6
UNIT WEIGHT: lbs/ft^3 *[nearest 0.1 lbs/ft^3]*			3
TEMPERATURE OF FRESH CONCRETE: Fahrenheit *[nearest 1 °F]*			5
COMPRESSIVE STRENGTH - 4 x 8" specimens:			
Report only 4 x 8" here (see note below)	Sample No. 155	Sample No. 156	
Cylinder #1, diameter *[nearest 0.01"]*			
Cylinder #2, diameter *[nearest 0.01"]*			
Cylinder #3, diameter *[nearest 0.01"]*			
Average cylinder diameter *[nearest 0.01"]*			
Cylinder #1, 7-day total load *[nearest lbf]*			
Cylinder #2, 7-day total load *[nearest lbf]*			
Cylinder #3, 7-day total load *[nearest lbf]*			
Average compressive strength *[nearest 10 psi]*			4

Note: You may report either 4 x 8" or 6 x 12" specimens but not both.

CCRL Laboratory Number _____

CCRL PROFICIENCY SAMPLE PROGRAM
Portland Cement CONCRETE Sample Nos. 155 & 156
REPORTING FORM

RETURN TO: R.K. Haupt, Supervisor, PSP
Cement and Concrete Reference Laboratory
National Institute of Standards and Technology
100 Bureau Drive, Stop 8618
Gaithersburg, Maryland 20899-8618
FAX: 301-975-2243

FROM: _____

e-mail: _____

Check here if name or address has changed _____

			Sample No. 155	Sample No. 156	CCRL Test ID
COMPRESSIVE STRENGTH - 6 x 12" specimens:					
Report only 6 x 12" here (see note below)	Sample No. 155	Sample No. 156			
Cylinder #1, diameter *[nearest 0.01"]*					
Cylinder #2, diameter *[nearest 0.01"]*					
Average cylinder diameter *[nearest 0.01"]*					
Cylinder #1, 7-day total load *[nearest lbf]*					
Cylinder #2, 7-day total load *[nearest lbf]*					
Average compressive strength *[nearest 10 psi]*					4

Note: You may report either 4 x 8" or 6 x 12" specimens but not both.

CCRL Laboratory Number _____