

C270 Masonry Mortar Samples 33 & 34

Please Note:

- Read all instructions and ASTM Standards before testing.
- Please allow until September 9th for receipt of these samples. You should receive a total of three boxes (two boxes of cement and one of masonry sand).
- Samples (plastic bags) must be properly identified before removal from boxes.
- The cementitious materials are both Type S masonry cement.
- Densities and unit weights of the materials used for the mortar batch are provided in the instructions and reporting form.
- Use the provided cement densities in the air content calculations.
- Closing date for test results is October 14, 2011 (October 21 for 28 day test results).



August 19, 2011

TO: Participants in the CCRL ASTM C270 Masonry Mortar Proficiency Sample Program

SUBJECT: Masonry Mortar Proficiency Samples No. 33 and No. 34

The current pair of samples in the Masonry Mortar Proficiency Sample Program are being forwarded by FedEx Ground. These samples are identified as Masonry Mortar Samples No. 33 & No. 34. The cement portion of these samples is packaged in plastic bags and weigh approximately 6,500 grams each. These two masonry cements were produced at different production facilities and should not be mixed. A single box containing about 15 kg of fine aggregate is distributed with these samples. This fine aggregate is to be used in the proportioning of both mortars. Instructions for the materials proportioning of mortar are enclosed.

Please allow until September 9, 2011, for receipt of these samples. If the samples have not been received on this date or if the samples you receive are damaged, notify us by sending email to ccrl@astm.org or by calling 321-975-6704. Replacement samples will be forwarded.

Tests should be conducted as soon as possible after the samples are received, and the test results should be promptly reported to CCRL upon completion of testing. Test results should be entered at our website: <http://www.ccrl.us/>. The closing date for submitting test results submitted is October 14, 2011. The results for 28-day tests will be accepted until October 21, 2011.

A final report containing scatter diagrams, average values, standard deviations, laboratory ratings and other pertinent information, will be available at our website. Notification and information about the final report will be sent by email.

Instruction covering the proposed tests, and the necessary data sheets for reporting the test results are on the following pages. Please read these carefully before testing.

Additional samples of this sample pair and past CCRL samples are available for sale. These samples can be used for research, technician training, and test equipment verification. Contact us for availability and pricing.

Sincerely,

Robin K. Haupt, Supervisor
CCRL Proficiency Sample Program
Cement and Concrete Reference Laboratory

**CCRL PROFICIENCY SAMPLE PROGRAM
ASTM C270 MASONRY MORTAR
SAMPLE NO. 33 & NO. 34**

INSTRUCTIONS FOR TESTING

Materials Proportioning of Mortar -

Cementitious Materials: The two cements for preparing the mortars are packaged in plastic bags, each of which contains approximately 6,500 grams of cement. The samples, labeled **No. 33** and **No. 34**, represent cements from different production facilities, and should not be combined or interchanged. Both materials are **Type S** masonry cement.

Sand: A single container of approximately 15 kg of masonry sand is provided for preparing both mortars. This material should be oven dried in accordance with ASTM Standard C270.

Material unit weights and densities:

Masonry cement No. 33		Masonry cement No. 34		Masonry Sand
Density, g/cm ³	Bulk density, lb/ft ³	Density, g/cm ³	Bulk density, lb/ft ³	Density, g/cm ³
2.90	75	2.91	75	2.65

Proportions for Proficiency Sample Nos. 33 & 34: A mortar consisting of 1 part masonry cement to 3 parts masonry sand, by volume, is to be tested.

Batch proportioning calculations: Batch factor and weight of cement shall be determined and reported in the "MATERIAL PROPORTIONING OF MORTAR - CALCULATION SECTION" found on the test results reporting form. Refer to ASTM C270 Appendix X4.2 for an example.

Tests -

Prior to testing, pass the cement for the tests through a No. 20 sieve in accordance with ASTM Standard C183.

Insofar as your laboratory is prepared to do so, make indicated tests on each sample in accordance with the current ASTM Methods designated below, but as modified by ASTM C270-08:

- Air Content ASTM C91-05/C185-08
- Compressive Strength (6 cube batch) ASTM C109-08
(7-day strengths optional)
- Water Retention ASTM C1506-09

It is preferred that the same operator make the same tests on both samples, on the same day. The results of a single determination should be reported rather than the average of duplicate determinations.

INSTRUCTIONS FOR REPORTING

For the sake of uniformity, report the values for the various tests to the nearest significant number indicated on the reporting forms.

Tests should be conducted as soon as possible after the samples are received, and the test results should be promptly reported to CCRL upon completion of testing. Test results should be entered at our website: <http://www.ccril.us/>. The closing date for test results submitted through our website will be October 14, 2011. The results for 28-day tests will be accepted until October 21, 2011.

**CCRL PROFICIENCY SAMPLE PROGRAM
ASTM C270 MASONRY MORTAR REPORT FORM
SAMPLE NO. 33 & NO. 34**

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 _____

MATERIAL PROPORTIONING OF MORTAR - CALCULATION SECTION
(Determine and report batch factor and cement weight)

	Masonry Mortar Sample No. 33		Masonry Mortar Sample No. 34	
	Masonry Cement No. 33	Masonry Sand	Masonry Cement No. 34	Masonry Sand
Proportions by Volume	1	3	1	3
Bulk Density (lb/ft³)	75	80	75	80
Batch Factor				
Weight of Material (g)		1440		1440
Water	Add water to obtain flow of 110±5%		Add water to obtain flow of 110±5%	

TEST RESULTS

Report as Indicated in ()

	Sample 33	Sample 34	
AIR CONTENT:			
Percent Air (nearest 0.1 percent)	_____	_____	[170]
Mixing Water (nearest 0.1 percent by weight of cement)	_____	_____	[180]
Flow Obtained (nearest percent)	_____	_____	[190]
COMPRESSIVE STRENGTH:	<u>33</u>	<u>34</u>	
7-day, total load, lbs.	1) _____	_____	
	2) _____	_____	
	3) _____	_____	
7-day, Average (nearest 10 psi)	_____	_____	[210]
28-day, total load, lbs.	1) _____	_____	
	2) _____	_____	
	3) _____	_____	
28-day, Average (nearest 10 psi)	_____	_____	[211]
Mixing Water (nearest 0.1 percent by weight of cement)	_____	_____	[220]
Flow Obtained (nearest percent)	_____	_____	[232]

Tests performed by: _____ Date: _____
 Tests reported by: _____ Title: _____
 Phone: _____ FAX: _____ CCRL laboratory number: _____

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TEST RESULTS
Report as Indicated in ()

WATER RETENTION:	Sample 33	Sample 34	
Mixing water (<i>nearest 0.1 percent by weight of cement</i>)	_____	_____	[330]
Initial flow (<i>nearest percent</i>)	_____	_____	[331]
Final flow (<i>nearest percent</i>)	_____	_____	[332]
Water retention (<i>nearest percent</i>)	_____	_____	[333]
Type of Vacuum Indicator used with Water Retention Apparatus: <input type="checkbox"/> vacuum gage <input type="checkbox"/> mercury manometer			
Filter Paper used (brand and number): <input type="checkbox"/> Humboldt <input type="checkbox"/> SS 576 <input type="checkbox"/> Whatman			
<input type="checkbox"/> other (please specify) _____			

Tests performed by: _____ Date: _____
Tests reported by: _____ Title: _____
Phone: _____ FAX: _____ CCRL laboratory number: _____